



ANTISOCIAL PERSONALITY DISORDER

THE NICE GUIDELINE ON TREATMENT,
MANAGEMENT AND PREVENTION

March 2013: Some recommendations in sections 5.3.9, 5.4.9, 5.4.14, 5.4.19, 5.4.24 and 8.2 have been removed from this guideline.

August 2018: Some recommendations have been updated to link to NICE topic pages.

Details on all changes can be seen at <http://www.nice.org.uk/guidance/cg77>

NATIONAL
COLLABORATING
CENTRE FOR
MENTAL HEALTH

ANTISOCIAL PERSONALITY DISORDER: TREATMENT, MANAGEMENT AND PREVENTION

National Clinical Practice Guideline Number 77

National Collaborating Centre for Mental Health

commissioned by the

**National Institute for Health
& Clinical Excellence**

published by

**The British Psychological Society and The Royal College of
Psychiatrists**

© The British Psychological Society
& The Royal College of Psychiatrists, 2010

The views presented in this book do not necessarily reflect those of the British Psychological Society, and the publishers are not responsible for any error of omission or fact. The British Psychological Society is a registered charity (no. 229642).

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers. Enquiries in this regard should be directed to the British Psychological Society.

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

ISBN-: 978-1-85433-478-7

Printed in Great Britain by Stanley Hunt.

Additional material: data CD-Rom created by Pix18
(www.pix18.co.uk)

developed by National Collaborating Centre for Mental Health
Royal College of Psychiatrists' Research and Training Unit
4th Floor, Standon House
21 Mansell Street
London
E1 8AA
www.nccmh.org.uk

commissioned by National Institute for Health and Clinical Excellence
MidCity Place, 71 High Holborn
London
WC1V 6NA
www.nice.org.uk

published by The British Psychological Society
St Andrews House
48 Princess Road East
Leicester
LE1 7DR
www.bps.org.uk



and
The Royal College of Psychiatrists
17 Belgrave Square
London
SW1X 8PG
www.rcpsych.ac.uk



CONTENTS

GUIDELINE DEVELOPMENT GROUP MEMBERS	6
1. PREFACE	9
1.1 National guidelines	9
1.2 The national antisocial personality disorder guideline	12
2 ANTISOCIAL PERSONALITY DISORDER	14
2.1 Introduction	14
2.2 The disorder	17
2.3 Aetiology	22
2.4 Presentation in healthcare and other settings	24
2.5 Use of health service resources and other costs	25
2.6 Treatment and management in the NHS	27
2.7 The Dangerous and Severe Personality Disorder initiative	29
2.8 The organisation and coordination of treatment and care	30
2.9 Assessment	31
2.10 Ethical considerations in antisocial personality disorder	32
3 METHODS USED TO DEVELOP THIS GUIDELINE	39
3.1 Overview	39
3.2 The scope	39
3.3 The Guideline Development Group	40
3.4 Clinical questions	42
3.5 Systematic clinical literature review	43
3.6 Health economics methods	53
3.7 Stakeholder contributions	55
3.8 Validation of the guideline	56
4 ORGANISATION AND EXPERIENCE OF CARE	57
4.1 Introduction	57
4.2 Organisation and delivery of care	57
4.3 Training, supervision and support	67
4.4 Service user experience of care and services	74
4.5 Carer experience	85
4.6 Overall summary	87
5 INTERVENTIONS IN CHILDREN AND ADOLESCENTS FOR THE PREVENTION OF ANTISOCIAL PERSONALITY DISORDER	89
5.1 Introduction	89
5.2 Risk factors	90

Contents

5.3	Early interventions	93
5.4	Interventions for children with conduct problems	107
5.5	Coordination of care	140
6	RISK ASSESSMENT AND MANAGEMENT	143
6.1	Introduction	143
6.2	Assessment of violence risk	143
6.3	Risk management	163
7	INTERVENTIONS FOR PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER AND ASSOCIATED SYMPTOMS AND BEHAVIOURS	169
7.1	Introduction	169
7.2	Psychological interventions for antisocial personality disorder	170
7.3	Treatment of comorbid disorders in people with antisocial personality disorder	196
7.4	Therapeutic community interventions for people with antisocial personality disorder and associated symptoms and behaviours	202
7.5	Pharmacological interventions for antisocial personality disorder	208
7.6	Research recommendations	217
8	SUMMARY OF RECOMMENDATIONS	220
8.1	General principles for working with people with antisocial personality disorder	220
8.2	Prevention of antisocial personality disorder – working with children and young people and their families	222
8.3	Assessment and risk management of antisocial personality disorder	227
8.4	Treatment and management of antisocial personality disorder and related and comorbid disorders	230
8.5	Psychopathy and dangerous and severe personality disorder	231
8.6	Organisation and planning of services	232
8.7	Severity as a potential moderator of effect in group-based cognitive and behavioural interventions	234
8.8	Group-based cognitive and behavioural interventions for populations outside criminal justice settings	235
8.9	Effectiveness of multisystemic therapy versus functional family therapy	235
8.10	Interventions for infants at high risk of developing conduct disorders	236
8.11	Treatment of comorbid anxiety disorders in antisocial personality disorder	237
8.12	Using selective serotonin reuptake inhibitors to increase cooperative behaviour in people with antisocial personality disorder in a prison setting	237

8.13 A therapeutic community approach for antisocial personality disorder in a prison setting	238
9. APPENDICES	239
10. REFERENCES	322
11. ABBREVIATIONS	356

GUIDELINE DEVELOPMENT GROUP MEMBERS

Professor Conor Duggan (Chair, Guideline Development Group)

Professor of Forensic Mental Health, The University of Nottingham;
Honorary Consultant Psychiatrist, Nottinghamshire Healthcare Trust

Dr Stephen Pilling (Facilitator, Guideline Development Group)

Joint Director, The National Collaborating Centre for Mental Health;
Director, Centre for Outcomes Research and Effectiveness, University College
London

Dr Gwen Adshead

Consultant Forensic Psychotherapist, Broadmoor Hospital, West London Mental
Health NHS Trust

Ms Amy Brown

Research Assistant (2007), The National Collaborating Centre for Mental Health

Professor Jeremy Coid

Professor of Forensic Psychiatry, Wolfson Institute of Preventive Medicine, Queen
Mary, University of London

Mr Neil Connelly

Representing the interests of service users and carers

Mr Colin Dearden

Deputy Chief Probation Officer, Lancashire Probation Service

Mr Alan Duncan

Systematic Reviewer, The National Collaborating Centre for Mental Health

Mr Matthew Dyer

Health Economist, The National Collaborating Centre for Mental Health

Dr Brian Ferguson

Consultant Psychiatrist and Clinical Director of Specialist Services, Lincolnshire
Partnership NHS Foundation Trust

Ms Esther Flanagan

Project Manager (2008–2009), The National Collaborating Centre for Mental Health

Professor Peter Fonagy

Freud Memorial Professor of Psychoanalysis, University College London; Head of Research Department of Clinical, Educational and Health Psychology, University College London; Chief Executive, Anna Freud Centre, London

Dr Savas Hadjipavlou

Programme Director, The Dangerous People with Severe Personality Disorder (DSPD) Programme, Ministry of Justice

Professor Eddie Kane

Director, Personality Disorder Institute, The University of Nottingham

Mr Ryan Li

Project Manager (2008), The National Collaborating Centre for Mental Health

Professor Anthony Maden

Professor of Forensic Psychiatry, Imperial College;
Honorary Consultant, West London Mental Health NHS Trust

Dr Ifigenia Mavranouzouli

Senior Health Economist, The National Collaborating Centre for Mental Health

Professor James McGuire

Professor of Forensic Clinical Psychology, University of Liverpool; Honorary Consultant Clinical Psychologist, Mersey Care NHS Trust

Dr Nicholas Meader

Systematic Reviewer, The National Collaborating Centre for Mental Health

Dr Catherine Pettinari

Centre Manager, The National Collaborating Centre for Mental Health

Ms Penny Retsa

Health Economist (2007–2008), The National Collaborating Centre for Mental Health

Ms Maria Rizzo

Research Assistant (2007–2008), The National Collaborating Centre for Mental Health

Ms Carol Rooney

Deputy Director of Nursing, St Andrew's Healthcare

Ms Sarah Stockton

Information Scientist, The National Collaborating Centre for Mental Health

Guideline development group members

Dr Clare Taylor

Editor, The National Collaborating Centre for Mental Health

Dr Nat Wright

Clinical Director for Substance Misuse, HM Prison Service Leeds

1. PREFACE

This guideline has been developed to advise on the treatment and management of antisocial personality disorder (ASPD). The guideline recommendations have been developed by a multidisciplinary team of healthcare professionals, a representative for service users and guideline methodologists after careful consideration of the best available evidence. It is intended that the guideline will be useful to clinicians and service commissioners in providing and planning high-quality care for people with antisocial personality disorder while also emphasising the importance of their experience of care and that of their carers (see Appendix 1 for more details on the scope of the guideline).

Although the evidence base is expanding, there are a number of major gaps, and future revisions of this guideline will incorporate new scientific evidence as it develops. The guideline makes a number of research recommendations specifically to address gaps in the evidence base. In the meantime, it is hoped that the guideline will assist clinicians, people with antisocial personality disorder and their carers by identifying the merits of particular treatment approaches where the evidence from research and clinical experience exists.

1.1 NATIONAL GUIDELINES

1.1.1 What are clinical practice guidelines?

Clinical practice guidelines are ‘systematically developed statements that assist clinicians and patients in making decisions about appropriate treatment for specific conditions’ (Mann, 1996). They are derived from the best available research evidence, using predetermined and systematic methods to identify and evaluate the evidence relating to the specific condition in question. Where evidence is lacking, the guidelines incorporate statements and recommendations based upon the consensus statements developed by the Guideline Development Group (GDG).

Clinical guidelines are intended to improve the process and outcomes of healthcare in a number of different ways. They can:

- provide up-to-date evidence-based recommendations for the management of conditions and disorders by healthcare professionals
- be used as the basis to set standards to assess the practice of healthcare professionals
- form the basis for education and training of healthcare professionals
- assist patients and carers in making informed decisions about their treatment and care
- improve communication between healthcare professionals, patients and carers
- help identify priority areas for further research.

1.1.2 Uses and limitations of clinical guidelines

Guidelines are not a substitute for professional knowledge and clinical judgement. They can be limited in their usefulness and applicability by a number of different factors: the availability of high-quality research evidence, the quality of the methodology used in the development of the guideline, the generalisability of research findings and the uniqueness of individuals with antisocial personality disorder.

Although the quality of research in this field is variable, the methodology used here reflects current international understanding on the appropriate practice for guideline development (AGREE: Appraisal of Guidelines for Research and Evaluation Instrument; www.agreetrust.org; AGREE Collaboration [2003]), ensuring the collection and selection of the best research evidence available and the systematic generation of treatment recommendations applicable to the majority of people with these disorders and situations. However, there will always be some service users for whom clinical guideline recommendations are not appropriate and situations in which the recommendations are not readily applicable. This guideline does not, therefore, override the individual responsibility of healthcare professionals to make appropriate decisions regarding the circumstances of the individual diagnosed with antisocial personality disorder, in consultation with the person or their carer.

In addition to the clinical evidence, cost-effectiveness information, where available, is taken into account in the generation of statements and recommendations of the clinical guidelines. While national guidelines are concerned with clinical and cost effectiveness, issues of affordability and implementation costs are to be determined by the National Health Service (NHS).

In using guidelines, it is important to remember that the absence of empirical evidence for the effectiveness of a particular intervention is not the same as evidence for ineffectiveness. In addition, of particular relevance in mental health, evidence-based treatments are often delivered as part of an overall treatment programme including a range of activities, the purpose of which may be to help engage the person and to provide an appropriate context for providing specific interventions. It is important to maintain and enhance the service context in which these interventions are delivered; otherwise the specific benefits of effective interventions will be lost. Indeed, the importance of organising care in order to support and encourage a good therapeutic relationship is at times as important as the specific treatments offered.

1.1.3 Why develop national guidelines?

The National Institute for Health and Clinical Excellence (NICE) was established as a Special Health Authority for England and Wales in 1999, with a remit to provide a single source of authoritative and reliable guidance for patients, professionals and the public. NICE guidance aims to improve standards of care, to diminish unacceptable variations in the provision and quality of care across the NHS and to ensure that the health service is patient centred. All guidance is developed in a transparent and collaborative manner using the best available evidence and involving all relevant stakeholders.

NICE generates guidance in a number of different ways, three of which are relevant here. First, national guidance is produced by the NICE Centre for Health Technology Evaluation to give robust advice about a particular treatment, intervention, procedure or other health technology. Second, the NICE Centre for Public Health Excellence commissions public health guidance focused on both interventions and broader health promotion activities that help to reduce people's risk of developing a disease or condition or help to promote or maintain a healthy lifestyle. Third, the NICE Centre for Clinical Practice commissions the production of national clinical practice guidelines focused upon the overall treatment and management of specific conditions. To enable this latter development, NICE has established seven National Collaborating Centres in conjunction with a range of professional organisations involved in healthcare.

1.1.4 The National Collaborating Centre for Mental Health

This guideline has been commissioned by NICE and developed within the National Collaborating Centre for Mental Health (NCCMH). The NCCMH is a collaboration of the professional organisations involved in the field of mental health, national patient and carer organisations, and a number of academic institutions and NICE. The NCCMH is funded by NICE and is led by a partnership between the Royal College of Psychiatrists' research unit and the British Psychological Society's equivalent unit (Centre for Outcomes Research and Effectiveness).

1.1.5 From national guidelines to local protocols

Once a national guideline has been published and disseminated, local healthcare groups will be expected to produce a plan and identify resources for implementation, along with appropriate timetables. Subsequently, a multidisciplinary group involving commissioners of healthcare, primary care and specialist mental health professionals, patients and carers should undertake the translation of the implementation plan into local protocols taking into account both the recommendations set out in this guideline and the priorities set in the National Service Framework (NSF) for Mental Health and related documentation. The nature and pace of the local plan will reflect local healthcare needs and the nature of existing services; full implementation may take a considerable time, especially where substantial training needs are identified.

1.1.6 Auditing the implementation of guidelines

This guideline identifies key areas of clinical practice and service delivery for local and national audit. Although the generation of audit standards is an important and necessary step in the implementation of this guidance, a more broadly based implementation strategy will be developed. Nevertheless, it should be noted that the Care

Preface

Quality Commission will monitor the extent to which Primary Care Trusts, trusts responsible for mental health and social care, and Health Authorities have implemented these guidelines.

1.2 THE NATIONAL ANTISOCIAL PERSONALITY DISORDER GUIDELINE

1.2.1 Who has developed this guideline?

The GDG was convened by the NCCMH and supported by funding from NICE. The GDG included a representative for service users, and professionals from psychiatry, forensic psychiatry, clinical psychology, forensic psychology, developmental psychopathology, social work, nursing, general practice, general practice in prison, Child and Adolescent Mental Health Services (CAMHS) and the Criminal Justice System (the Ministry of Justice and the Probation Service).

Staff from the NCCMH provided leadership and support throughout the process of guideline development, undertaking systematic searches, information retrieval, appraisal and systematic review of the evidence. Members of the GDG received training in the process of guideline development from NCCMH staff, and the service users received training and support from the NICE Patient and Public Involvement Programme. The NICE Guidelines Technical Advisers provided advice and assistance regarding aspects of the guideline development process.

All GDG members made formal declarations of interest at the outset, which were updated at every GDG meeting. The GDG met 13 times throughout the process of guideline development. It met as a whole and in topic groups; key topics were led by a national expert in the relevant areas. The GDG was supported by the NCCMH technical team, with additional expert advice from special advisers where needed. The group oversaw the production and synthesis of research evidence before presentation. All statements and recommendations in this guideline have been generated and agreed by the whole GDG.

1.2.2 For whom is this guideline intended?

This guideline is relevant for people with antisocial personality disorder. It covers the care provided by primary, community, secondary, tertiary, forensic and other health-care professionals who have direct contact with, and make decisions concerning, the care of people with antisocial personality disorder.

The guideline will also be relevant to the work, but will not cover the practice, of those in:

- occupational health services
- social services
- the independent sector.

The experience of antisocial personality disorder can affect the whole family and often the community. The guideline recognises the role of both in the treatment and support of people with antisocial personality disorder.

1.2.3 Specific aims of this guideline

The guideline makes recommendations for the treatment and management of antisocial personality disorder. It aims to:

- evaluate methods of risk assessment and risk management in antisocial personality disorder
- evaluate the role of specific psychosocial interventions in the treatment of antisocial personality disorder
- evaluate the role of pharmacological interventions in the treatment of antisocial personality disorder
- evaluate the role of interventions to address symptoms and behaviours (including offending) associated with antisocial personality disorder
- evaluate the role of interventions to manage comorbid disorders
- evaluate interventions to prevent antisocial personality disorder
- promote the implementation of best clinical practice through the development of recommendations tailored to the requirements of the NHS in England and Wales.

1.2.4 How this guideline is organised

The guideline is divided into chapters, each covering a set of related topics. The first three chapters provide a general introduction to guidelines, an introduction to antisocial personality disorder and the methods used to develop this guideline. Chapters 4 to 7 provide the evidence that underpins the recommendations.

Each evidence chapter begins with a general introduction to the topic that sets the recommendations in context. Depending on the nature of the evidence, narrative reviews or meta-analyses were conducted, and the structure of the chapters varies accordingly. Where appropriate, details about current practice, the evidence base and any research limitations are provided. Where meta-analyses were conducted, information is given about both the interventions included and the studies considered for review. Clinical summaries are then given for the evidence presented, and the rationale behind how the evidence is translated into recommendations is described. Finally, recommendations related to each topic are presented at the end of each chapter. On the CD-ROM, full details about the included studies can be found in Appendix 15 and 17. Where meta-analyses were conducted, the data are presented using GRADE tables in the evidence chapters and forest plots in Appendix 16.

2 ANTISOCIAL PERSONALITY DISORDER

2.1 INTRODUCTION

This guideline is concerned with the treatment and management of people with antisocial personality disorder in primary, secondary and tertiary care. Various terms have been used to describe those who consistently exploit others and infringe society's rules for personal gain as a consequence of their personality traits, including antisocial personality disorder, sociopathy and psychopathy. Both the current editions of the major classificatory systems—the *International Classification of Diseases*, 10th revision (ICD-10; World Health Organization [WHO], 1992) and the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV; American Psychiatric Association [APA], 1994)—include antisocial personality disorder as a diagnosis, although ICD-10 describes it as dissocial personality disorder (WHO, 1992).

Modern concepts of antisocial personality disorder can be traced back to the early 19th century, and, arguably, have always been tightly linked with contemporary societal attitudes towards criminal justice and civil liberties (Ferguson & Tyrer, 2000). In the early 1800s clinicians attempted to understand criminals whose offences were so abhorrent that they were thought to be insane, yet their clinical presentations were not consistent with recognised mental syndromes. In describing such individuals, Prichard (1835) coined the term 'moral insanity', which was a form of 'mental derangement' in which the intellectual faculties are unimpaired, but the moral principles of the mind are 'depraved or perverted', and the individual is incapable of 'conducting himself with decency and propriety in the business of life.'

While the strength of the association between antisocial personality disorder and offending has never been in doubt, there has long been debate about its implications. In 1874 Maudsley argued that moral insanity was 'a form of mental alienation which has so much the look of vice or crime that many people regard it as an unfounded medical invention'. The crux of the problem was that it was not possible to draw a meaningful line between two forms of deviance from the norm: criminality on the one hand and antisocial personality on the other.

Throughout much of the 19th century, the diagnosis of 'moral insanity' gained acceptance across European and American courts of law (which were largely sympathetic to such a defence), until it was replaced by 'psychopathic inferiority', described in a series of influential works by Koch (1891). He believed these abnormal behaviour states to be the result of 'a congenital or acquired inferiority of brain constitution'. After Kraepelin (1905), who created the classification 'personality disorder', Schneider (1923) developed the characterisation of psychopathy as a fundamental disorder of personality, and he regarded individuals with 'psychopathic personalities' as those who 'suffer through their abnormalities, or through whom society suffers'. This may be seen as a precursor for modern diagnostic concepts in psychiatry, which place emphasis on the distress or impairment resulting from disorders (for example, in DSM and ICD).

It was Henderson (1939), however, who laid firm foundations for the modern delineations of antisocial personality disorder, in defining individuals with ‘psychopathic states’ as those ‘who conform to a certain intellectual standard but who throughout their lives exhibit disorders of conduct of an antisocial or a social nature’. In the US, Cleckley (1941) and McCord and McCord (1956) further pushed the notion of the psychopathic personality as a distinct clinical entity, and established its core criteria around antisocial behaviours (in particular, aggressive acts). These views have been extremely influential in shaping later classifications of sociopathy (DSM-I [APA, 1952]), antisocial personality disorder (DSM-II [APA, 1968] onwards), dissocial personality disorder (ICD) and psychopathy (Hare, 1980).

In 1959, the term psychopathic disorder was incorporated into the Mental Health Act in the UK, which made it possible for patients to be admitted to hospital compulsorily. Psychopathic disorder was defined as ‘a persistent disorder of mind (whether or not accompanied by subnormal levels of intelligence) which resulted in abnormally aggressive or seriously irresponsible conduct on the part of the patients, and require or are susceptible to medical treatment’. This legal definition has been criticised as poorly defined (for example, it is unclear what constitutes ‘abnormally aggressive’ or ‘seriously irresponsible’ conduct), removed as it is from validated psychiatric classifications of psychopathy (Lee, 1999).

The latter clause of the definition has also been seen as problematic (or at best optimistic) as it implied that treatment was beneficial or desirable, for which neither had an evidence base at the time (Ferguson & Tyrer, 2000). While this ‘treatability criterion’ was introduced to protect the personality disordered individual against wrongful detention, the definition of ‘treatability’ became so expanded in practice over the years as to render the term meaningless (Baker & Crichton, 1995). Hence, in the revised Mental Health Act (HMSO, 2007) a generic term ‘mental disorder’ replaces the various subtypes previously used (that is, mental illness, psychopathic disorder, mental impairment and severe mental impairment) and, as a consequence, the treatability test has been replaced with the practitioner needing to be satisfied that ‘appropriate medical treatment is available’ to justify detention for any mental disorder.

Alongside the ambiguity contained in the UK legislation, there is considerable ambivalence among mental health professionals towards those with personality disorder in general but particularly towards those with antisocial personality disorder. Some see this label as sanctioning self-indulgent and destructive behaviour, encouraging individuals to assume an ‘invalid role’ thereby further reducing whatever inclination they might have to take responsibility for their behaviour. Others believe that those with the disorder are better and more appropriately managed by the criminal justice system. The alternative view is that individuals with antisocial personality disorder are not only likely to infringe societal norms but also to have complex health needs that ought to be identified and addressed, either within or alongside the criminal justice system.

These tensions are evident across all aspects of the disorder, but especially regarding diagnosis. The criteria for antisocial personality disorder as specified in DSM-IV have been criticised because of the focus on antisocial behaviour rather than on the underlying personality structure (Widiger & Corbitt, 1993). This has led to the belief

that antisocial personality disorder and its variants may be over-diagnosed in certain settings, such as prison, and under-diagnosed in the community (Lilienfeld, 1998; Ogloff, 2006). Moreover, a unique feature of antisocial personality disorder in DSM-IV is that it requires the individual to meet diagnostic criteria, not only as an adult, but also as a child or adolescent. This has led to concern that some children might be labelled as having a personality disorder before their personality has properly developed.

The DSM-IV definition has other major limitations including problems of overlap between the differing personality disorder diagnoses, heterogeneity among individuals with the same diagnosis, inadequate capture of personality psychopathology and growing evidence in favour of a dimensional rather than a categorical system of classification (Westen & Arkowitz-Westen, 1998; Clark *et al.*, 1997; Clark, 2007; Tyrer *et al.*, 2007; Livesley, 2007). Perhaps, most importantly, the individual personality disorder diagnoses in DSM-IV do not help practitioners to make treatment decisions; as a result practitioners have to focus on the specific components of personality disorder (such as impulsivity or affective instability) rather than on the global diagnosis when deciding on which intervention to use (Livesley, 2007).

Despite these difficulties, there is growing evidence from prospective longitudinal follow-up studies that identify a number of children whose conduct disorder with aggressive behaviour persists into adulthood, thereby justifying the approach of DSM to antisocial personality disorder (Robins *et al.*, 1991; Moffit *et al.*, 2001; Loeber *et al.*, 2002; Simonoff *et al.*, 2004; De Brito & Hodgins, in press). While the conversion rate from childhood conduct disorder to adult antisocial personality disorder varies from 40 to 70% depending on the study, the explicit continuity from conduct disorder in childhood/early adolescence and antisocial behaviour in adulthood has potential therapeutic implications regarding prevention that are discussed in Chapter 5. (However, it should be noted that some of this continuity is potentially artefactual, that is, it is a product of the fact that individuals need a diagnosis of conduct disorder before they can have one of antisocial personality disorder.) Nevertheless, this suggests that early intervention in children and adolescents may be effective in preventing the later development of antisocial personality disorder in adulthood.

A criticism of mental health work in general has been the neglect of examining personality when assessing Axis I disorders or major mental illnesses (APA, 1980); hence DSM-III and its successors adopted a bi-axial approach to the diagnosis of mental disorders, thereby separating mental illnesses on Axis I from personality disorders on Axis II so that 'consideration is given to the possible presence of disorders that are frequently overlooked when attention is directed to the usually more florid Axis I disorder' (APA, 1980). One consequence of this approach has been the recognition that Axis I and Axis II conditions often co-occur and that this co-occurrence usually has a negative effect on the treatment of the Axis I condition (Reich & Vasile, 1993; Cohen *et al.*, 2005; Skodol *et al.*, 2005; Newton-Howes *et al.*, 2006). As described below, antisocial personality disorder is frequently found to be comorbid with a number of other mental disorders. Hence, an important aspect of this guideline is recognising how antisocial personality disorder might negatively moderate the response to conventional interventions offered for frequently co-occurring conditions such as substance misuse, depression and other Axis I conditions (Woody *et al.*, 1985;

Mather, 1987). It does not, however, offer guidance on the separate management of these co-occurring conditions.

2.2 THE DISORDER

2.2.1 Symptoms, presentation and pattern of disorder

The diagnostic system DSM-IV, the preferred diagnostic system for this guideline (see Section 2.2.2), characterises antisocial personality disorder as a pervasive pattern of disregard for and violation of the rights of others that has been occurring in the person since the age of 15 years, as indicated by three (or more) of seven criteria, namely: a failure to conform to social norms; irresponsibility; deceitfulness; indifference to the welfare of others; recklessness; a failure to plan ahead; and irritability and aggressiveness (APA, 1994).

Because those with antisocial personality disorder exhibit traits of impulsivity, high negative emotionality and low conscientiousness, the condition is associated with a wide range of interpersonal and social disturbance. While many of these traits may well be inherited, people with antisocial personality disorder also frequently grow up in fractured families where parental conflict is the norm and where parenting is often harsh and inconsistent. As a result of parental inadequacies and/or the child's own difficult behaviour (or both), the care of the child is often interrupted and transferred to agencies outside the family. This in turn often leads to school truancy, delinquent associates and substance misuse. Antisocial personality disorder is often associated with low educational attainment. These disadvantages frequently result in increased rates of unemployment, poor and unstable housing and inconsistency in relationships in adulthood. Many are imprisoned or die prematurely as a result of reckless behaviour (Swanson *et al.*, 1994). This catalogue of continuing and multiple disabilities over time is not so much a description of 'symptoms', rather a description of a broad range of diverse problem areas that are likely to lead to an adverse long-term outcome.

Consequently, while criminal behaviour is central to the definition of antisocial personality disorder, this is often the culmination of previous and long-standing difficulties. Clearly, therefore, there is more to antisocial personality disorder than criminal behaviour, otherwise all of those convicted of a criminal offence would meet criteria for antisocial personality disorder and a diagnosis of antisocial personality disorder would be rare in those without a criminal history. However, this is not the case. The prevalence of antisocial personality disorder among prisoners is slightly less than 50% (Fazel & Danesh, 2002; Hart & Hare, 1989; Singleton *et al.*, 1998). Similarly, epidemiological studies in the community estimate that only 47% of people meeting criteria for antisocial personality disorder had significant arrest records; a history of aggression, unemployment and promiscuity were more common than serious crimes among people with antisocial personality disorder (Robins, 1987; Robins *et al.*, 1991). These data therefore show that the relationship between antisocial personality disorder and offending is not straightforward.

Antisocial personality disorder

This position is further strengthened when data on people with personality disorder (including those in the community) are examined by factor analysis. This approach consistently produces three or four higher order factors, the most prominent of which is an ‘antisocial factor’ (Mulder & Joyce, 1997; Blackburn & Coid, 1999; Livesley, 2007; Howard *et al.*, 2008). However, this higher order antisocial factor is more broadly described than in DSM and includes narcissistic, paranoid and histrionic traits as well as the more traditionally described antisocial personality disorder items such as conduct disorder and criminality.

For many clinicians, this broader description of antisocial personality disorder carries greater conviction than the more behaviourally-based criteria in DSM. Rather than focusing on criminality, mental health professionals are more interested in such features as unstable interpersonal relationships, disregard for the consequences of one’s behaviour, a failure to learn from experience, egocentricity, disregard for the feelings of others and persistent rule breaking (Livesley *et al.*, 1987; Tennant *et al.*, 1990; Livesley, 2007).

Despite disagreements and confusion regarding the diagnosis of antisocial personality disorder, there is a commonly held view that the strict personality component is characterised by a set of common traits including irresponsible and exploitative behaviour, recklessness, impulsivity and deceitfulness (Livesley, 2007). Benjamin (1996) has expanded on these features and delineates a characterisation that seeks to provide a description of the internal mental mechanisms at play in the disorder. She describes the core features of those with antisocial personality disorder as consisting of:

‘a pattern of inappropriate and unmodulated desire to control others, implemented in a detached manner. There is a strong need to be independent, to resist being controlled by others, who are usually held in contempt. There is a willingness to use untamed aggression to back up the need for control or independence. The [antisocial personality] usually presents in a friendly, sociable manner, but that friendliness is always accompanied by a baseline position of detachment. He or she doesn’t care what happens to self or others’. (Benjamin, 1996, p. 197; emphasis added by GDG)

At the present time, DSM is undergoing major revision (as DSM-V), and it is hoped that there will be a reduced emphasis on criminal behaviour and an increased emphasis on the interpersonal deficits to characterise antisocial personality disorder.

2.2.2 Diagnosis

DSM-IV

Taking account of criticisms of DSM-III (APA, 1980) and DSM-III-R (APA, 1987) that the criteria were too behaviourally focused, some effort was made in the DSM-IV revision to produce a more trait-based description. Specifically, there was a field trial comparing Robins’ emphasis on the continuity of conduct disorder in childhood with adult antisocial personality disorder with the more trait-based personality criteria of the Psychopathy Checklist-Revised (PCL-R; Robins, 1987). Despite this work

and its implications, the changes introduced for DSM-IV were modest (Millon & Davis, 1996; Hare *et al.*, 1991). Hence, as described above, the principal criteria for antisocial personality disorder in DSM-IV are:

'a pervasive pattern of disregard for and violation of the rights of others occurring since 15 years, as indicated by three (or more) of the seven criteria that include four in the interpersonal realm (including a failure to conform to social norms, irresponsibility, deceitfulness and indifference to the welfare of others); one in the behavioural realm (recklessness); one in both the behavioural and cognitive domain (a failure to plan ahead), and finally, one in the mood domain (irritability and aggressiveness)'. (Millon & Davis, 1996)

One of the concerns of many authors (for example, Kernberg, 1992) is the degree to which antisocial personality disorder, with its interpersonal exploitativeness, can be usefully distinguished from narcissistic personality disorder; indeed, they are often found to co-occur. Millon and Davis (1996) offer useful guidance:

'the antisocial is driven, first, to benefit himself and, second, to take vigorous action to see that these benefits do accrue to himself. This pattern is similar to, yet different, than seen in narcissists, where an unjustified self-confidence assumes that all that is desired will come to them with minimal effort on their part. The antisocial assumes the contrary. Recognising by virtue of past experience that little will be achieved without considerable effort, cunning and deception, the antisocial knows that desired ends must be achieved from one's own actions. Moreover, these actions serve to fend off the malice that one anticipates from others, and undo the power possessed by those who wish to exploit the antisocial.'

Not only does this usefully separate antisocial personality disorder from narcissistic personality disorder, but it also describes a core component of antisocial personality disorder, namely that one needs to actively look after oneself because it is believed that no one else will do so.

ICD-10

In ICD-10 (WHO, 1992), the term used is dissocial personality disorder, rather than antisocial personality disorder. In summary, its criteria focus more than DSM-IV on interpersonal deficits (for example, incapacity to experience guilt, a very low tolerance of frustration, proneness to blame others, and so on) and less on antisocial behaviour *per se*. It does not require symptoms of conduct disorder in childhood. This definition of dissocial personality disorder has been criticised for including features of aggressive/sadistic personality disorder that cannot be accommodated elsewhere in ICD-10 (Millon & Davis, 1996).

Psychopathy

Cleckley (1941), in his influential book *The Mask of Sanity*, attempted to identify the underlying traits of those who behaved in an exploitative manner and thereby

Antisocial personality disorder

provided a description of psychopathy. Building on Cleckley's work, Hare and colleagues (2000) produced two separate factors to describe antisocial behaviour in their development of the Psychopathy Checklist–Revised (PCL-R; Hare, 1991). The first of these related to the more narcissistic variant of personality abnormality, emphasising traits such as selfishness, egocentricity and callousness. The second referred to a more antisocial lifestyle with frequent criminal behaviour, early and persistent delinquency, a low tolerance for frustration, and so on. More recent work has expanded the description of psychopathy as comprising three or four factors. The four factor model (Neumann *et al.*, 2007) consists of:

- a) an interpersonal factor that includes superficial charm, grandiosity, pathological lying and manipulation
- b) an affective factor that includes callousness, lack of remorse, shallowness and failure to accept responsibility
- c) an impulsive lifestyle factor that comprises impulsivity, sensation seeking and irresponsibility
- d) an antisocial factor that involves general rule breaking.

The alternative three-factor model of Cooke and Mitchie (2001) differs in that it does not include an antisocial factor because this is seen as a concomitant, rather than a core feature, of psychopathy (Blackburn, 2007). This disagreement about whether criminal behaviour is a core or concomitant feature of psychopathy was echoed in the GDG's discussion of the concept of antisocial personality disorder.

The disorder of psychopathy, while associated with antisocial personality disorder, is distinct in that while most of those who score highly on the PCL-R (Hare *et al.*, 2000) will also meet criteria for antisocial personality disorder, only about 10% of those with antisocial personality disorder meet criteria for psychopathy as measured by the PCL-R. In this guideline, psychopathy is referred to only briefly and with reference to practice in tertiary care. The practical implications of this are that those who score highly on the PCL-R and who present to services, or are coerced into doing so, will do so largely to tertiary services.

Although there is disagreement on the diagnostic criteria for antisocial personality disorder, the criteria used in DSM-IV (APA, 1994) have been adopted in this guideline in order to provide a primary diagnostic anchor point. In addition, nearly all of the evidence examining the efficacy of the interventions focuses on those with a DSM diagnosis. However, evidence from other classificatory systems, that is, dis-social personality disorder in ICD-10 (WHO, 1992) and 'psychopathy' (Hare, 1991), is used where relevant.

2.2.3 Course and prognosis

Gender affects both the prevalence of antisocial personality disorder (see Section 2.2.4) and its course: it is more common in men who are also more likely to persist with their antisocial behaviour when compared with women. For instance, Guze (1976) found that most incarcerated male felons were still antisocial by interview at follow-up (87% at 3 years, 72% at 9 years) while Martin and colleagues (1982) found

that among women, only 33% were engaging in criminal behaviour at 3 years and only 18% at 6 years. Nonetheless, follow-up studies also demonstrate a reduction in the rates of re-offending in men over time (Grilo *et al.*, 1998; Weissman, 1993). However, Black and colleagues (1995), in one of the few long-term follow-up studies of men with antisocial personality disorder showed that while the men had reduced their impulsive behaviour (and hence their criminality) with the passage of time, they continued to have significant interpersonal problems throughout their lives (Paris, 2003).

Antisocial personality disorder is associated with an increase in mortality. Martin and colleagues' (1985) follow-up of 500 psychiatric outpatients in St Louis in the US found that those with antisocial personality disorder had a greatly increased standardised mortality rate (SMR) compared with other psychiatric conditions (SMR = 8.57, $p = 0.01$). An even more striking finding was provided by Black and colleagues (1996) in their follow-up of men with antisocial personality disorder. They found that young men with antisocial personality disorder had a high rate of premature death, with those under the age of 40 having an SMR of 33 with the SMR diminishing with increasing age. This increased mortality was due to not only an increased rate of suicide, but to reckless behaviour such as drug misuse and aggression.

One of the most striking findings from the literature is that a relatively small number of offenders commit the majority of crimes. For instance, it is known that 5 to 6% of offenders are responsible for 50% of recorded crimes (Farrington *et al.*, 1986). Furthermore, those who commit the majority of crimes, continue to do so throughout most of their life. This is in contrast to the large number of offenders who desist from criminal activity after adolescence. This observation has led to the concept of 'life-course-persistent offenders' as opposed to 'adolescence-limited offenders' (Moffitt, 1993). From the longitudinal Dunedin study, Moffitt was able to characterise life-course-persistent offenders as having inherited or constitutional neuropsychological difficulties that later interact with a criminological environment to produce a phenotype of persistent offending (Moffitt, 1993).

2.2.4 Prevalence of antisocial personality disorder and related conditions

The prevalence of antisocial personality disorder in the general population varies depending on the methodology used, and the countries studied, but all show that the condition is much more prevalent among men. The lifetime prevalence in two North American studies was 4.5% among men and 0.8% among women (Robins *et al.*, 1991) and 6.8% among men and 0.8% in women (Swanson *et al.*, 1994). Two European studies found a prevalence of 1.3% in men and 0% in women (Torgensen *et al.*, 2001) and 1% in men and 0.2% in women (Coid *et al.*, 2006). Despite these relative differences between North American and European studies, the rates of antisocial personality disorder reported indicate that even with the most conservative estimates antisocial personality disorder has the same prevalence in men as schizophrenia, which is the condition that receives the greatest attention from mental health

professionals. While the incidence of antisocial personality disorder in women may be lower and the threshold for entry to services such as forensic services or the criminal justice system higher, there is some evidence to suggest that women with antisocial personality disorder (Yang & Coid, 2007) have greater severity of problems characterised by more complex comorbidities for both Axis I and Axis II disorders and corresponding poor outcomes (for example, Galen *et al.*, 2000).

Antisocial personality disorder is common in prison settings. Surveys of prisoners worldwide indicate a prevalence of antisocial personality disorder of 47% for men and 21% for women (Fazel & Danesh, 2002). In the UK prison population, the prevalence of people with antisocial personality disorder has been identified as 63% male remand prisoners, 49% male sentenced prisoners, and 31% female prisoners (Singleton *et al.*, 1998). By contrast, the prevalence of psychopathy in UK prisoners is only 4.5% using a PCL-R score of ≥ 30 , and 13% using a score of ≥ 25 (Hare *et al.*, 2000).

Significant comorbidity exists between antisocial personality disorder and many Axis I conditions. For instance, Swanson and colleagues' (1994) community study showed an increased prevalence of 'nearly every other psychiatric disorder . . . with 90.4% having at least one other psychiatric disorder.' Substance misuse is the most important disorder co-occurring with antisocial personality disorder. In the Epidemiological Catchment Area (ECA) study, when men with and without antisocial personality disorder were compared, those with antisocial personality disorder were three and five times more likely to misuse alcohol and illicit drugs (Robins *et al.*, 1991). It is also important to note that while women have a significantly lower prevalence of antisocial personality disorder than men, those women with antisocial personality disorder have an even higher prevalence of substance misuse when compared with men (Robins *et al.*, 1991; Compton *et al.*, 2005).

For other conditions, half of those with antisocial personality disorder will have co-occurring anxiety disorders (Goodwin & Hamilton, 2003) and a quarter will have a depressive disorder (Lenzenweger *et al.*, 2007). These co-occurring Axis I conditions are important because the presence of antisocial personality disorder is likely to be a negative moderator of treatment response when these conditions are treated by conventional approaches.

2.3 AETIOLOGY

2.3.1 Gene-environment interactions

As with most psychiatric conditions, antisocial personality disorder is construed as having both a biological and psychosocial aetiology. While it has long been recognised that genes contribute to antisocial behaviour, this field has advanced significantly within the past decade with more sophisticated designs and larger twin and adoptive samples. Two developments are especially noteworthy.

First, there is evidence that there is heterogeneity in the antisocial behaviour exhibited by young children. For instance, Viding and colleagues (2005) have shown

that by subtyping the antisocial behaviour in 7-year-old twins into those children with and without callous and unemotional traits (that is, AB/CU+ and AB/CU– respectively), that there was a much stronger heritability in the former (of 0.81 versus 0.30 respectively). Moreover, there is evidence that children who offend early and do so with greater aggression have an increased heritability for this behaviour (see a review by Viding *et al.*, 2008). Hence, there is some evidence that this aggressive antisocial behaviour is ‘hardwired’ in the brain from an early age.

Second, despite evidence for this deterministic ‘hardwired’ process, current thinking recognises that differing gene/environmental mechanisms are at play in such children. Hence, children who are genetically vulnerable to behaving in an antisocial manner are likely to also suffer from harsh and inconsistent parenting that, in turn, they may exacerbate by provoking negative responses with their behaviour. Adoption studies show an interactive effect of genetic vulnerability with an adverse environment so that there is more pathology than one would expect from either acting alone or in combination (Cadoret *et al.*, 1995).

This interactive effect of genes and environment suggests that the genetic risk might be moderated by intervening to reduce negative responses from the parent (for example, parent-training programmes, multisystemic therapy, and so on). Knowledge of the genetic vulnerability may inform programme content and delivery and so increase its effectiveness. For instance, children with callous and unemotional traits respond badly to being punished but positively to rewards and therefore require programmes tailored to their specific needs (see Chapter 5).

2.3.2 Biological markers for aggressive behaviour

Cross-sectional studies comparing those with and without aggressive behaviour have demonstrated robust differences in physiological responses and in brain structure and function in these groups (see a review by Patrick, 2008). For instance, individuals prone to aggression have enhanced autonomic reactivity to stress, enhanced EEG slow wave activity, reduced levels of brain serotonin (Coccaro *et al.*, 1996a; Dolan *et al.*, 2001) and dysfunction in the frontocortical and limbic regions that mediate emotional processing (Intrator *et al.*, 1997; Raine *et al.*, 2000, Blair *et al.*, 2006).

While this increase in understanding in the biology of antisocial behaviour is to be welcomed, it is subject to the following limitations. Most of the studies carried out focus on those with aggressive behaviour and psychopathy rather than on antisocial personality disorder. For instance, children and adolescents who are aggressive have lower levels of autonomic arousal but an enhanced autonomic reactivity to stress (Lorber, 2004); whereas adults who score high on the Psychopathy Checklist have reduced autonomic activity in relation to stress. The studies suffer, furthermore, from failing to control for confounding factors, such as comorbidity and substance misuse and from a concentration on simple neuropsychological processes such as motor impulsivity or recognition of basic emotions, rather than on more complex behaviour and moral decision making. Finally, they appear to be disconnected from routine clinical work and hence are unlikely to influence current clinical decision making (Duggan, 2008).

In addition to these biological factors, there are numerous adverse environmental influences that are important, including harsh and inconsistent parenting, social adversity, poverty and associating with criminal peers.

This consequence of the interaction between the various biological vulnerabilities and being brought up in an adverse environment has been articulated by Dodge (2000) who describes a 'child [who] never acquires the social skills and regulatory mechanisms necessary to navigate the world of adolescence. The child consistently fails to attend to relevant social cues, readily makes hostile attributions about peers and adults, accesses aggressive responses in social situations, and either impulsively performs these responses without thinking about their consequences or evaluates their likely outcomes as acceptable and selects them' (p. 458).

2.4 PRESENTATION IN HEALTHCARE AND OTHER SETTINGS

Because people with antisocial personality disorder externalise their difficulties, it is not surprising that they rarely present in healthcare settings requiring help to deal directly with problems arising from their personality disorder. In general, therefore, they can be described as 'treatment rejecting' rather than 'treatment seeking' (Tyrer *et al.*, 2003). This is in contrast to people with borderline personality disorder, many of whom do seek treatment, albeit in a dysfunctional manner (Benjamin, 1993). This is important in that it underscores Coid's (2003) advice that those who provide mental health services ought not to assume that the frequency of help-seeking behaviour is necessarily an accurate indication of either the prevalence of the condition or its therapeutic need.

When people with antisocial personality disorder do present for treatment, this is usually either for a comorbid condition and/or they have been coerced into treatment by a relative or some external authority in a crisis. Given that those with antisocial personality disorder actively resist having to accept help, and that coercion into treatment directly challenges their core personality structure, it is clear that therapeutic interventions are also likely to be under threat in such circumstances. Hence, one might expect a high drop-out rate from treatment and indeed that is what has been found (Huband *et al.*, 2007). Nonetheless, people with antisocial personality disorder do present to healthcare services (either willingly or otherwise), so it is important that such services have an understanding of the core personality issues so that they can respond appropriately.

2.4.1 Treatment attrition

Dropping out of treatment is a particular problem in the treatment of personality disorder (Skodol *et al.*, 1983; Gunderson *et al.*, 1989) and those with antisocial personality disorder have several characteristics (including a hostile attributional style, low educational attainment and impulsivity) that place them at high risk of doing so. Dropping out of treatment is not only a waste of an expensive resource for

the service provider but also for the patients because their outcome is often worse than if they had never been treated (McMurran & Theodosi, 2007). This suggests that especial care needs to be taken in the management of those with antisocial personality disorder to identify indicators of drop out and actively address them.

Patient preference, information and consent

In a population that is largely ‘treatment rejecting’, issues concerning patient preference and information can be challenging. However, given the propensity of people with antisocial personality disorder not only to reject treatment but also to drop out of treatment, additional efforts to engage people may be required. These issues are dealt with more fully in Chapter 4 while ethical issues are covered further in Section 2.10.

2.5 USE OF HEALTH SERVICE RESOURCES AND OTHER COSTS

It is important to recognise that while antisocial personality disorder is associated with considerable harm to the individual with the condition, this harm extends more broadly to have an impact not only on immediate family members, but on society at large. Extended harm leads not only to high levels of personal injury and financial damage for victims but also to increased costs of policing, security, and so on (Welsh *et al.*, 2008). Recognition of these extended costs is important in making a case for what appear to be, on occasion, expensive interventions.

The evidence on the health service costs of antisocial personality disorder is limited. In addition to the paucity of research there are problems in interpreting the current evidence base. There are a number of reasons for this. Health service use specific to antisocial personality disorder is often difficult to estimate because of the significant comorbidity between Axis I and Axis II disorders. In addition, many individuals with the condition do not present for treatment except under duress (for example, if they require drug detoxification in prison) and, even in cases where the person presents, the condition is often not recognised (for example, because people presenting require emergency treatment for an alcohol-related physical health problem or treatment for another comorbid condition). However, this apparent treatment avoidance can be construed more positively in that many with antisocial personality disorder do not seek help because they are not aware of the interventions available, or, when they do present for help, their presentation is so coloured by the nature of their personality disorder that services are reluctant to respond positively to their demands. This guideline recognises that those with antisocial personality disorder have many unmet needs and that current service provision may need to be reconfigured in order to meet their expectations.

Healthcare service costs incurred by people with dangerous and severe personality disorder have been estimated in a study conducted in Rampton, the high secure hospital in Nottinghamshire (Barrett *et al.*, 2005). The mean cost per person receiving care at the hospital over a 6-month period was £65,545 (2002/03 prices), but there was considerable variation among individuals, with the 6-month cost ranging from

£59,000 to £83,000. No other evidence on health and social care costs directly associated with antisocial personality disorder was identified in the existing literature. However, more extensive research has been undertaken on the costs associated with conduct disorder. Romeo and colleagues (2006) estimated such costs in a sample of young children (aged from 3 to 8 years) with conduct disorder in the UK, adopting a broad societal perspective that included health services, education, social care and costs borne to the family. The mean annual cost per child reached £6,000 (2002/03 prices); the greatest component of this cost (about 78%) reflected non-service costs to the family, comprising mainly extra time spent on household tasks. Costs to education services and to the NHS approximated £1,300 and £550 per year, respectively.

Another study conducted in the UK compared the total costs incurred by children with conduct disorder, children with some conduct disorder traits and children without conduct disorder, from the age of 10 and up to the age of 28 years (Scott *et al.*, 2001a). A wide perspective was adopted in this study, which considered special educational, health, foster and residential care services, crime costs, state benefits received in adulthood and breakdown of relationships reflected in domestic violence and divorce. The total cost per person diagnosed with conduct disorder as a child reached £70,000 (1998 prices); the respective cost per person with conduct problems in childhood exceeded £24,000. In contrast, the cost per child in the control group was only £7,400 over 18 years (that is, from 10 to 28 years of age). The most significant cost element in the group that had been diagnosed with conduct disorder in childhood was the cost associated with criminal behaviour—this amounted to 64% of the total cost. Special education services incurred 18% of the total cost, foster and residential services 11%, state benefits 4%, while NHS costs constituted only 3% of the total cost incurred by this population. Similar findings were reported in a US study that compared the costs of children with conduct disorder, oppositional defiant disorder and elevated levels of problem behaviour, with a group of children without any of these disorders (Foster *et al.*, 2005): the 4-year health and criminal justice costs of children with conduct disorder were twice as much as the respective costs incurred by children with oppositional defiant disorder, 1.7 times higher than costs of children with problem behaviour, and more than 3 times the costs recorded for the control group. Comorbid conduct disorder has been shown to significantly increase costs in adults who were diagnosed with depression in childhood: Knapp and colleagues (2002) demonstrated that adults who had depression and comorbid conduct disorder as children incurred more than double the costs compared with those who were diagnosed with depression (but no conduct disorder) in childhood. Conversely, it has been suggested that comorbid depression increases costs incurred by young offenders in custody or in contact with youth offending teams (Barrett *et al.*, 2006). Besides depressed mood, younger age was also shown to result in an increase in total costs.

For those who engage in criminal behaviour there are the obvious costs of such behaviour, including emotional and physical damage to victims, damage to property, police time, involvement with the criminal justice system and prison services. Brand and Price (2000) estimated that the total cost of crime in England and Wales reached £60 billion in 1999/2000. This estimate included costs incurred in anticipation of crime, such as security expenditure and insurance administration, costs directly

resulting from crime, such as stolen or damaged property, lost output, emotional and physical impact on victims, health and victim services, as well as costs to the criminal justice system, including police services. Nevertheless, other important consequences of crime, such as the fear of crime and its impact on quality of life were not taken into account in the estimation of the above figure. Fear of crime and other intangible costs to crime victims, such as pain, grief and suffering, have been the subject of research of a growing literature aiming at estimating the wider cost implications of crime to the society (Dolan *et al.*, 2005; Dolan & Moore, 2007; Dolan & Peasgood, 2007; Dolan *et al.*, 2007; Loomes, 2007; Semmens, 2007; Shapland & Hall, 2007). Mental healthcare needs of victims of crime should not be ignored because these have been shown to substantially contribute to the costs associated with crime: a US study estimated that crime victims represented about 20 to 25% of people visiting mental healthcare professionals, incurring a cost to mental healthcare services of between \$5.8 and \$6.8 billion in the US in 1991 (Cohen & Miller, 1998).

Equally important to the above costs are the costs associated with lost employment opportunities, family disruption, relationship breakdown, gambling and problems related to alcohol and substance misuse (Myers *et al.*, 1998; National Research Council, 1999; Home Office & Department of Health, 2002). Therefore, the financial and psychological implications of antisocial personality disorder, offending behaviour and conduct disorder are likely to be wider than those indicated by the figures reported in the published literature. Efficient use of available healthcare resources is required to maximise the benefits for people with these conditions, their family and carers, and society in general.

2.6 TREATMENT AND MANAGEMENT IN THE NHS

While the ‘therapeutic gloom’ surrounding the condition identified by Aubrey Lewis in 1974 has been lightened with many more initiatives available to enable staff to intervene in this group (Department of Health, 2003), nonetheless it remains the case that high-quality evidence of efficacy for these initiatives is lacking. For instance, 19 years after Lewis’s pessimistic assessment, Dolan and Coid (1993) in their review of the treatment of psychopathic and antisocial personality disorder concluded that the evidence base for such treatments was poor. They could identify only a small number of studies and these were limited by poor methodology and lack of long-term follow-up.

Ten years after the Dolan and Coid (1993) review, further work failed to uncover a more credible evidence base (Warren *et al.*, 2003). In 2007, the situation was similar: two systematic reviews of psychological and pharmacological treatments could locate only five trials in the treatment of antisocial personality disorder that met Cochrane criteria for an acceptable randomised controlled trial (RCT) (Duggan *et al.*, 2007a, Duggan *et al.*, 2007b). More significantly, all of these five trials examined the effect of the intervention to reduce substance misuse in those with antisocial personality disorder, rather than the characteristics of antisocial personality disorder *per se*. A failure to achieve a consensus on defining the trial population and on the outcomes that were relevant was identified as the main reasons for this lack of progress (Duggan *et al.*, 2007a, Duggan *et al.*, 2007b).

2.6.1 Pharmacological treatments

Although there is no reliable estimate of the use of pharmacological treatments among those with antisocial personality disorder in the literature, a varied list of drugs are commonly prescribed. Dolan and Coid (1993) reviewed the use of numerous drug groups including antidepressants, hypnotics, anxiolytics, antiepileptics and central nervous system stimulants in people with antisocial personality disorder. The research evidence justifying the use of these interventions was found to be limited.

As a DSM diagnosis has limited uses for treatment planning (Livesley, 2007), Soloff (1998) recommended a symptom-orientated approach to guide the use of pharmacotherapy in personality disorder. Among his symptom domains, the following are potentially relevant for antisocial personality disorder: impulse-behavioural, affective and cognitive-perceptual (because of associated paranoid features). He found evidence favouring selective serotonin reuptake inhibitors (SSRIs) and antimanic drugs for impulsive dyscontrol; SSRIs and other antidepressants for emotional dysregulation and low dose antipsychotics for cognitive-perceptual abnormalities. Many of the trials in his review focused on borderline personality, and it remains to be evaluated as to whether effective reduction of anger or impulsiveness in that group might be extrapolated to people with antisocial personality disorder (Soloff, 1998).

2.6.2 Psychological treatments

Unfortunately, the evidence base for psychological treatments for antisocial personality disorder is as limited as that for pharmacological treatments (Duggan *et al.*, 2007). Much more emphasis has been placed on the psychological treatment of other personality disorders, primarily borderline personality disorder (for example, Kernberg, 1984; Linehan & Dimeff, 1997). The earlier approaches to treating antisocial personality disorder and psychopathy took place largely in high secure hospitals (where 25% met criteria for legally defined psychopathic disorder). As with the treatment of personality disorder more generally, psychoanalytic approaches to treatment were most prevalent (Cordess & Cox, 1998).

Partially informed by developments in the 'what works' criminological literature, cognitive behavioural approaches have gained in prominence. For instance, in the Dangerous and Severe Personality Disorder (DSPD) service (see Section 2.7) that provides interventions for highly psychopathic men, a range of interventions are available including dialectical behaviour therapy, schema-focused therapy, cognitive analytic therapy, violence reduction programmes, and so on (Home Office, 2005a). These interventions await evaluation.

2.6.3 Psychosocial interventions

In the development of treatments for personality disorders the therapeutic community and its various developments have played an important role. The Henderson Hospital

was a specialist inpatient unit specifically developed to treat personality disorder in the NHS (Rapoport, 1960). The therapeutic community movement had a significant impact on mental healthcare in the mid to late 20th century (Lees *et al.*, 2003) with parallel developments in the prison service (Grendon Underwood; Snell, 1962) and drug services. However, in the healthcare field there has been a recent move away from this area in part because of high costs in the absence of convincing evidence for efficacy.

Interventions for offenders

Although the evidence of efficacy in intervening for those with antisocial personality disorder is slight, there is an important parallel criminological literature that is considered in this guideline. The literature on interventions to reduce offending behaviour is greater in volume and quality than that for antisocial personality disorder *per se* and so is potentially important to this guideline. However, this literature (reviewed in Chapter 7) has two limitations: it does not make an antisocial personality disorder diagnosis a necessary condition of entry to the studies and the outcome criteria are usually restricted to the presence or absence of re-offending. While these studies are clearly relevant to those with antisocial personality disorder (given that those in prison are likely to have this disorder), developing a guideline on the basis of this evidence is clearly not straightforward and is discussed further in succeeding sections.

2.7 THE DANGEROUS AND SEVERE PERSONALITY DISORDER INITIATIVE

A recent and important national initiative is the Dangerous and Severe Personality Disorder (DSPD) Programme (Home Office & Department of Health, 2002). DSPD is an umbrella term, grouping together people with a severe personality disorder where there is a significant risk of serious harm to others. It is likely that many people with DSPD also fulfil criteria for antisocial personality disorder. For the purpose of DSPD assessments, the criteria for 'severe personality disorder' are defined as follows (Home Office, 2005a):

- a PCL-R score of 30 or above (or the Psychopathy Checklist-Screening Version [PCL-SV] equivalent); or
- a PCL-R score of 25-29 (or the PCL-SV equivalent) plus at least one DSM-IV personality disorder diagnosis other than antisocial personality disorder; or
- two or more DSM-IV personality disorder diagnoses.

The DSPD programme in England and Wales provides treatment for approximately 300 men in high security with about half in prisons and half in high secure hospitals. Treatment consists mainly of cognitive behavioural programmes delivered in group and individual settings and aimed at risk reduction. Anticipated length of stay is between 3 and 5 years. It is therefore too early for a definitive evaluation particularly because many individuals will be transferred to other secure facilities at the end of treatment rather than being discharged to the community. The programme

Antisocial personality disorder

incorporates extensive evaluation including a minimum dataset collated centrally for all men in the high secure prison and hospital places as well as independent evaluation of assessment, treatment outcome, and organisational and management arrangements.

While the extent of service planning and public funds committed to this group is significant, these services are restricted to a very small proportion of the population so they are likely to have only a minimal impact on the very large numbers of people with antisocial personality disorder, the majority of whom are in prison or in the community.

2.8 THE ORGANISATION AND COORDINATION OF TREATMENT AND CARE

The organisation and coordination of care is the subject of a separate chapter (Chapter 4). The purpose of this section is to outline the key issues to be considered in that chapter and how they will be integrated through the guideline. Most people with antisocial personality disorder receive the majority of their care outside the health service. They make demands on educational, social care and housing services and, as result of their offending, on the criminal justice system. The effective delivery of a healthcare intervention for antisocial personality disorder will therefore require an acknowledgement and understanding of the wider system as a minimum, but for those individuals with complex needs it will also require effective coordination of care across multiple agencies. This can be very demanding work, especially when it is carried out in the community with the most troublesome offenders and those who provoke the most anxiety, and has led to the development of specific coordination systems such as the Multi-Agency Public Protection Arrangements (MAPPA) panels (Home Office, 2005c), which coordinate multi-agency care from mental health, social services and the criminal justice system. Whichever system of coordination is chosen it is likely that a number of agencies (in addition to mental health services) will need to play a part if the cycle of continuing adversity is to be broken. Successful interventions for those with antisocial personality disorder may require these interventions to be multimodal and across most of the life span.

However, such complex interventions are expensive and not widespread around the country, and it is therefore inevitable that some people who need treatment may not receive it. They may also not receive treatment because psychiatric teams still reject those who behave antisocially and because people with antisocial personality disorder are often reluctant to engage in treatment. Their callous and unemotional response to vulnerability may extend to themselves: they may see their own needs as signs of weakness and treat them with contempt, and by extension, treat caregivers with contempt.

One of the key conceptual issues that affects services for antisocial personality disorder and psychopathy is the persistent belief that these disorders exist in isolation,

especially in relation to Axis I disorders. Some of the homicides committed by the mentally ill that have been the subject of inquiries occurred because men with both antisocial personality disorder and a psychotic disorder were turned away on the grounds that they 'only' had a personality disorder and therefore were not mentally ill. Even in very experienced services, professionals find it hard to accept that severe personality disorders and severe mental illness not only coexist, but are very likely to coexist (Blackburn *et al.*, 2003). Thus if services are set up as either 'personality disorder services' or 'mental illness services', the most risky, treatment averse people will not be identified.

2.9 ASSESSMENT

Much of the focus on the assessment of people with antisocial personality disorder has focused on the assessment of risk, in particular risk to others. (This is the specific focus of Chapter 6 and will not be discussed in detail here.) However, people with antisocial personality disorder often have complex needs, which in turn require complex assessment often from a multi-agency and multi-professional perspective and would include not only risk but mental state (because of the high level of comorbid mental disorders in people with antisocial personality disorder presenting to services), drug and alcohol misuse (the latter has a strong association with the risk of violent or offending behaviour), physical health needs, social and housing needs and also the needs of family members, in particular children. The Department of Health document, *Personality Disorder: No Longer a Diagnosis of Exclusion* (2003), is clear that personality disorder should no longer be a reason for being denied treatment; however without effective assessment an effective treatment plan is not likely to be put in place.

The issue of assessment raises questions about the structure and purpose of assessment of antisocial personality disorder at different levels of the healthcare system. In many mental disorders there is an increasing emphasis on a stepped care approach to treatment (NCCMH, 2005a) and although the evidence base is limited it is possible that this will be considered an appropriate way forward for antisocial personality disorder (this is discussed further in Chapter 4). However whichever model is chosen it is likely that the focus on assessment and intervention, at least in healthcare, will vary across the healthcare system. One approach that may be helpful is to consider people with antisocial personality disorder presenting to primary care as having 'problems'; those presenting to secondary care as having 'symptoms'; and those presenting to tertiary care to having either 'complex problems' or requiring a forensic assessment. For this approach to be effective within the stepped care model, practitioners at different levels would require guidance on: (a) recognition of the disorder and its implications regarding the presenting problem; (b) how to respond to this in an appropriate manner; and (c) under which circumstances a referral to another tier is indicated. (See Chapter 4 for further discussion.)

2.10 ETHICAL CONSIDERATIONS IN ANTISOCIAL PERSONALITY DISORDER

2.10.1 Introduction

So far this chapter has focused on the professional or societal approach to personality disorder, but antisocial personality disorder also raises key ethical issues. In relation to antisocial personality disorder and psychopathy, a key conceptual question is whether they are disorders at all. The debate is complicated by the fact that philosophers have used the concept of the psychopath as a medical entity to explore issues of moral reasoning and responsibility (Murphy, 1972; Duff, 1977; Malatesti, 2006); while, at the same time, a debate has continued in psychology and psychiatry whether psychopaths (and indeed, people with antisocial personality disorder) are properly the subject of medical discourse at all, precisely because of the implications for criminal responsibility. Much of the current research has been used to address this debate: therefore, if there is a biological basis for antisocial personality disorder and psychopathy, then, it is argued, it is a disorder, which needs treatment, or at least intervention.

This debate is too large to review in any depth here, but there are three related aspects that may be useful to consider. First, debaters in this area need to beware of conceptual slippage: ‘antisocial behaviour’ is not the same as criminality or violence or antisocial personality disorder or psychopathy. Much more is known about the brains of those who behave in cruel and unusual ways than was known 10 years ago and those findings cannot explain why people in general choose to behave antisocially. Second, neural/genetic findings can only contribute to an understanding of the causes of any behaviour. All human behaviours are complex, and involve higher level thinking about motives, beliefs, attributions, both in the actor and those affected by him/her. It seems very probable that genetic vulnerability interacts with environment to produce a neural matrix that contributes causally to socially significant rule breaking: but it is only a contribution, and not a total explanation. Third, researchers and healthcare policy makers need to understand that because the problems posed by people with antisocial personality disorder and psychopathy are social ones, there will have to be a social/political dimension to the work that is undertaken. This often seems alien to many healthcare professionals and scientists who see biosciences as politically and morally neutral. But people who behave antisocially, for whatever reason, generate negative attitudes in the rest of their social group, and those attitudes will not fade away quickly. Even if it could be demonstrated that all social behaviour is caused by failure of inhibition to the amygdala, this is unlikely to change public attitudes to the perpetrators. Another problem is that most social groups accept some degree of antisocial rule breaking as normal and tolerable. Therefore researchers will only ever be able to work with highly selected samples of social rule breakers: ones identified by the fact that they have crossed a certain social threshold and invited what Strawson calls ‘participant reactive attitudes’ (Strawson, 1968). Therefore care needs to be taken about what extrapolations are made from the research, and the social attitudes that may be challenged by research findings.

These issues have influenced the position taken in this guideline: that not all criminal rule breaking is evidence of mental disorder, but that some of the most egregious types of criminality, such as extremes of violence towards the vulnerable, do reflect failures in the capacity to relate to others that amount to a disorder. A useful concept here is that of the eighth amendment to the US constitution: a state of mind that results in 'cruel and unusual' behaviour is, on the balance of probabilities, a disordered mind.

2.10.2 Treatability

The notion of 'treatment' for antisocial personality disorder and psychopathy also raises a number of ethical issues, principally the assumption that it is a disorder that is amenable to intervention. As Adsheed (2002) has pointed out, the 'treatability' of any disorder relies on a number of factors, not all of which are to do with the individual patient. A key issue in the treatment of antisocial personality disorder and psychopathy is the test of therapeutic outcome: how will the practitioner know if treatment has been successful? In the past, treatments have focused on either people feeling better or behaving better, and practitioners have sometimes assumed that one implies the other. Treatments also have within them an implied theoretical model about what is 'wrong' with the individual concerned: but if the model is wrong, then the treatment may be ineffective, even if it is well thought out and well delivered.

The conceptual problem referred to above dominates debates about treatment and treatment outcomes. However, many researchers and clinicians would argue that people with antisocial personality disorder are in states of mind in which other people are seen as either predator or prey, and that they are therefore justified in acting cruelly towards them. Interventions could then be geared to enabling individuals to examine their own states of mind more, understand the minds of others, and have an investment in behaving more pro-socially. Interventions could include psychological treatment, social and vocational rehabilitation, education and medication. They may also include long-term social support (not least because social isolation is a potent risk factor for violence in high-risk individuals).

There is evidence that some of these interventions can change behaviour, at least for some people, through developing a more pro-social state of mind. The ethical issues then turn on resource allocation. Most ethical arguments about healthcare resources are utilitarian in nature: what will bring about the most good for the greatest number? For example, in relation to the DSPD programme, the argument has been that the provision of services will prevent severe harm. Whether this is true is the subject of current research enquiry, ideally including a comparison with a treatment/intervention-as-usual group, although the ethical problems here may be insuperable (Farrington & Welsh, 2006).

2.10.3 Issues of coercion in relation to antisocial personality disorder

It is a general principle of bioethics that respect for the autonomy of patients is paramount, and a general principle of law that everyone has control over his/her own body

Antisocial personality disorder

and any treatment interventions that are offered. Under the new Mental Capacity Act (HMSO, 2005), any person with capacity can refuse treatment, even if this is to his/her own detriment.

The only people with capacity who cannot refuse treatment, and can have treatment forced upon them, are those with mental disorders who pose a risk to themselves or others. The ‘or’ is crucial here; most libertarian philosophical arguments (Saks, 2003) would contend that forced medical treatment is only justified to improve a person’s own health and safety, and that the insult to dignity is outweighed by the prevention of serious harm.

It has long been a matter of debate about the extent to which societies should coerce people into treatment that is not of benefit to them directly, especially where the ‘treatment’ is aimed at reducing risk to others, regardless of what the individual wants. This is at least partly because when this is done, the person is treated merely as a means to an end, not as an end in themselves, and this type of insult to human dignity is morally unacceptable.

Mental health professionals often argue that they are not doing this in two ways. First, they will argue that the patients are benefiting, even if indirectly; at least they are benefiting from not being allowed to harm others. A problem with this argument is that it could be seen as discriminatory—generally competent citizens are allowed to choose whether they do harm or not, and take the consequences. It should be remembered that the current Mental Health Act (HMSO, 2007), even with its amendments, allows for the detention and forced treatment of people with full capacity.

Second, it is argued that people who are a risk to others have lost some of their claims to full exercise of autonomy. Given that they are likely to be deprived of their liberty if they harm others, there may be little insult to dignity in offering treatment while they are detained. This argument of course applies only to prisoners, and those who have harmed others already; it cannot apply to those who are detained on the chance that they may offend.

This presents significant challenges for mental health professionals. There may need to be a distinction made between legal coercion and therapeutic persuasion. It is very unlikely that all antisocial patients can be coerced into pro-social thinking or behaviour. This raises important issues of balance between the rights of individuals to have liberty restrained or treatment imposed against the rights of a community to be protected from potential harm.

2.10.4 Risk assessment

Central to the issue of coerced treatment is the problem of identifying those who present a risk (this is discussed more fully in Chapter 6). The main concerns about justice arise from issues of *consent* and *accuracy*. To detain a person because they are a risk to others may be entirely justified if it is true. Those assessing risk therefore need to be certain that their methods of risk assessment are accurate and also fairly used. For example, risk assessment needs to look at both resilience and protective factors that might reduce risk, not just those factors that make risk more likely. It will not be just

to detain someone (especially if it is indefinite) if all positive factors have not been considered. It will be especially unjust if the main reason for detention is professional anxiety alone. Currently there is considerable controversy about the best methods of undertaking individual risk assessment with some arguing that actuarially-based methods such as the Violence Risk Appraisal Guide (VRAG) or PCL-R have reasonable properties to enable prediction of violence at the individual level (for example, Campbell *et al.*, 2007); while others argue that it is not appropriate to use such measures to routinely inform clinical decisions (for example, Cooke *et al.*, 2007; Hart *et al.*, 2007).

There is also the problem that the most at-risk people are those who are not identified for risk assessment; that is, that in relation to mental illness at least, the thing that makes people risky is their unpredictability. As several authors have noted, one would have to detain a large number of individuals who had done nothing, to prevent one homicide (for example, Dolan & Doyle, 2000). What this means is that society accepts that some degree of violence will occur, but possibly not if it is committed by those with mental disorders.

There is another aspect to risk assessment that has not received much attention. If risk assessment is a healthcare intervention, and part of the overall medical management of forensic patients, then it could be argued that it needs the patient's consent. This is particularly so given that it is a medical intervention (like a lumbar puncture) that could have serious side effects for the patient. Under the Mental Capacity Act (HMSO, 2005), it may be possible for capacitous patients to refuse risk assessment, and it might then be argued that it would be unlawful to carry out a risk assessment without consent.

Healthcare professionals often resist the use of violence risk assessment on the grounds that it is stigmatising to the individual or conflicts with good clinical care. Yet assessment of risk also implies assessment of safety; for every individual identified as presenting a high risk, the same process will indicate that others present a low risk and should be managed accordingly. For every patient identified as having a high score on instruments such as the PCL-R, many others will be shown to have a low score. There is sometimes a genuine conflict of values between patient autonomy and the safety of others. The conflict should not be ignored but managed by the use of evidence-based diagnostic and risk assessments that are transparent and open to challenge. Traditional methods of assessment often meet neither standard.

2.10.5 The ethics of public protection

A real ethical debate exists about the extent to which a range of healthcare professionals should be involved in public protection. On the one hand, there are those who take the view that their knowledge and expertise in assessing risk imposes a duty on them to act on that knowledge to assist in public protection from a small number of risky individuals with mental disorders (especially antisocial personality disorder and psychopathy). On the other hand, there are those who take the view that their primary ethical duty is to 'make the care of the patient their first concern' (General Medical

Council, 2006), and who argue that acting in ways that reduce risk but cause patients distress or anxiety violates their ethical duty and identity as doctors.

This debate has taken on an extra significance with the passing of the Criminal Justice Act (HMSO, 2003), which requires psychiatric expert testimony before passing sentences for public protection (that is, sentences that are longer than usual, or may lead to indefinite detention). In these circumstances, psychiatrists are providing testimony that, it might be argued, causes harm to the defendant, at least, from the defendant's viewpoint. In the UK, the psychiatrist treating the patient may also be the one who is invited to give an expert opinion about the patient's risk on the grounds that they know the patient best. If the treating psychiatrist takes the view that they have a duty to public safety, which overrides the duty to the patient's interests, then the patient may find that the doctor in whom they have confided is using those confidences against them in the wider interest of the public good.

The key ethical tension here is arguably about deceit, not a clash of duties. The anxiety is that in the pursuit of public protection, mental health professionals will mislead patients into thinking that the patient's interests are their first concern. If mental health professionals inform forensic patients that their first duty is to public safety, and that therefore they will disclose private medical information when necessary even if the patient refuses to give consent, then this is a transparent procedure, and the patient can decide how then to conduct themselves. In a medico-legal context, where the assessing doctor has no prior therapeutic relationship with the patient, then arguably the relationship between them is not a traditional medical one, and the transaction is straightforward and there is no clash of ethical duties (Appelbaum, 1997). The ethical concern is about honesty: that a healthcare professional will allow the patient or defendant to think that they will protect their interests against those of third parties, when they have no intention of doing so.

A possible ethical and legal solution to the tension is for the mental health professional to gain informed consent for both risk assessments and medico-legal interviews, in which they clearly advise patients/defendants of the purpose of the interview, the use to which the material will be put and who will be informed of the outcome. Given the potentially negative outcomes of these assessments for the patient/defendant, it could be argued that existing law on informed consent and refusal of treatment requires that patients/defendants be informed that they need not answer the doctor's questions. There remains an anxiety that even with this type of warning against self-incrimination, patients/defendants may not understand that the assessor is not in a traditional beneficent role. From a therapeutic point of view, complete transparency about the potential conflict of duties is likely to promote trust and a collaborative attitude in the patient/defendant.

The Royal College of Psychiatrists' Scoping Group on Expert Testimony has submitted a report (Royal College of Psychiatrists, 2008a) advising experts of the distinction between testimony given for therapeutic purposes and testimony given for public protection purposes. The American Academy of Psychiatry and the Law (2005) has issued ethical guidelines to its members, which state that no psychiatrist should give expert testimony on a patient they are treating. In the UK, there are particularly difficult conflicts around Mental Health Tribunal evidence, where the

responsible medical officer (RMO) gives professional evidence as to the clinical care of the patient, and expert forensic evidence about the nature of the risk they pose to others. This tension arises because the Mental Health Act (HMSO, 2007) assumes that patients with mental disorders lack capacity to make good quality decisions, and that psychiatrists are therefore justified in doing what they think best, including in relation to public safety. However, since most patients (especially those with antisocial personality disorder) have full legal capacity, and can exercise autonomy, the RMO's position may no longer be justified, and their role in public protection becomes primary. It is for this reason that some detained patients see their lawyers as being the only people who represent their interests in a trustworthy way (Sarkar & Adshead, 2005).

2.10.6 Ethical issues and children

Children are considered in this guideline as the focus of preventative interventions (see Chapter 5).

The prevention of antisocial personality disorder

Here the aim is to alter the course of a childhood disorder such as conduct disorder and thereby potentially prevent the development of antisocial personality disorder in adult life. The work on preventative interventions is the focus of Chapter 5 and their efficacy will not be discussed in any further detail here. The ethical problem is that interventions that might prevent the development of antisocial personality disorder may contravene the ethical principles of beneficence and justice for all patients.

All ethical dilemmas involve a clash of values or ethical principles; some dilemmas are especially concerning because there is no painless outcome and even doing the right thing may lead to a moral loss (for example, the issue of coerced treatment). Interventions to prevent antisocial personality disorder will be justified in terms of beneficial consequences in the future: no (or reduced) antisocial personality disorder, and thus the prevention of harm to others, costs to society and antisocial individuals. There is no question that the outcomes look very attractive as benefits. The question is: at what cost to human dignity and justice will these benefits come? Will the ends justify the harms done in the process? And most importantly in ethical decision making: who gets to decide?

Given that genetic vulnerabilities may increase a child's chance of developing conduct disorder, especially if they are raised in an abusive environment, if nothing can be done to help the child, there may be little point in identifying them. Indeed, their chance of failure may be increased because the environment around them may be even more rejecting and suspicious of them.

The provision of services to an at-risk child, however identified, will depend on the resources allocated for this. It is easier to change a child's environment than it is to change their genes. For example, if we take the genetically vulnerable child identified above, one intervention might be to place them in a secure home where they will not be maltreated. This may mean: (a) taking the child away from the parents before

Antisocial personality disorder

there is any chance of maltreatment; and (b) investing funds to provide the secure base for the child's development. These measures could reduce the amount of conduct disorder (and therefore possibly antisocial personality disorder), but may be costly in terms of justice and resources. Again, resource allocation is a matter of values: there is no good reason not to do everything that can be done to prevent the maltreatment of children except that society may decide to spend the money in another way. The key ethical issue here is the resource allocation of funds for research and interventions with at-risk children. Identifying individuals at risk may be less useful in the long term than trying to reduce maltreatment of the child overall.

3 METHODS USED TO DEVELOP THIS GUIDELINE

3.1 OVERVIEW

The development of this guideline drew upon methods outlined by NICE (2006a). A team of healthcare professionals, lay representatives and technical experts known as the Guideline Development Group (GDG), with support from the NCCMH staff, undertook the development of a patient-centred, evidence-based guideline. There are six basic steps in the process of developing a guideline:

- Define the scope, which sets the parameters of the guideline and provides a focus and steer for the development work.
- Define clinical questions considered important for practitioners and service users.
- Develop criteria for evidence searching and search for evidence.
- Design validated protocols for systematic review and apply to evidence recovered by search.
- Synthesise and (meta-) analyse data retrieved, guided by the clinical questions, and produce evidence profiles and summaries.
- Answer clinical questions with evidence-based recommendations for clinical practice.

The clinical practice recommendations made by the GDG are therefore derived from the most up-to-date and robust evidence base for the clinical and cost effectiveness of the treatments and services used in the treatment, management and prevention of antisocial personality disorder. In addition, to ensure a service user and carer focus, the concerns of service users and carers regarding health and social care have been highlighted and addressed by recommendations agreed by the whole GDG.

3.2 THE SCOPE

Guideline topics are selected by the Department of Health and the Welsh Assembly Government, which identify the main areas to be covered by the guideline in a specific remit (see NICE, 2006a). The NCCMH developed a scope for the guideline based on the remit.

The purpose of the scope is to:

- provide an overview of what the guideline will include and exclude
- identify the key aspects of care that must be included
- set the boundaries of the development work and provide a clear framework to enable work to stay within the priorities agreed by NICE and the National

Methods used to develop this guideline

Collaborating Centre and the remit from the Department of Health/Welsh Assembly Government

- inform the development of the clinical questions and search strategy
- inform professionals and the public about expected content of the guideline
- keep the guideline to a reasonable size to ensure that its development can be carried out within the allocated period.

The draft scope was subject to consultation with registered stakeholders over a 4-week period. During the consultation period, the scope was posted on the NICE website (www.nice.org.uk). Comments were invited from stakeholder organisations and Guideline Review Panel (GRP). Further information about the GRP can also be found on the NICE website. The NCCMH and NICE reviewed the scope in light of comments received, and the revised scope was signed off by the GRP.

3.3 THE GUIDELINE DEVELOPMENT GROUP

The GDG consisted of a representative for service users, and professionals from psychiatry, forensic psychiatry, clinical psychology, forensic psychology, social work, general practice, nursing, general practice in prison, Child and Adolescent Mental Health Services (CAMHS), the Ministry of Justice and the Probation Service. The carer perspective was provided by a carer special adviser. The guideline development process was supported by staff from the NCCMH, who undertook the clinical and health economics literature searches, reviewed and presented the evidence to the GDG, managed the process, and contributed to drafting the guideline.

3.3.1 Guideline Development Group meetings

Fifteen GDG meetings were held between March 2007 and October 2008. During each day-long GDG meeting, in a plenary session, clinical questions and clinical and economic evidence were reviewed and assessed, and recommendations formulated. At each meeting, all GDG members declared any potential conflicts of interest, and any concerns voiced by the representative for service users were routinely discussed as part of a standing agenda.

3.3.2 Topic groups

The GDG divided its workload along clinically relevant lines to simplify the guideline development process, and GDG members formed smaller topic groups to undertake guideline work in that area of clinical practice. Topic group 1 covered questions relating to the organisation and experience of care; topic group 2 covered risk assessment and management; topic group 3 covered early intervention for children; and topic group 4 covered interventions for offending behaviour. These

groups were designed to efficiently manage the large volume of evidence appraisal before presenting it to the GDG as a whole. Each topic group was chaired by a GDG member with expert knowledge of the topic area (one of the healthcare professionals). Topic groups refined the clinical questions, refined the clinical definitions of treatment interventions, reviewed and prepared the evidence with the systematic reviewer before presenting it to the GDG as a whole and helped the GDG to identify further expertise in the topic. Topic group leaders reported the status of the group's work as part of the standing agenda. They also introduced and led the GDG discussion of the evidence review for that topic and assisted the GDG Chair in drafting the section of the guideline relevant to the work of each topic group.

3.3.3 Service users and carers

Individuals with direct experience of services gave an integral service-user focus to the GDG and the guideline. The GDG included a representative for the interests of service users. He contributed as a full GDG member in writing the clinical questions, helping to ensure that the evidence addressed the views and preferences of service users, highlighting sensitive issues and terminology relevant to the guideline, and bringing service user research to the attention of the GDG. In drafting the guideline, he contributed to writing the guideline's introduction and identified recommendations from the service user and carer perspective. In addition, the carer perspective was sought from a carer special adviser.

3.3.4 Special advisers

Special advisers, who had specific expertise in one or more aspects of treatment and management relevant to the guideline, assisted the GDG, commenting on specific aspects of the developing guideline and making presentations to the GDG. Appendix 3 lists those who agreed to act as special advisers.

3.3.5 National and international experts

National and international experts in the area under review were identified through the literature search and through the experience of the GDG members. These experts were contacted to recommend unpublished or soon-to-be published studies in order to ensure up-to-date evidence was included in the development of the guideline. They informed the group about completed trials at the pre-publication stage, systematic reviews in the process of being published, studies relating to the cost effectiveness of treatment and trial data if the GDG could be provided with full access to the complete trial report. Appendix 6 lists researchers who were contacted.

3.4 CLINICAL QUESTIONS

Clinical questions were used to guide the identification and interrogation of the evidence base relevant to the topic of the guideline. Before the first GDG meeting, an analytic framework (see Appendix 7) was prepared by NCCMH staff based on the scope and an overview of existing guidelines, and discussed with the guideline Chair. The framework was used to provide a structure from which the clinical questions were drafted. Both the analytic framework and the draft clinical questions were then discussed by the GDG at the first few meetings and amended as necessary. Where appropriate, the framework and questions were refined once the evidence had been searched and, where necessary, sub-questions were generated. Questions submitted by stakeholders were also discussed by the GDG and the rationale for not including questions was recorded in the minutes. The final list of clinical questions can be found in Appendix 7.

For questions about interventions, the PICO (patient, intervention, comparison and outcome) framework was used. This structured approach divides each question into four components: the patients (the population under study), the interventions (what is being done), the comparisons (other main treatment options) and the outcomes (the measures of how effective the interventions have been) (see Text Box 1).

Questions relating to assessment do not involve an intervention designed to treat a particular condition, therefore the PICO framework was not used. Rather, the questions were designed to pick up key issues specifically relevant to assessment instruments, for example their accuracy, reliability, and how they relate to clinical practice.

Text Box 1: Features of a well-formulated question on effectiveness intervention – the PICO guide

Patients/population	Which patients or population of patients are we interested in? How can they be best described? Are there subgroups that need to be considered?
Intervention	Which intervention, treatment or approach should be used?
Comparison	What is/are the main alternative/s to compare with the intervention?
Outcome	What is really important for the patient? Which outcomes should be considered: intermediate or short-term measures; mortality; morbidity and treatment complications; rates of relapse; late morbidity and readmission; return to work, physical and social functioning and other measures such as quality of life; general health status; costs?

In some situations, the prognosis of a particular condition is of fundamental importance, over and above its general significance in relation to specific interventions. Areas where this is particularly likely to occur relate to assessment of risk, for example in terms of behaviour modification or screening and early intervention. In addition, questions related to issues of service delivery are occasionally specified in the remit from the Department of Health /Welsh Assembly Government. In these cases, appropriate clinical questions were developed to be clear and concise.

To help facilitate the literature review, a note was made of the best study design type to answer each question. There are four main types of clinical question of relevance to NICE guidelines. These are listed in Text Box 2. For each type of question, the best primary study design varies, where 'best' is interpreted as 'least likely to give misleading answers to the question'.

However, in all cases, a well-conducted systematic review of the appropriate type of study is likely to always yield a better answer than a single study.

Deciding on the best design type to answer a specific clinical or public health question does not mean that studies of different design types addressing the same question were discarded.

3.5 SYSTEMATIC CLINICAL LITERATURE REVIEW

The aim of the clinical literature review was to identify and synthesise systematically the relevant evidence from the literature in order to answer the specific clinical questions developed by the GDG. Thus, clinical practice recommendations are evidence-based, where possible, and, if evidence is not available, informal consensus methods are used (see Section 3.5.7) and the need for future research is specified.

Text Box 2: Best study design to answer each type of question

Type of question	Best primary study design
Effectiveness or other impact of an intervention	RCT; other studies that may be considered in the absence of an RCT are the following: internally/externally controlled before and after trial, interrupted time-series
Accuracy of information (for example, risk factor, test, prediction rule)	Comparing the information against a valid gold standard in a randomised trial or inception cohort study
Rates (of disease, patient experience, rare side effects)	Cohort, registry, cross-sectional study
Costs	Naturalistic prospective cost study

3.5.1 Methodology

A stepwise, hierarchical approach was taken to locating and presenting evidence to the GDG. The NCCMH developed this process based on methods set out in *The Guidelines Manual* (NICE, 2006a) and after considering recommendations from a range of other sources. These included:

- Clinical Policy and Practice Program of the New South Wales Department of Health (Australia)
- Clinical Evidence online
- The Cochrane Collaboration
- Grading of Recommendations: Assessment, Development and Evaluation (GRADE) Working Group
- New Zealand Guidelines Group
- NHS Centre for Reviews and Dissemination
- Oxford Centre for Evidence-Based Medicine
- Oxford Systematic Review Development Programme
- Scottish Intercollegiate Guidelines Network (SIGN)
- United States Agency for Healthcare Research and Quality.

3.5.2 The review process

After the scope was finalised, a more extensive search for systematic reviews and published guidelines was undertaken. Existing NICE guidelines were updated where necessary. Other relevant guidelines were assessed for quality using the AGREE instrument (AGREE Collaboration, 2003). The evidence base underlying high-quality existing guidelines was utilised and updated as appropriate (further information about this process can be found in *The Guidelines Manual* (NICE, 2006a).

At this point, the review team, in conjunction with the GDG, developed an evidence map that detailed all comparisons necessary to answer the clinical questions. The initial approach taken to locating primary-level studies depended on the type of clinical question and availability of evidence. For example, questions on experience of care are best addressed by qualitative studies whereas questions regarding interventions are best addressed by RCTs (see below for further details on search strategies for different topics).

The GDG decided which questions were best addressed by good practice based on expert opinion, which questions were likely to have a good evidence base and which questions were likely to have little or no directly relevant evidence. Recommendations based on good practice were developed by informal consensus within the GDG. For questions with a good evidence base, the review process depended on the type of key question (see below). For questions that were unlikely to have a good evidence base, a brief descriptive review was initially undertaken by a member of the GDG.

Searches for evidence were updated between 6 and 8 weeks before the guideline consultation. After this point, studies were included only if they were judged by the GDG to be exceptional (for example, the evidence was likely to change a recommendation).

The search process for questions concerning interventions

For questions related to interventions, the initial evidence base was formed from well-conducted RCTs that addressed at least one of the clinical questions. Although there are a number of difficulties with the use of RCTs in the evaluation of interventions in mental health, the RCT remains the most important method for establishing treatment efficacy (this is discussed in more detail in appropriate clinical evidence chapters). For other clinical questions, searches were for the appropriate study design (see above).

All searches were based on the standard mental health related bibliographic databases (EMBASE, MEDLINE, PsycINFO, Cochrane Library, CENTRAL and C2-SPECTR) for all trials potentially relevant to the guideline.

In addition, where material relating to interventions was unlikely to be found in mainstream medical databases, an attempt was made to identify and search other topic specific databases, including NCJRS, IBSS and FEDRIP.

After the initial search results were scanned liberally to exclude irrelevant papers, the review team used a purpose-built 'study information' database to manage both the included and the excluded studies (eligibility criteria were developed after consultation with the GDG). For questions without good quality evidence (after the initial search), a decision was made by the GDG about whether to (a) repeat the search using subject-specific databases (for example, CINAHL, AMED, SIGLE or PILOTS), (b) conduct a new search for lower levels of evidence, or (c) adopt a consensus process (see Section 3.5.7). Future guidelines will be able to update and extend the usable evidence base starting from the evidence collected, synthesised and analysed for this guideline.

In addition, searches were made of the reference lists of all eligible systematic reviews and included studies, as well as the list of evidence submitted by stakeholders. Known experts in the field (see Appendix 5), based both on the references identified in early steps and on advice from GDG members, were sent letters requesting relevant studies that were in the process of being published¹. In addition, the tables of contents of appropriate journals were periodically checked for relevant studies.

The search process for questions concerning the organisation and experiences of care

For questions related to the organisation and experiences of care, the search process was the same as described above, except that the evidence base was formed from qualitative studies. In situations where it was not possible to identify a substantial body of appropriately designed studies that directly addressed each clinical question, a consensus process was adopted (see Section 3.5.7).

The search process for questions of assessment

For questions related to assessment, the search process was the same as described above, except that the initial evidence base was formed from studies with the most

¹Unpublished full trial reports were also accepted where sufficient information was available to judge eligibility and quality (see section on unpublished evidence).

Methods used to develop this guideline

appropriate and reliable design to answer the particular question. That is, for questions about assessment, the initial search was for cross-sectional studies. In situations where it was not possible to identify a substantial body of appropriately designed studies that directly addressed each clinical question, a consensus process was adopted (see Section 3.5.7).

Search strategies

Search strategies developed by the review team consisted of a combination of subject heading and free-text phrases. Specific strategies were developed for the guideline topic and, where necessary, for each clinical question. In addition, the review team used filters developed for systematic reviews, RCTs and other appropriate research designs (Appendix 8).

Study selection

All primary-level studies included after the first scan of citations were acquired in full and re-evaluated for eligibility at the time they were being entered into the study information database. Appendix 8 lists the standard inclusion and exclusion criteria. More specific eligibility criteria were developed for each clinical question and are described in the relevant clinical evidence chapters. Eligible systematic reviews and primary-level studies were critically appraised for methodological quality (see Appendix 9 and Appendix 10). The eligibility of each study was confirmed by at least one member of the appropriate topic group.

For some clinical questions, it was necessary to prioritise the evidence with respect to the UK context (that is, external validity). To make this process explicit, the topic groups took into account the following factors when assessing the evidence:

- participant factors (for example, gender, age and ethnicity)
- provider factors (for example, model fidelity, the conditions under which the intervention was performed and the availability of experienced staff to undertake the procedure)
- cultural factors (for example, differences in standard care and differences in the welfare system).

It was the responsibility of each topic group to decide which prioritisation factors were relevant to each clinical question in light of the UK context and then decide how they should modify their recommendations.

Unpublished evidence

The GDG used a number of criteria when deciding whether or not to accept unpublished data. First, the evidence must have been accompanied by a trial report containing sufficient detail to properly assess the quality of the data. Second, the evidence must have been submitted with the understanding that data from the study and a summary of the study's characteristics would be published in the full guideline. Therefore, the GDG did not accept evidence submitted as commercial in confidence. However, the GDG recognised that unpublished evidence submitted by investigators might later be retracted by those investigators if the inclusion of such data would jeopardise publication of their research.

3.5.3 Data extraction

Study characteristics and outcome data were extracted from all eligible studies, which met the minimum quality criteria, using a bespoke database and Review Manager 4.2.10 (Nordic Cochrane Centre, 2006) (see Appendix 9).

In most circumstances, for a given outcome (continuous and dichotomous), where more than 50% of the number randomised to any group were lost to follow up, the data were excluded from the analysis (except for the outcome 'leaving the study early for any reason', in which case, the denominator was the number randomised). Where possible, dichotomous efficacy outcomes were calculated on an intention-to-treat basis (that is, a 'once-randomised-always-analyse' basis). Where there was good evidence that those participants who ceased to engage in the study were likely to have an unfavourable outcome, early withdrawals were included in both the numerator and denominator. Adverse effects were entered into Review Manager as reported by the study authors because it was usually not possible to determine whether early withdrawals had an unfavourable outcome. Where there was limited data for a particular review, the 50% rule was not applied. In these circumstances the evidence was downgraded due to the risk of bias.

Where some of the studies failed to report standard deviations (for a continuous outcome), and where an estimate of the variance could not be computed from other reported data or obtained from the study author, the following approach was taken²:

1. When the number of studies with missing standard deviations was small and when the total number of studies was large, the average standard deviation was imputed (calculated from the included studies that used the same outcome). In this case, the appropriateness of the imputation was made by comparing the standardised mean differences (SMDs) of those trials that had reported standard deviations against the hypothetical SMDs of the same trials based on the imputed standard deviations. If they converged, the meta-analytical results were considered to be reliable.
2. When the number of studies with missing standard deviations was large or when the total number of studies was small, standard deviations were taken from a previous systematic review (where available), because the small sample size may allow unexpected deviation due to chance. In this case, the results were considered to be less reliable.

The meta-analysis of survival data, such as time to any mood episode, was based on log hazard ratios and standard errors. Since individual patient data were not available in included studies, hazard ratios and standard errors calculated from a Cox proportional hazard model were extracted. Where necessary, standard errors were calculated from confidence intervals or p-value according to standard formulae (for example, Cochrane Reviewers' Handbook 4.2.2.). Data were summarised using the generic inverse variance method using Review Manager 4.2.10 (Nordic Cochrane Centre, 2006).

²Based on the approach suggested by Furukawa and colleagues (2006).

Methods used to develop this guideline

Consultation with another reviewer or members of the GDG was used to overcome difficulties with coding. Data from studies included in existing systematic reviews were extracted independently by one reviewer and cross-checked with the existing data set. Where possible, two independent reviewers extracted data from new studies. Where double data extraction was not possible, data extracted by one reviewer was checked by the second reviewer. Disagreements were resolved with discussion. Where consensus could not be reached, a third reviewer or GDG members resolved the disagreement. Masked assessment (that is, blind to the journal from which the article comes, the authors, the institution and the magnitude of the effect) was not used since it is unclear that doing so reduces bias (Jadad *et al.*, 1996; Berlin, 2001).

3.5.4 Synthesising the evidence

Where possible, meta-analysis was used to synthesise the evidence using Review Manager 4.2.10 (Nordic Cochrane Centre, 2006). If necessary, reanalyses of the data or sub-analyses were used to answer clinical questions not addressed in the original studies or reviews.

Dichotomous outcomes were analysed as relative risks (RR) with the associated 95% CI (for an example, see Figure 1). A relative risk (also called a risk ratio) is the ratio of the treatment event rate to the control event rate. An RR of 1 indicates no difference between treatment and control. In Figure 1, the overall RR of 0.73 indicates that the event rate (that is, non-remission rate) associated with intervention A is about three quarters of that with the control intervention or, in other words, the relative risk reduction is 27%.

The CI shows with 95% certainty the range within which the true treatment effect should lie and can be used to determine statistical significance. If the CI does not cross the 'line of no effect', the effect is statistically significant.

Continuous outcomes were analysed as weighted mean differences (WMD), or as an SMD when different measures were used in different studies to estimate the same underlying effect (for an example, see Figure 2). If provided, intention-to-treat data, using a method such as 'last observation carried forward', were preferred over data from completers.

Figure 1: Example of a forest plot displaying dichotomous data

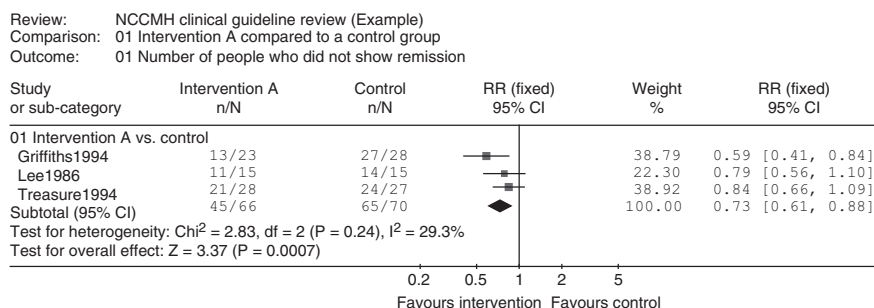
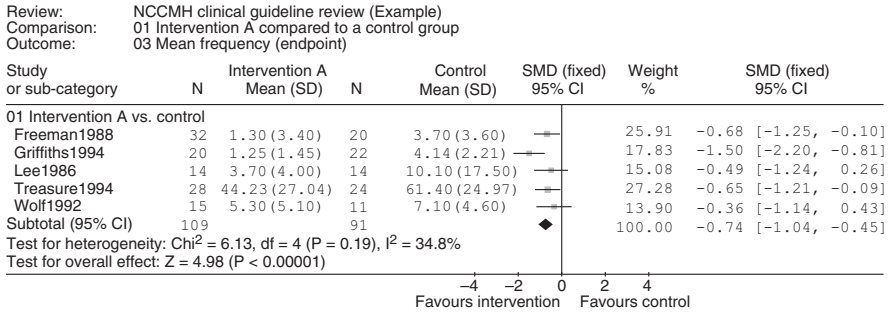


Figure 2: Example of a forest plot displaying continuous data



To check for consistency between studies, both the I^2 test of heterogeneity and a visual inspection of the forest plots were used. The I^2 statistic describes the proportion of total variation in study estimates that is due to heterogeneity (Higgins & Thompson, 2002). The I^2 statistic was interpreted in the following way:

- **>50%:** notable heterogeneity (an attempt was made to explain the variation, for example outliers were removed from the analysis or sub-analyses were conducted to examine the possibility of moderators. If studies with heterogeneous results were found to be comparable, a random-effects model was used to summarise the results [DerSimonian & Laird, 1986]. In the random-effects analysis, heterogeneity is accounted for both in the width of CIs and in the estimate of the treatment effect. With decreasing heterogeneity the random-effects approach moves asymptotically towards a fixed-effects model).
- **30 to 50%:** moderate heterogeneity (both the chi-squared test of heterogeneity and a visual inspection of the forest plot were used to decide between a fixed and random-effects model).
- **<30%:** mild heterogeneity (a fixed-effects model was used to synthesise the results).

To explore the possibility that the results entered into each meta-analysis suffered from publication bias, data from included studies were entered, where there was sufficient data, into a funnel plot. Asymmetry of the plot was taken to indicate possible publication bias and investigated further.

An estimate of the proportion of eligible data that were missing (because some studies did not include all relevant outcomes) was calculated for each analysis.

The Number Needed to Treat for Benefit (NNTB) or the Number Needed to Treat for Harm (NNTH) was reported for each outcome where the baseline risk (that is, control group event rate) was similar across studies. In addition, NNTs calculated at follow-up were only reported where the length of follow-up was similar across studies. When the length of follow-up or baseline risk varies (especially with low risk), the NNT is a poor summary of the treatment effect (Deeks, 2002).

Included/excluded studies tables, generated automatically from the study database, were used to summarise general information about each study (see Appendix 9). Where meta-analysis was not appropriate and/or possible, the reported results from each primary-level study were also presented in the included studies table (and included, where appropriate, in a narrative review).

3.5.5 Presenting the data to the GDG

Study characteristics tables and, where appropriate, forest plots generated with Review Manager (Nordic Cochrane Centre, 2006) were presented to the GDG in order to prepare a GRADE evidence profile table for each review and to develop recommendations.

GRADE profile tables

A GRADE evidence profile was used to summarise both the quality of the evidence and the results of the evidence synthesis (see Table 1 for an example of an evidence profile). For each outcome, quality may be reduced depending on the following factors:

- **study design** (randomised trial, observational study, or any other evidence)
- **limitations** (based on the quality of individual studies; see Appendix 10 for the quality checklists)
- **inconsistency** (see Section 3.5.4 for how consistency was measured)
- **indirectness** (that is, how closely the outcome measures, interventions and participants match those of interest)
- **imprecision** (based on the confidence interval around the effect size).

For observational studies, the quality may be increased if there is a large effect, plausible confounding would have changed the effect, or there is evidence of a dose-response gradient (details would be provided under the ‘other considerations’ column). Each evidence profile also included a summary of the findings: number of patients included in each group, an estimate of the magnitude of the effect and the overall quality of the evidence for each outcome.

The quality of the evidence was based on the quality assessment components (study design, limitations to study quality, consistency, directness and any other considerations) and graded using the following definitions:

- **High** = Further research is very unlikely to change our confidence in the estimate of the effect.
- **Moderate** = Further research is likely to have an important impact on our confidence in the estimate of the effect and may change the estimate.
- **Low** = Further research is very likely to have an important impact on our confidence in the estimate of the effect and is likely to change the estimate.
- **Very low** = Any estimate of effect is very uncertain.

For further information about the process and the rationale of producing an evidence profile table see GRADE (GRADE Working Group, 2004).

Forest plots

Each forest plot displayed the effect size and CI for each study as well as the overall summary statistic. The graphs were organised so that the display of data in the area to the left of the ‘line of no effect’ indicated a ‘favourable’ outcome for the treatment in question.

Table 1: Example of GRADE evidence profile

Quality assessment		Summary of findings										Quality
		No. of patients					Effect					
No. of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Intervention	Control	Relative (95% CI)	Absolute		
Outcome 1												
6	randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	serious ¹	none	8/191	7/150	RR 0.94 (0.39 to 2.23)	0 fewer per 100 (from 3 fewer to 6 more)	⊕⊕⊕○ MODERATE	
Outcome 2												
6	randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	serious ²	none	55/236	63/196	RR 0.44 (0.21 to 0.94) ³	18 fewer per 100 (from 2 fewer to 25 fewer)	⊕⊕⊕○ MODERATE	
Outcome 3												
3	randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	83	81	–	MD –1.51 (–3.81 to 0.8)	⊕⊕⊕⊕ HIGH	
Outcome 4												
3	randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	serious ⁴	none	88	93	–	SMD –0.26 (–0.56 to 0.03)	⊕⊕⊕○ MODERATE	
Outcome 5												
4	randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	serious ⁴	none	109	114	–	SMD –0.13 (–0.6 to 0.34)	⊕⊕⊕○ MODERATE	

¹The upper confidence limit includes an effect that, if it were real, would represent a benefit that, given the downsides, would still be worth it.

²The lower confidence limit crosses a threshold below which, given the downsides of the intervention, one would not recommend the intervention.

³Random-effects model.

⁴95% CI crosses the minimal importance difference threshold.

3.5.6 Forming the clinical summaries and recommendations

Once the GRADE profile tables relating to a particular clinical question were completed, summary tables incorporating important information from the GRADE profiles were developed (these tables are presented in the evidence chapters). Finally, the systematic reviewer in conjunction with the topic group lead produced a clinical evidence summary.

Once the GRADE profiles and clinical summaries were finalised and agreed by the GDG, the associated recommendations were drafted, taking into account the trade-off between the benefits and downsides of treatment as well as other important factors. These included economic considerations, values of the development group and society and the GDG's awareness of practical issues (Eccles, *et al.*, 1998).

In addition, when recommendations were completed, the GDG identified areas that would benefit from future research and developed research recommendations. These were based on areas identified by the systematic literature search indicating a lack of evidence. Further criteria included: the potential importance of the data gained to inform updates of the guideline, what is known about planned research or research currently in progress, feasibility of the study within the timescale of the update, and the likely sources of available funding.

3.5.7 Methods used to answer a clinical question in the absence of appropriately designed, high-quality research

In the absence of appropriately designed, high-quality research, or where the GDG were of the opinion (on the basis of previous searches or their knowledge of the literature) that there were unlikely to be such evidence, an informal consensus process was adopted. This process focused on those questions that the GDG considered a priority.

Informal consensus

The starting point for the process of informal consensus was that a member of the topic group identified, with help from the systematic reviewer, a narrative review that most directly addressed the clinical question. Where this was not possible, a brief review of the recent literature was initiated.

This existing narrative review or new review was used as a basis for beginning an iterative process to identify lower levels of evidence relevant to the clinical question and to lead to written statements for the guideline. The process involved a number of steps:

1. A description of what is known about the issues concerning the clinical question was written by one of the topic group members.
2. Evidence from the existing review or new review was then presented in narrative form to the GDG and further comments were sought about the evidence and its perceived relevance to the clinical question.

3. Based on the feedback from the GDG, additional information was sought and added to the information collected. This may include studies that did not directly address the clinical question but were thought to contain relevant data.
4. If, during the course of preparing the report, a significant body of primary-level studies (of appropriate design to answer the question) were identified, a full systematic review was done.
5. At this time, subject possibly to further reviews of the evidence, a series of statements that directly addressed the clinical question were developed.
6. Following this, on occasions and as deemed appropriate by the development group, the report was then sent to appointed experts outside the GDG for peer review and comment. The information from this process was then fed back to the GDG for further discussion of the statements.
7. Recommendations were then developed and could also be sent for further external peer review.
8. After this final stage of comment, the statements and recommendations were again reviewed and agreed upon by the GDG.

3.6 HEALTH ECONOMICS METHODS

The aim of health economics is to contribute to the guideline's development by providing evidence on the cost effectiveness of healthcare interventions for people with antisocial personality disorder and associated symptoms and behaviours as well as interventions for children and adolescents for the prevention of antisocial personality disorder. This was achieved by:

- systematic literature review of existing economic evidence
- economic modelling in areas with potentially major resource implications where economic evidence was lacking or was considered inadequate to inform decisions.

The rest of this section describes the methods adopted in the systematic literature review of economic studies. Methods employed in *de novo* economic modelling are described in the respective economic sections of the guideline.

3.6.1 Search strategy

For the systematic review of economic evidence the standard mental health related bibliographic databases (EMBASE, MEDLINE, CINAHL and PsycINFO) were searched. For these databases, a health economics search filter adapted from the Centre for Reviews and Dissemination at the University of York was used in combination with a general search strategy for antisocial personality disorder, offending behaviour and the antisocial personality disorder construct (see Chapter 7 for explanation of this term). Additional searches were performed in specific health economics databases (NHS EED, OHE HEED), as well as in the HTA database. For the HTA and NHS EED databases, general search strategies for the population groups of interest were used. OHE HEED was searched using a shorter, database-specific strategy.

Methods used to develop this guideline

Initial searches were performed in January 2007. The searches were updated regularly, with the final search conducted 6 weeks before the consultation period. Details on the search strategies adopted for the systematic review of economic evidence are provided in Appendix 11.

In parallel with searches of electronic databases, reference lists of eligible studies and relevant reviews were searched by hand. Studies included in the clinical evidence review were also screened for economic evidence.

In addition to searches for economic evidence, literature on health-related quality of life (HRQoL) of people with antisocial personality disorder and related symptoms and behaviours was systematically searched to identify studies reporting appropriate utility weights that could be utilised in a cost-utility analysis.

The systematic search for economic evidence resulted in more than 20,000 references in total. Publications that were clearly not relevant to the topic (that is, did not provide any information on the economics of antisocial personality disorder and related symptoms and behaviours) were excluded first. The abstracts of all potentially relevant publications (108 papers) were then assessed against a set of inclusion criteria by the health economist. Full texts of all potentially eligible studies (including those for which relevance/eligibility was not clear from the abstract) were obtained. Studies that did not meet the inclusion criteria, were duplicates, were secondary publications of one study, or had been updated in more recent publications were subsequently excluded. Finally, 32 studies that provided information on the economics of antisocial personality disorder and related symptoms and behaviour were selected. Of these, 15 were cost-of-illness studies or studies that reported data on healthcare resource use and intangible costs associated with the populations covered in the guideline, and 17 studies were economic evaluations of interventions for the management or prevention of antisocial personality disorder, offending behaviour and related conditions. All economic evaluations eligible for inclusion in the systematic review of economic literature were critically appraised according to the checklists used by the *British Medical Journal* to assist referees in appraising full and partial economic analyses (Drummond & Jefferson, 1996) (see Appendix 12).

3.6.2 Inclusion criteria

The following inclusion criteria were applied to select studies identified by the economic searches for further analysis:

- No restriction was placed on language or publication status of the papers.
- Studies published from 1996 onwards were included. This date restriction was imposed in order to obtain data relevant to current healthcare settings and costs.
- Only studies from Organisation for Economic Co-operation and Development countries were included, as the aim of the review was to identify economic information transferable to the UK context.
- Selection criteria regarding types of clinical conditions and population groups as well as minimum required periods of follow-up were identical to that determined for the clinical literature review.

- Studies were included provided that sufficient details regarding methods and results were available to enable the methodological quality of the study to be assessed, and provided that the study's data and results were extractable. Poster presentations of abstracts were excluded.
- Full economic evaluations that compared two or more relevant options and considered both costs and consequences (that is, cost–consequence analyses, cost-effectiveness analyses, cost–utility analyses or cost–benefit analyses) as well as partial economic evaluations (that is, costing analyses) were included in the systematic review; non-comparative studies were not considered for review.

3.6.3 Data extraction

Data were extracted by the health economists using a standard economic data extraction form (see Appendix 13).

3.6.4 Presentation of economic evidence

The economic evidence identified by the health economic systematic review is summarised in the respective chapters of the guideline, following presentation of the clinical evidence. The characteristics and results of all economic studies included in the review are provided in the form of evidence tables in Appendix 14. Results of additional economic modelling undertaken alongside the guideline development process are also presented in the respective sections of evidence chapters.

3.7 STAKEHOLDER CONTRIBUTIONS

Professionals, service users, and companies have contributed to and commented on the guideline at key stages in its development. Stakeholders for this guideline include:

- service user/carer stakeholders: the national service user and carer organisations that represent people whose care is described in this guideline
 - professional stakeholders: the national organisations that represent healthcare professionals who are providing services to service users
 - commercial stakeholders: the companies that manufacture medicines used in the treatment of antisocial personality disorder
 - Primary Care Trusts
 - Department of Health and Welsh Assembly Government.
- Stakeholders have been involved in the guideline's development at the following points:
- commenting on the initial scope of the guideline and attending a briefing meeting held by NICE
 - contributing possible clinical questions and lists of evidence to the GDG
 - commenting on the draft of the guideline.

3.8 VALIDATION OF THE GUIDELINE

Registered stakeholders had an opportunity to comment on the draft guideline, which was posted on the NICE website during the consultation period. Following the consultation, all comments from stakeholders and others were responded to, and the guideline updated as appropriate. The GRP also reviewed the guideline and checked that stakeholders' comments had been addressed.

Following the consultation period, the GDG finalised the recommendations and the NCCMH produced the final documents. These were then submitted to NICE. NICE then formally approved the guideline and issued its guidance to the NHS in England and Wales.

4 ORGANISATION AND EXPERIENCE OF CARE

4.1 INTRODUCTION

As described in Chapter 2, antisocial personality disorder is multi-faceted and impinges on the lives of people with the disorder, their families and wider society in many different ways. This chapter focuses on a number of aspects of the care of people with antisocial personality disorder, including the organisation and delivery of care, the experience of staff who are responsible for providing care, and the experiences of service users and carers of the provision of services.

4.2 ORGANISATION AND DELIVERY OF CARE

4.2.1 History of services for antisocial personality disorder

The history of the development of services for antisocial personality disorder is closely linked to changes in the criminal justice system and attempts by the judicial system to understand and deal with extreme criminal behaviour (Ferguson & Tyrer, 2000). Clinicians have been enlisted to help understand those crimes in which behaviour, though abnormal, was not part of any recognised mental illness. Terms such as 'moral insanity' (Prichard, 1835) and 'psychopathic inferiority' (Koch, 1891) were developed. It was Kraepelin (1905) who created the classification 'personality disorder', and specifically 'psychopathic personality'. This was further refined by Henderson (1939), Cleckley (1941) and McCord and McCord (1956), whose views were influential in shaping later classifications of sociopathy (DSM-I; APA, 1952), antisocial personality disorder (DSM-II; APA, 1968, onwards), dissocial personality disorder (ICD) and psychopathy (Hare, 1980).

However, little in the way of specific treatments emerged beyond the care of a few individuals who had committed the most extreme acts and would find themselves in long-term high security environments. In 1959, the term psychopathic disorder was incorporated into the UK Mental Health Act (HMSO, 1959), which made it possible for patients with psychopathic disorder to be admitted to hospital compulsorily. Psychopathic disorder was defined as 'a persistent disorder of mind (whether or not accompanied by sub-normality of intelligence) which resulted in abnormally aggressive or seriously irresponsible conduct on the part of the patients, and require or are susceptible to medical treatment' (HMSO, 1959). While the definition presented some problems when used in routine clinical care, the 1959 Act did explicitly introduce the idea that people had a potentially treatable disorder. This change in the Act was a product of a generally increased optimism about the role of psychiatry in the

immediate post-war period, in particular the success in treating the psychological problems associated with what would be now called post-traumatic stress disorder (PTSD) (the Northfield experiment; Harrison, 2002), the increasing influence of psychoanalytic ideas in mainstream psychiatry and the focus on the social environment both as a potential cause of mental disorder and as a means of treating it (Clark, 1965). Specific initiatives such as the Henderson Hospital, established in 1947, focused explicitly on the treatment of personality disorder. The Henderson was the first therapeutic community in the UK and the therapeutic community movement that developed from it had a profound effect on British psychiatry with many hospitals developing modifications of the approach (Clark, 1965). The movement was also part of a wider recognition of the role of social factors in mental disorders, including the work of George Brown and colleagues on institutionalisation (Wing & Brown, 1970) and the development of the academic discipline of social psychiatry. At the same time there began a very significant expansion in the availability of psychological interventions with some, particularly psychoanalytic therapies, focusing on personality problems (Kernberg, 1984).

The influence of the therapeutic community model was not limited to healthcare interventions for mental disorders. Two other important trends in the development of the model emerged, namely the modifications of the therapeutic model for use in the treatment of offenders and the treatment of drug and alcohol misuse. The offender programmes began in prisons, with Grendon Underwood being the most notable of these in the UK (Snell, 1962); the model has also been developed in a number of countries, such as the US in the 1960s and 1970s (Lees *et al.*, 2003). Many treatment units for drug and alcohol problems in both the healthcare and independent sectors developed a therapeutic community approach where the focus on treatment was as much on the person's interpersonal difficulties as on the specific drug or alcohol problem (Rawlings & Yates, 2001).

In recent years there have been significant changes with therapeutic communities falling out of favour, and treatment of antisocial personality disorder taking place in hospital settings; more generally there has been more of a focus on the treatment of borderline personality disorder (Lees *et al.*, 2003). In addition, the high cost and limited evidence for the efficacy of these units has resulted in some closing, including the Henderson. In drug and alcohol services the therapeutic community movement has remained stronger, with renewed interest in prison-based treatment programmes, but there have been modifications with a stronger focus on drug misuse and an emphasis on supporting post-inpatient or residential treatment through extended community follow-up (for example, Wexler *et al.*, 1999).

The therapeutic community movement, although having an impact on the models underpinning general adult psychiatry, has had little influence on the direct provision of care for people with antisocial personality disorder. As can be seen from the recent Department of Health document *Personality Disorder: No Longer a Diagnosis of Exclusion* (2003), very few people with personality disorder (including those with antisocial personality disorder) were treated in general services and in many cases they were actively excluded, not just for the treatment of their antisocial problems but also for comorbid mental health problems. Recent research suggests that this is still

the case even in services with a specific focus on personality disorder (Crawford *et al.*, 2007). The last 20 years have also seen a significant expansion in the provision of forensic psychiatric services, which, it might reasonably be expected, would have played a significant role in the treatment of people with antisocial personality disorder. However, there are few specialist services that focus specifically on antisocial personality disorder (one dedicated service is Arnold Lodge in the East Midlands).

Although the initial interest in the development of the concept of psychopathy came from the study of individuals who had committed very serious offences, there has been little development in specialist treatment units for these people. A number of the high security hospitals have developed specialist personality disorder units, but it has proved difficult to manage these services successfully and they have, on occasion, been the subject of considerable public concern (for example, Fallon *et al.*, 1999). A recent development in the UK has been the development of specialist services for people with dangerous and severe personality disorder (DSPD) (Home Office, 2005a). The programme aims to support 'public protection through the development of pilot treatment services for dangerous offenders whose offending is linked to severe personality disorder', but also to improve their mental health outcomes and to understand more fully the treatments that work for this group (Home Office, 2005a).

Where community services exist specifically for the treatment of antisocial personality disorder, these are most well developed within the criminal justice system, in which people with antisocial personality disorder have historically formed a significant proportion of those attending probation services. In recent years there has been a move away from a case work model in probation services (based on the social work model) to one that focuses more explicitly on reducing re-offending (Vanstone, 2000). This has led to the development of a number of community treatments that draw heavily on cognitive behavioural techniques (for example, Hollin, 1999).

4.2.2 The current provision of care

The current provision of care for people with antisocial personality disorder is the responsibility of a number of organisations, principally those in the criminal justice system, but with significant input for specific populations from specialist forensic mental health services. All mental health services, in particular drug and alcohol services, and to a lesser extent general mental health services, provide support and care for people with antisocial personality disorder, but this is usually not for the treatment of the disorder itself but for comorbid conditions. The needs of people with antisocial personality disorder who present in primary care are even less well recognised.

Primary care

As with all forms of mental disorder, the majority of people with personality disorder who require treatment are cared for within primary care services (Department of Health, 2003). Approximately a quarter of attendees to GP practices fulfil diagnosis for personality disorder, often presenting with comorbid common mental health

Organisation and experience of care

problems (Moran *et al.*, 2000). Of these, 5.2% will have an ICD-10/DSM-IV diagnosis of dissociative or antisocial personality disorder (Moran *et al.*, 2000). It is only those who experience the most significant distress who are referred to specialist mental health services, with there being a much greater likelihood of contact with the criminal justice system (Eastern Specialised Mental Health Commissioning Group [ESMHCG], 2005). Given the recognition of the potential treatability of comorbid mental disorders and the role that drug and alcohol misuse may play in exacerbating antisocial behaviour, greater awareness needs to be developed to ensure that early support and interventions are in place to identify and treat people who have a diagnosis of personality disorder in primary care.

Secondary care

Many people with personality disorder, including those with antisocial personality disorder, are treated in general secondary mental health services, although the majority of these are in receipt of interventions for comorbid Axis I disorders and not treatments for antisocial personality disorder (Goodwin & Hamilton, 2003). Similarly drug and alcohol services will also treat significant numbers of people with antisocial personality disorder (Bowden-Jones *et al.*, 2004). Acute inpatient units involved in the treatment of patients with personality disorder (predominantly borderline personality disorder) have a specific but limited role in managing crisis, including escalation of risk to self or others (Department of Health, 2003). The ways in which people with personality disorder, including those with antisocial personality disorder, have been managed by mental health services are complicated, and service users have often been treated at the margins through A&E departments, inpatient wards and on the caseloads of the community psychiatric staff who may not have the required specialist skills and time (ESMHCG, 2005).

In 2002 only 17% of trusts in England provided dedicated personality disorder services; 40% provided some level of service; 28% provided no identified service; and 32% returned no data (Department of Health, 2003). The report also found a disparity of therapeutic approaches and mode of service delivery (Department of Health, 2003). The most common therapies included psychodynamic psychotherapy, CBT, dialectical behaviour therapy or cognitive analytic therapy, delivered on both an outpatient and day patient basis (Department of Health, 2003).

There is also very limited specialist residential treatment within the NHS, with four units in the UK that are run as therapeutic communities: the Therapeutic Community Service (previously known as Webb House, Crewe), Main House, Cassel Hospital and the Francis Dixon Lodge (Department of Health, 2003). These predominantly provide services for people with borderline personality disorder.

Crawford and Rutter (2007) reviewed 11 dedicated community-based personality disorder pilot services funded by the Department of Health in England. The evaluation found that most services were designed primarily for people with personality disorder who had some motivation to change (Crawford & Rutter, 2007). Several had formal exclusion criteria, most commonly the presence of a psychotic illness, use of medication or uncontrolled substance misuse, significant learning difficulties and history of significant violence or aggressive behaviour. Staff at most of the pilot sites

reported that they worked predominantly with people with cluster B and C personality disorders, the most common diagnosis being borderline personality disorder. In contrast, most services reported that they did not work with people whose foremost diagnosis was antisocial personality disorder (Crawford *et al.*, 2007). While several services had links with the criminal justice system and were able to offer advice and support to those working with people with antisocial personality disorder, concerns about risk to others meant that most services excluded people with the diagnosis (Crawford & Rutter, 2007). Service providers were concerned that people with antisocial personality disorder might be unresponsive to psychological treatment; however providers were prepared to work with people with other forms of personality disorder where there was limited evidence for effective treatment (Crawford & Rutter, 2007). Referrers of patients to these specialist pilot services were frustrated that people with antisocial personality disorder could not be referred to their local personality disorder services.

Nevertheless despite the rather negative findings about antisocial personality disorder, Crawford & Rutter (2007) found there was a broad agreement about the basic parameters for providing services to people with personality disorder. They stated that services should:

- be delivered over a relatively long period
- work flexibly with service users while ensuring the service they provide is consistent and reliable
- have the capacity to deliver more than one intervention of varying intensity to suit those with different levels of motivation
- deliver social as well as psychological interventions
- have the ability to ensure that service users are given time to prepare for leaving the service
- combine direct service provision with support for colleagues working in other settings aimed at increasing their capacity to work with people with personality disorder and decrease social exclusion
- ensure that staff work closely together and receive regular supervision.

Tertiary care

Forensic mental health services care for mentally ill people who need a degree of security and have shown challenging or risky behaviour that is beyond the capacity of general psychiatric services to effectively manage. Forensic services fall into three categories: low security services, which tend to be based near general psychiatric wards in NHS hospitals; medium security services, which often operate regionally and usually consist of locked wards with a greater number and a wider range of staff; and high security services, which are provided by the three special hospitals (Ashworth, Broadmoor and Rampton), which have much greater levels of security and care for people who pose an immediate and serious risk to others. In addition, new services are developing to meet the needs of high-risk offenders in the community with mental disorders, for example Resettle, formally known as Community Risk Assessment and Case Management Service (CRACMS), in northwest England (Ministry of Justice, 2007).

Organisation and experience of care

The roles of forensic services are to provide treatment interventions, address offending behaviour and reduce the level risk associated with antisocial behaviour (Department of Health, 2003). A crucial component of forensic services is to develop a working partnership with criminal justice agencies including multi-agency public protection panels (MAPPPs; Department of Health, 2003). Despite this broad brief, which clearly applies to those with antisocial personality disorder, a survey by the Eastern Specialised Mental Health Commissioning Group (ESMHCG) (2005) found that across medium and low security services in the East Midlands, admission criteria often excluded those with a primary diagnosis of personality disorder, unless patients were transferred from high security services. The ESMHCG suggested that clear protocols and guidance on admission criteria were needed (ESMHCG, 2006). In addition the ESMHCG suggested that forensic teams provide the following, specifically in relation to personality disorder: (a) consultation, liaison and case management advice; (b) advice to courts, including court reports; (c) preliminary examination under the proposed mental health legislation; and (d) links with prison mental health care services.

Dangerous and Severe Personality Disorder (DSPD) programme

DSPD services have two distinct functions: to carry out structured clinical assessments that seek to establish whether an individual meets DSPD criteria and, for those who meet DSPD criteria, to provide treatment that addresses mental need and risk (Home Office, 2005a). Development of treatment services are the responsibility of the individual units, however certain principles and goals are common to the treatment programmes in all the units, including: (a) treatments that address offending behaviour through the reduction of risk by targeting criminogenic factors and meeting mental health needs; (b) evidence-based treatment models that are subject to rigorous validation and evaluation; (c) individualised treatment plans that are flexible with regular progress reviews using the Care Programme Approach; and (d) involvement of prisoners/patients in treatment planning, encouraging them to share ownership of treatment outcomes where treatment goals should be open and transparent (Home Office, 2005a).

Medium security and community services

For admission to forensic medium security DSPD units, patients must have a diagnosis of personality disorder that would meet the criteria for detention under mental health legislation; the patient must present a serious physical or psychological risk to others or potential risk of a degree that requires admission to a medium security service; and there must be a link between the personality disorder and high risk that can be clinically justified, where the treatment needs of the patient are best met in a secure NHS setting (Home Office, 2005b). Admission to community services will require a diagnosis of personality disorder, a history of serious risk to others associated with the disorder, and an assessment that the risk can be better managed through the intervention of these services (Home Office, 2005b). For admission to a specialist hostel-supported housing project, the individual must have a primary diagnosis of a personality disorder, a history of serious offending against others, or a significant potential for future harm to others; and all other local provisions should have agreed

clinically not to meet the person's needs, where the hostel-supported housing project is able to do so (Home Office, 2005b).

High security units

Individuals are considered to meet the criteria for admission to DSPD high security services if they are assessed as being more likely than not to re-offend, resulting in serious physical or psychological harm from which the victim would find it difficult or impossible to recover. The risk of re-offending must also be linked to the presence of a severe personality disorder. Structured clinical assessments are required to be carried out to make an overall decision regarding whether an individual meets DSPD criteria (Home Office, 2005a). Referrals to a high security DSPD unit can be considered for any person who might meet the DSPD criteria; the consent of an individual is not required for a referral to be made, however, the individual must be informed of their referral before it can be accepted (Home Office, 2005a). HMP Whitemoor began admitting prisoners to a converted wing of the prison in September 2000 (Home Office, 2005a). Additional units have been purposely built at three other sites: the Westgate Unit at HMP Frankland, the Peaks Unit at Rampton Hospital and the Paddock Centre at Broadmoor (Home Office, 2005a).

Safety and security in DSPD units

The planning and delivery guidance for DSPD units (Home Office, 2005a; 2005b) states that patients and prisoners are expected to test boundaries and to identify and exploit weaknesses that may exist in the operational system or in working relationships on the unit. This could cause a significant risk to the health and safety of staff (Home Office, 2005a; 2005b). The Home Office (2005a; 2005b) made the following recommendations to maintain a secure and safe working environment in DSPD units:

- operational policies and procedures should be open, clear and regularly reviewed
- systems should be in place to record and analyse information on security incidents and 'near-misses'
- staff on units should have access to regular supervision and support services
- staff absences and patterns of recruitment and retention should be actively managed and monitored
- units should operate on an integrated, multi-disciplinary basis
- a management culture of trust and openness should be developed with an emphasis on positive exploration of errors and learning from mistakes.

Provision of care in prisons

The mental health needs of prisoners have long been recognised as being substantial but also, in many cases, poorly met (HM Inspectorate of Prisons, 2007). Although there are services for people with personality disorder, the provision of mental health services in prison is limited and therefore often strictly prioritised, with the main concerns being acute mental health problems, acute suicide risk and pre-discharge needs assessment (ESMHCG, 2005).

One solution to this problem is for prisoners with a diagnosis of personality disorder to be included within specification for mental health service provision in

Organisation and experience of care

prison (ESMHCG, 2005), although this would include perhaps 50% of the prison population (Singleton *et al.*, 1998). In many prisons the most likely intervention will be a cognitive and behavioural skills programme such as Reasoning and Rehabilitation, but this is focused on the offending behaviour and not the antisocial personality disorder (see Chapter 7). It should also be remembered that the high psychiatric comorbidity of this population may also require specific mental health interventions. While recognising the constraints and the significant work that has taken place to establish effective mental health services in prison, the ESMHCG recommended that the service specification for prison mental health services should recognise the needs of people with personality disorder (including antisocial personality disorder) in prisons, that a realistic plan is developed to improve service provision in prison, and that discharge arrangements are effective, including ensuring that, where appropriate, prisoners who are discharged have follow-up arrangements with mental health services in addition to suitable accommodation and registration with a GP.

Multi-agency working

The focus of this guideline is on healthcare services, but effective care of people with antisocial personality disorder is not possible without close working links with other services, in particular the criminal justice system. Indeed for the majority of people in the community with antisocial personality disorder who are in contact with services, the primary care will come from the probation service through individual care work and offender management programmes. It is therefore vital that strong links exist across these organisations to ensure effective care is provided. In addition to health and the criminal justice system, housing, adult education and the voluntary sector services will be required.

4.2.3 Summary of the organisation and delivery of care

There have been significant advances in the organisation, development and delivery of care for people with antisocial personality disorder. However, it is questionable whether many of the more substantial investments, particularly offender-based interventions in prisons and the community (such as Reasoning and Rehabilitation) have impacted on the care for people with antisocial personality disorder in healthcare settings in a significant way.

Yet the vast majority of people with antisocial personality disorder remain in the community and have significant psychiatric morbidity and associated social and interpersonal difficulties. While these individuals are often not treatment seeking, effective interventions for comorbid problems are nevertheless available (see Chapter 7). Comorbid alcohol and drug misuse could have a significant impact not just on the individual's health and well being but also on that of their families and the wider community. It is important, therefore, that services have clear pathways that allow for the effective engagement of people with antisocial personality disorder in general mental health and substance misuse services and that specialist services meet their

comorbid needs. While the majority of people with antisocial personality disorder are engaged with primary care, and to a lesser extent with secondary services, and only a small number move through to specialist services, the latter nevertheless have a significant role in providing ongoing support and training to those working in primary and secondary care services. The provision of effective care pathways and the relevant roles of individuals in supporting these should be clear.

Services should therefore consider the establishment of personality disorder networks. These networks should have a significant role in training, including the training of specialist and general mental health professionals and staff working in the criminal justice system. These networks should also provide support and may provide a resource for specialist support and supervision. They may also have some role in coordinating pathways within various health services.

4.2.4 Recommendations

Assessment

4.2.4.1 When assessing a person with possible antisocial personality disorder, healthcare professionals in secondary and forensic mental health services should conduct a full assessment of:

- antisocial behaviours
- personality functioning, coping strategies, strengths and vulnerabilities
- comorbid mental disorders (including depression and anxiety, drug or alcohol misuse, post-traumatic stress disorder and other personality disorders)
- the need for psychological treatment, social care and support, and occupational rehabilitation or development
- domestic violence and abuse.

4.2.4.2 Staff involved in the assessment of antisocial personality disorder in secondary and specialist services should use structured assessment methods whenever possible to increase the validity of the assessment. For forensic services, the use of measures such as PCL-R or PCL-SV to assess the severity of antisocial personality disorder should be part of the routine assessment process.

4.2.4.3 Staff working in primary and secondary care services (for example, drug and alcohol services) and community services (for example, the probation service) that include a high proportion of people with antisocial personality disorder should be alert to the possibility of antisocial personality disorder in service users. Where antisocial personality disorder is suspected and the person is seeking help, consider offering a referral to an appropriate forensic mental health service depending on the nature of the presenting complaint. For example, for depression and anxiety this may be to general mental health services; for problems directly relating to the personality disorder it may be to a specialist personality disorder or forensic service.

Organisation and experience of care

Access to services

- 4.2.4.4 People with antisocial personality disorder should not be excluded from any health or social care service because of their diagnosis or history of antisocial or offending behaviour.
- 4.2.4.5 Seek to minimise any disruption to therapeutic interventions for people with antisocial personality disorder by:
- ensuring that in the initial planning and delivery of treatment, transfers from institutional to community settings take into account the need to continue treatment
 - avoiding unnecessary transfer of care between institutions whenever possible during an intervention, to prevent disruption to the agreed treatment plan. This should be considered at initial planning of treatment.
- 4.2.4.6 Ensure that people with antisocial personality disorder from black and minority ethnic groups have equal access to culturally appropriate services based on clinical need.
- 4.2.4.7 When language or literacy is a barrier to accessing or engaging with services for people with antisocial personality disorder, provide:
- information in their preferred language and in an accessible format
 - psychological or other interventions in their preferred language
 - independent interpreters.
- 4.2.4.8 When a diagnosis of antisocial personality disorder is made, discuss the implications of it with the person, the family or carers where appropriate, and relevant staff, and:
- acknowledge the issues around stigma and exclusion that have characterised care for people with antisocial personality disorder
 - emphasise that the diagnosis does not limit access to a range of appropriate treatments for comorbid mental health disorders
 - provide information on and clarify the respective roles of the health-care, social care and criminal justice services.

Organisation and planning of services

- 4.2.4.9 Provision of services for people with antisocial personality disorder often involves significant inter-agency working. Therefore, services should ensure that there are clear pathways for people with antisocial personality disorder so that the most effective multi-agency care is provided. These pathways should:
- specify the various interventions that are available at each point
 - enable effective communication among clinicians and organisations at all points and provide the means to resolve differences and disagreements.

Clearly agreed local criteria should also be established to facilitate the transfer of people with antisocial personality disorder between services. As far as is possible, shared objective criteria should be developed relating to comprehensive assessment of need and risk.

4.2.4.10 Services should consider establishing antisocial personality disorder networks, where possible linked to other personality disorder networks. (They may be organised at the level of primary care trusts, local authorities, strategic health authorities or government offices.) These networks should be multi-agency, should actively involve people with antisocial personality disorder and should:

- take a significant role in training staff, including those in primary care, general, secondary and forensic mental health services, and in the criminal justice system
- have resources to provide specialist support and supervision for staff
- take a central role in the development of standards for and the coordination of clinical pathways
- monitor the effective operation of clinical pathways.

4.3 TRAINING, SUPERVISION AND SUPPORT

This section is concerned with the training, supervision and support required to deliver effective care for people with antisocial personality disorder. It begins with a review of relevant research of staff experience in the field of personality disorder before considering more specific reviews and policy documents in relation to training and supervision.

4.3.1 Direct studies of staff experience

A systematic review of the literature was conducted. Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 2.

Table 2: Databases searched and inclusion/exclusion criteria for studies of staff experience

Electronic databases	MEDLINE, EMBASE, PsycINFO, CINAHL, HMIC
Date searched	Database inception to May 2008
Study design	Any quantitative or qualitative
Patient population	Staff in the direct care of service users with antisocial personality disorder, psychopathy or personality disorder
Interventions	Not applicable
Outcomes	Experience of care
Settings	Primary, secondary, tertiary or prison

The identified papers were discussed by the NCCMH team and GDG members including service user representatives. A number of themes were identified from the literature and these themes were used to structure the review, namely: attitudes to personality disorder; self-awareness; clinical support; safety concerns and staff dynamics.

Attitudes to personality disorder

In a study by Mercer and colleagues (2000), 30 forensic nurses were asked to discuss hypothetical vignettes of perpetrators of serious crimes (such as murder or serial rape) who were likely to fit criteria for severe antisocial personality disorder. Where the behaviour was seen as rational or purposeful, nurses considered this 'evil' and therefore *de facto* beyond the scope of treatment. However, where there were signs that the behaviour could be attributed to a diagnostic framework such as 'schizophrenia' or 'psychosis', the individual was more readily offered understanding (Mercer *et al.*, 2000). Interestingly, a comparison between the attitudes of psychiatric nurses and prison officers (Bowers *et al.*, 2006) found the latter more likely to view prisoners with personality disorder as being cognitively incompetent, which may explain why prison officers also tended to be more accepting of these individuals than nurses.

When personality disorder appears to staff as being all-encompassing and untreatable, perhaps compounded by a perception that there is a deep-seated entity of 'badness' in the service user (Mercer *et al.*, 2000), a sense of hopelessness and powerlessness ensues; it is not therefore surprising when a therapeutic relationship between the staff and service user fails to develop (Nathan, 1999). The notion of 'therapeutic pessimism' is one that is repeatedly highlighted in the literature (Mercer *et al.*, 2000; Bowers, 2002; Carr-Walker *et al.*, 2004; Stalker *et al.*, 2005; Kurtz, 2005; Crawford & Rutter, 2007). Such negative attitudes could be challenged through educating staff about the current state of knowledge underpinning effective interventions for antisocial personality disorder (Kurtz, 2005), including the gaps in the research, and by encouraging staff to have a stronger belief in the effectiveness of their own personal skills (Carr-Walker *et al.*, 2004). More practically, the development of dedicated personality disorder services could provide opportunities for staff to see for themselves that treatment is possible (Crawford & Rutter, 2007).

Given the lack of clarity and agreement among staff regarding the concepts of psychopathy and personality disorder (in particular antisocial personality disorder and DSPD), there is also an identified need for training to address these issues (Haddock *et al.*, 2001; Huband & Duggan, 2007). For example, the use of labels such as 'psychopath' or 'DSPD' may be counterproductive and widen the chasm between staff and service users (Kurtz, 2005). Others, such as Wright and colleagues (2007), further argued that training should encourage staff to think about service users as individuals, thereby possibly helping them to form more supportive and caring therapeutic relationships.

Bowers (2002) found that nurses with positive attitudes towards people with personality disorder were likely to interact better with service users as well as colleagues, report lower levels of work stress and perform better in the workplace. A more encouraging finding from Bowers and colleagues' later research (Bowers *et al.*, 2005; 2006), an 18-month longitudinal questionnaire study of 59 prison officers in a newly established

DSPD unit, was that staff attitudes to personality disorder were amenable to positive change, probably as a result of social processes operating through interactions with the service users. Staff considered getting to know inmates as individuals as positive experiences (Bowers *et al.*, 2005). Indeed through these processes, staff felt better able to understand what underlay inmates' particular behaviours, and more readily recognised that different prisoners have different needs (Bowers *et al.*, 2005).

Self-awareness

A consistent theme emerging from the literature was the importance of staff's self-awareness in their interactions with people with personality disorders. Wright and colleagues (2007) argued that self-reflection could give rise to more meaningful engagement with service users, not only because problems with interpersonal processes are fundamental to personality disorders, but also staff can begin to make sense of challenges in the therapeutic relationship as not just being attributable to the service user (or their personality disorder), but also to staff themselves. Indeed, unhelpful responses from staff could often be responsible for compounding service users' problems (Stalker *et al.*, 2005).

Group-based supervision might provide opportunities for staff to self-reflect and to air their emotions in relationship with others. For example, staff at Grendon Underwood prison, where the majority of inmates are diagnosed with personality disorder, have developed staff sensitivity groups as a coping strategy for dealing with the difficult emotions arising from their work (Shine, 1997).

In an exploratory study, Kurtz and Turner (2007) interviewed staff working in a medium security unit for offenders with personality disorder. Staff felt that working with service users' interpersonal problems sometimes meant staff themselves had to confront their personal difficulties in order to detach from the service users' problems. Kurtz (2005) highlighted the importance of regular individual supervision to promote a reflective approach to practice, but also suggested that is important to distinguish it from a more managerial or evaluative type of supervision.

Clinical support

Clinical supervision specific to personality disorder is considered particularly important and beneficial for staff who may not have come from a health or social care background (for example prison officers), who nevertheless deal with individuals with personality disorder on a regular basis. Indeed the exploratory study in Grendon Underwood (Shine, 1997) highlighted the lack of specific training among the majority of the prison staff to deal with some of the particularly challenging incidents they faced (such as inmates' confrontations and hostile interactions), which were less frequent in other prisons.

In a similar vein, the majority of staff from different agencies interviewed by Huband and Duggan (2007) reported having had basic training to deal with specific behavioural problems such as aggression, but this did little to further their understanding of personality disorder. Staff felt they would value scenario-based training to complement conventional approaches (Huband & Duggan, 2007). Likewise in the study of 11 community-based personality disorder pilot services (Crawford & Rutter, 2007),

Organisation and experience of care

staff found training focused on both personality disorder-specific issues as well as general principles desirable, especially when delivered by people directly involved in providing services. Staff also found training delivered to teams, rather than to individual staff, most effective (Crawford & Rutter, 2007).

Safety concerns

Findings from Carr-Walker and colleagues (2004) suggest that nurses working in high security psychiatric hospitals would benefit from more comprehensive training on security and safety issues, which are already available to prison officers.

Staff dynamics

Kurtz and Turner's (2007) exploratory study showed that while staff in a medium security unit readily recognised the value of organisational structure and purpose, and a sense of belonging within that structure (through positive collaboration with colleagues), they also felt isolated from other colleagues who did not understand the nature of personality disorder or the work involved, and sometimes even within their own team. Staff sometimes found it harder to manage difficulties with colleagues than with service users, because of the absence of a safe and open forum for discussion (Kurtz & Turner, 2007).

Arising from these observations, Kurtz (2005; Kurtz & Turner, 2007) suggested that organisations should have in place regular group supervision provided by an external consultant, who can provide an impartial view. This is particularly important in light of the experiences of Moore and Freestone (2006) in setting up community meetings in a DSPD unit, where they encountered staff reluctance to bring up issues for fear of exacerbating them, especially in the context of meetings that also included service users. Supervision groups with staff alone should therefore provide a 'boundaried space' to reflect on relationships with colleagues, and anxieties arising at the organisational level (Kurtz, 2005; Kurtz & Turner, 2007). Supervision also should focus on a coherent understanding of the organisational tasks and ideally include senior staff who interface with external organisations and can bring a broader context to the work of the frontline staff.

4.3.2 Policy documents and related reviews of staff experience

The identified papers for this section were discussed by the NCCMH team and GDG members (including service user representatives). A number of themes were identified from the literature and these were used to structure the review, namely: the content of current training; the need for practice development and supervision; quality assurance; and external monitoring.

Content of current training

The Department of Health document, *Personality Disorder: No Longer a Diagnosis of Exclusion* (Department of Health, 2003) looked specifically at the provision of training for personality disorder services and found that many clinicians were reluctant

to work with people with personality disorders because they felt they lacked the skills, training or resources to provide an adequate service. This was no doubt related to the lack of adequate training in the area (Department of Health, 2003). Furthermore, in a preliminary study for the document, staff were poorly prepared across all disciplines by their core professional training to work within these services (Duggan, 2002). The report identified a significant lack of training for staff working within general adult mental health services, in primary care, social services, social housing or the voluntary sector (Duggan, 2002). It appears that training was based on meeting the immediate needs and interests of staff, and not strategically planned nor based on the required competencies or any underlying theoretical models (Duggan, 2002). There was also a lack of training to address the special needs of women and people from black and minority ethnic groups (Duggan, 2002).

There is university-based training offering awards in specific therapeutic techniques including cognitive behavioural or analytical therapy, dialectical behaviour therapy, therapeutic environments and forensic aspects (Duggan, 2002). The preliminary report found that this training is largely targeted towards staff with an existing professional qualification who have an interest in personality disorder and/or working in tertiary services providing highly specialised treatment and support regimes (Duggan, 2002). Although of real value, these courses failed to meet the needs of many staff without existing qualifications and/or who did not work in specialist units.

This suggests that any framework for training in personality disorder services should provide for not only mental health staff but for staff working in primary care and other agencies. Such training should be: (a) team focused with training in team building and team working; (b) supported and valued by the organisation including having identified resources and cover provided where necessary to free up staff to attend training; (c) appropriately targeted, ensuring that training meets the different needs within the organisation; and (d) responsive to local need and services (ESMHCG, 2005).

Need for practice development and supervision

However, it is well established that training alone is not sufficient to improve competence (Roth & Pilling, 2008). Supervision and practice development systems need to be in place if the full benefits of training are to be realised.

A preliminary report commissioned for *Personality Disorder: No Longer a Diagnosis of Exclusion* (Department of Health, 2003) explored the competences and attributes ideally required by staff to work effectively with people with personality disorder (Duggan, 2002). The scope found a large number of similarities in the competences required of practitioners to work effectively within personality disorder services and those required of mental health staff more generally (Duggan, 2002). Some competences that were more specific to personality disorder included: emotional resilience, clarity about personal and interpersonal boundaries, and the ability to tolerate and withstand the particular emotional impact that work with personality disordered patients can have on relationships within a team and services (Duggan, 2002).

Crawford and colleagues (2007) identified organisational, therapeutic and other factors that service users and providers believe result in high-quality care for people with personality disorder. The characteristics of staff that were felt to be most helpful

Organisation and experience of care

for working in specialist personality disorder services in the community were: a) willingness to be responsive and work flexibly, but not at the expense of neglecting appropriate boundaries; (b) the ability to empower service users, even if this meant letting them make some mistakes; (c) emotional maturity and a high degree of personal resilience; (d) the ability to retain a positive attitude while accepting the limits of what can be done; (e) a capacity and willingness to reflect on themselves and their work and to discuss their mistakes or uncertainties; and (f) willingness to work as members of a team and accept the process of shared decision making (Crawford *et al.*, 2007). A full list of the capabilities required by staff at all levels of their careers who work with people with personality disorders is available in *The Personality Disorder Capabilities Framework* (National Institute of Mental Health in England, 2003); these are the recommended competences by the Department of Health in their planning and delivery guides to DSPD units (Home Office, 2005a; 2005b).

4.3.3 Quality assurance

Training for staff in specialist services is most likely to be accredited and quality assured through contact with credible university providers (Duggan, 2002). The preliminary report found that no such assurances can be given in relation to any other type of training and suggests that a future training strategy must reflect the evidence base and incorporate processes for assuring and maintaining quality (Duggan, 2002). The comprehensive quality assurance programme developed by the prison service for their offender management programmes (Gill Attril, presentation to the GDG, 2007) is a potential model because it contains a combination of routine direct observation of the delivery of the intervention with explicit audit criteria and both external and internal monitoring.

4.3.4 External monitoring

All arrangements and services for people with personality disorder should be subject to regular review, evaluation and audit as recommended by the ESMHCG (2005). In the planning and delivery guide for high security services for people with DSPD, external evaluation and validation of all aspects of service delivery and of the outcomes achieved are reported to form the key components of the programme that will be commissioned centrally (Home Office, 2005a). Beyond the process of external evaluation, DSPD units are expected to evaluate and validate their own facilities, treatments and interventions (Home Office, 2005b).

4.3.5 Summary of training, supervision and support

The overall impression from reviewing the studies of both staff experience and training suggests that staff too often feel excluded and misunderstood and

frequently feel they have little relevant training in understanding or managing antisocial personality disorder. This may be compounded by the fact that the stigma that affects the patients may be transferred to staff. There is often a lack of clarity about the purpose and function of some services and this may exacerbate the difficulties in coping with the dual function of treatment and social control. Therefore it is important that effective training, continuing staff support and supervision systems are in place and that these are linked to and explicitly supported by clear operational policies. These policies need to set out clearly the goals, objectives and support structures that are routinely available. Links with external agencies through regular support and supervision meetings are important in keeping an open and reflective environment. Being part of, and integrated into, established and clear care pathways, with referrals in and out of specialist residential services, may also be important. Working in services for people with antisocial personality disorder presents a considerable challenge for staff including maintaining a proper fidelity to the intervention model and managing the emotional pressure this involves. Effective training and support is crucial to ensuring that this happens.

4.3.6 Recommendations

Staff competence

- 4.3.6.1 All staff working with people with antisocial personality disorder should be familiar with the ‘Ten essential shared capabilities: a framework for the whole of the mental health practice’³ and have a knowledge and awareness of antisocial personality disorder that facilitates effective working with service users, families or carers, and colleagues.
- 4.3.6.2 All staff working with people with antisocial personality disorder should have skills appropriate to the nature and level of contact with service users. These skills include:
- for all frontline staff, knowledge about antisocial personality disorder and understanding behaviours in context, including awareness of the potential for therapeutic boundary violations (for example, inappropriate relations with service users)
 - for staff with regular and sustained contact with people with antisocial personality disorder, the ability to respond effectively to the needs of service users
 - for staff with direct therapeutic or management roles, competence in the specific treatment interventions and management strategies used in the service.

³Available from www.eftacim.org/doc_pdf/10ESC.pdf

Organisation and experience of care

- 4.3.6.3 Services should ensure that all staff providing psychosocial or pharmacological interventions for the treatment or prevention of antisocial personality disorder are competent and properly qualified and supervised, and that they adhere closely to the structure and duration of the interventions as set out in the relevant treatment manuals. This should be achieved through:
- use of competence frameworks based on relevant treatment manuals
 - routine use of sessional outcome measures
 - routine direct monitoring and evaluation of staff adherence, for example through the use of video and audio tapes and external audit and scrutiny where appropriate.

Supervision and support

- 4.3.6.4 Services should ensure that staff supervision is built into the routine working of the service, is properly resourced within local systems and is monitored. Supervision, which may be provided by staff external to the service, should:
- make use of direct observation (for example, recordings of sessions) and routine outcome measures
 - support adherence to the specific intervention
 - promote general therapeutic consistency and reliability
 - counter negative attitudes among staff.
- 4.3.6.5 Forensic services should ensure that systems for all staff working with people with antisocial personality disorder are in place that provide:
- comprehensive induction programmes in which the purpose of the service is made clear
 - a supportive and open environment that encourages reflective practice and honesty about individual difficulties such as the potential for therapeutic boundary violations (such as inappropriate relations with service users)
 - continuing staff support to review and explore the ethical and clinical challenges involved in working in high-intensity environments, thereby building staff capacity and resilience.
- 4.3.6.6 Staff providing interventions for people who meet criteria for psychopathy or DSPD should receive high levels of support and close supervision, due to increased risk of harm. This may be provided by staff outside the unit.

4.4 SERVICE USER EXPERIENCE OF CARE AND SERVICES

4.4.1 Introduction

There are few studies exploring the views and experiences of people with personality disorder, and even fewer that represent the experience of those with antisocial personality disorder. In part this is due to the difficulties posed by interviewing people in high security environments (Faulkner & Morris, 2002). In the review of the literature that follows some of the studies were of a mixed sample of people with different types

of personality disorder; where the studies were specific about people with antisocial personality disorder this has been noted.

A systematic review of the literature was conducted, which identified 15 studies which were included in the review. Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 3.

The identified papers were discussed by the NCCMH team and GDG members (including service user and carer representatives). A number of themes were identified from the literature and these were used to structure the review. The themes were grouped under two headings: experience of healthcare and related settings (including diagnosis, stigma, and contact with healthcare professionals; experience of personality disorder; coping strategies; experience of services; and treatment preferences) and experience of secure hospitals and the criminal justice system (including prison and special hospitals; transfer from prison to hospital; and the DSPD programme).

4.4.2 Experience of healthcare and related settings

Diagnosis, stigma, and contact with healthcare professionals

In a study by Castillo (2000) people diagnosed with personality disorder interviewed others to ascertain what it felt like to have the diagnosis, the problems people experience, and what they have found helpful in dealing with these problems. When asked about the diagnosis, of the 50 people in the sample (14 of whom—11 men and 3 women—had dissocial personality disorder), 22% said that it was ‘a label you get when “they” don’t know what else to do’, and 10% regarded having personality disorder as something ‘bad’ or ‘evil’ and a ‘life sentence—untreatable—no hope’ (Castillo, 2000). Over 50% were told their diagnosis by their psychiatrist, but 16% found out accidentally from their records, which may have exacerbated their feelings of stigma,

Table 3: Databases searched and inclusion/exclusion criteria for studies of service user experience

Electronic databases	MEDLINE, EMBASE, PsycINFO, CINAHL, HMIC
Date searched	Database inception to May 2008
Study design	Any quantitative or qualitative
Patient population	Service users with antisocial personality disorder, psychopathy or personality disorder
Interventions	Not applicable
Outcomes	Experience of care
Settings	Primary, secondary, tertiary or prison

Organisation and experience of care

shame and exclusion: *'After I was discharged I opened a letter from my psychiatrist to the GP. It said it there. I was a bit stumped—shocked. I'd heard about people that had been diagnosed with personality disorder being the black sheep of the community. It made me feel I didn't belong anywhere'* (Castillo, 2000). When asked what they thought the diagnosis meant, 22 said that it had led to them not being treated with respect by healthcare professionals: *'Staff didn't want to know'; 'Told I was attention seeking'* (Castillo, 2000). The categorisation of personality disorder as an Axis II disorder was also felt to have some bearing on how they were perceived: *'Treated less sympathetically...not mental illness—something you have brought on yourself'; 'People don't believe there's anything wrong with you if you've got personality disorder'* (Castillo, 2000). Ten people described having a mixture of good and bad treatment: *'In one area they may give you help. In another area you don't get help. It's very patchy'* (Castillo, 2000). Only two people were wholly positive about how they had been treated.

The participants of a focus group convened by Haigh (2002) thought that the term 'personality disorder' was associated with stigma and that healthcare professionals viewed people with the condition as untreatable. They felt that because of the diagnosis they were excluded from some services. The term 'antisocial personality disorder' was thought to be even more of a burden and it was felt that mental health services were not well-equipped to meet the needs of people with the disorder. The participants felt anxious about the term 'dangerous and severe personality disorder', particularly that it would be applied to them and they would be detained (Haigh, 2002). It was strongly stated by the participants that they required high-quality printed information about personality disorders, and that they should not be actively discouraged from seeking information by professionals. It was suggested that service users should help train healthcare professionals in managing people with personality disorder, particularly in terms of developing empathy and understanding (Haigh, 2002).

In a study by Stalker and colleagues (2005), which elicited the views of ten people with a diagnosis of personality disorder, half felt that the term 'personality disorder' was disparaging. However one male participant thought that it accurately described his problems: *'It doesn't particularly disturb me. I don't see any problem because that is exactly what I suffer from—a disorder of the personality'* (Stalker *et al.*, 2005). In contrast with Castillo (2000), the majority of the participants were positive about their contact with healthcare professionals. It should be noted that the sample size in Stalker and colleagues (2005) was much smaller, containing eight women and only two men, and probably consisted predominantly of people with borderline personality disorder (the type of personality disorder was not stated).

Experience of personality disorder

Castillo and colleagues (2001) found high incidences of abuse, self-harm and suicidal behaviour, whether the diagnosis was borderline or dissocial personality disorder. Of the 50 participants, 88% had experienced abuse, most of it occurring in childhood, and many thought that this was the cause of their difficulties. Women with dissocial personality disorder had all experienced emotional abuse in childhood; none had a history of being violent as a child but 67% had gone on to be violent to other people.

Interestingly, 50% of the men with a diagnosis of dissocial personality disorder considered their positive attributes to be care and compassion; they characterised themselves as having a ‘Jekyll and Hyde’ persona, that is having a combination of compassionate and aggressive tendencies (Castillo *et al.*, 2001). Thirty-eight percent of Castillo’s sample had been imprisoned: ‘*I’m confused—can’t get a job because of my prison record—my mum doesn’t want to help me—I damage things—have lost my temper with guns and knives—told I can’t be helped*’ (Castillo, 2003).

The participants in Castillo (2000) questioned the category of ‘personality disorder’ when they said that they thought their primary problems were depression, abuse, stress or not coping, and substance misuse. In the survey by Stalker and colleagues (2005), participants said that the main problem in their lives was in making and keeping relationships, often because they felt unable to trust other people.

Coping strategies

In Stalker and colleagues (2005), the participants in the survey recognised a number of strategies they employed to help them cope. The most common approaches included: visiting a mental health resource centre; talking to a professional or a partner; keeping active; exercise; going to bed; medication; ‘keeping yourself to yourself’; ‘fighting the illness’; use of drugs and alcohol; overdosing; and cutting. The participants acknowledged that some of these activities were harmful, but felt they had no alternatives: ‘*When I am feeling really bad, [drinking is] the only thing that really blots out the memories*’ (Stalker *et al.*, 2005).

Experience of services

Accessing mental health services can be problematic for many people with personality disorder. Strike and colleagues (2006) suggested in a Canadian qualitative study that this was a particular problem for men with severe personality disorder (some of whom had antisocial personality disorder) who were suicidal and had a history of substance misuse. They found that negative experiences with mental health services resulted in men with severe personality disorder not wishing to access services until there was a crisis. Consequently they received the majority of their treatment and care through emergency departments; often they were taken to hospital involuntarily because of disturbing and/or dangerous behaviour. The care they received in the emergency departments did little to improve the men’s views of mental health services and did not result in them accessing mental health services in the future. In a further qualitative study of the same sample of people (Links *et al.*, 2007), participants (17 out of 24 had antisocial personality disorder) spoke of the reasons why they avoided emergency departments, including long waiting times, seeing lots of different healthcare professionals, the possibility of being confined, anxiety about losing control, feeling ashamed and being discharged before their crisis had been dealt with properly. One participant explained: ‘*the hospital is always my last resort, because usually when I come to hospital I end up feeling worse because of the whole procedure and process, and the waiting and...it’s more nerve-wracking for me*’ (Links *et al.*, 2007). Sometimes the staff were ‘rude’ and ‘dismissive’, and participants suggested that training and attention to interpersonal interactions were required. It was

Organisation and experience of care

also suggested that one way of improving access to emergency psychiatric treatment would be having separate psychiatric emergency services or triage points.

In the Castillo survey (2000), 34% said that they wanted improved services. The themes that emerged included: being listened to; being treated with respect; health-care professionals having a greater understanding of the condition; being given more information; being offered less medication and more 'talking therapies'. Other people said that out-of-hours or helpline services would be useful. When asked what had helped them, 34% mentioned their therapists, 26% said medication, 24% noted psychiatrists, hospital or hospital key worker, and 22% singled out their community mental health team for praise.

A lack of services tailored to their needs has also been highlighted by people with personality disorder (Haigh, 2002). The majority of the participants in the focus group convened by Haigh (2002) had had negative experiences in general mental health services, although those referred for specialist treatment were more positive. Participants also highlighted that it would be helpful if there was a 24-hour phone support service that could be used during a crisis, and that GPs received education about personality disorders and how to manage them. Because engagement with services can often be problematic, it was suggested that a mentoring/befriending service with 'adult fostering' might be beneficial. Participants said that in an ideal world they would like a local centre providing holistic approaches to the myriad difficulties experienced by people with personality disorder (Haigh, 2002). For larger areas, there should ideally be some form of therapeutic community with outreach services; these would be day services, on the whole, which would enable the service user to forge stronger links with their local community.

Treatment preferences

The participants in the Haigh (2002) study felt that being offered options for treatment was helpful, and that there was an over-reliance on drug treatment. They emphasised that they had important views on treatment (that is, what helped them and did not help them) and that staff should listen to them when deciding on interventions (Haigh, 2002). They also stressed the importance of early intervention in adolescence to prevent the deterioration of symptoms in adulthood.

In Castillo and colleagues' survey (2001) of 50 people with personality disorder, cognitive analytic therapy was the most highly rated of the therapies, although it was not made clear whether those rating it were people with antisocial personality disorder.

In a survey of 12 male patients of a highly specialist personality disorder hospital treatment unit (McMurrin & Wilmington, 2007), nine of whom had antisocial personality disorder, both psychoeducation and social problem-solving therapies were thought to be 'useful' by this group. The majority found psychoeducation '*informative, interesting and helpful*', social problem-solving therapy was thought to be '*generally helpful*' and the group work was viewed as '*enriching the problem-solving process*'. However, the patients also suggested ways of improving the interventions. For psychoeducation this included reducing the waiting time between being assessed and being given feedback and receiving support afterwards for any distress caused by

learning more about their condition. For social problem-solving therapy, suggested improvements involved more frequent reviews of how well the therapy was working, more consistency in how the treatment was delivered, helping patients to draw out problems, supporting them during group therapy, and developing an advanced form of the intervention. For both interventions the patients thought that providing further written information would be helpful.

4.4.3 Experience of secure and criminal justice settings

Prison and special hospitals

During the Fallon Inquiry (Fallon *et al.*, 1999) eight patients treated in the Personality Disorders Unit of Ashworth Special Hospital were interviewed. The themes identified included length of stay in the hospital, the mix of patients in the Personality Disorders Unit, access to treatment, and a comparison of hospital versus prison.

One concern was continued detention. One patient (Patient A) said that because he did not have any continuity of care with his RMOs they were reluctant to consider discharge or allow him leave of absence from the ward. Patient A was concerned that the more he revealed in therapy sessions, the more this provided ‘ammunition’ for his continued detention: ‘... it became apparent that talking was actually a bad thing and basically it has got to the stage now where I tell them absolutely nothing. In fact I do not cooperate with treatment now’. Patient A was not told when he might be transferred to a medium security unit, why he was detained in a high security hospital, and how the Personality Disorders Unit and treatment were going to benefit him. Some of the other patients were also critical of the length of time it took before being reviewed for a medium security unit. Some felt that if they had been in prison they would not have spent as long being detained:

‘That is the worst part of being a special hospital patient. You are sentenced to natural life imprisonment in a mental institution and from there... it is down to a lottery whether you ever get out: whether your doctor is competent, whether the RSU [regional secure unit] doctor likes you and is competent, whether the RSU wants you considering the pressures on RSU beds’. (Patient H).

Patient B felt that the unit itself was a problem in that it segregated the people with personality disorder from other patients, and could lead to the creation of a ‘*better psychopath*’, by enabling them to become more manipulative and clever.

Experiences of treatment were mixed. Patient B was positive about the hospital and said he recognised he had problems that needed to be treated, and entered into treatment willingly. He did, however, have some doubts about the value of group work and he saw nurses as ‘*more security guards than therapists*’. Both Patient A and Patient C felt that the treatment options were very limited. For Patient A treatment consisted of therapy with a primary nurse and a few meetings with a psychologist. Patient C had a number of hours of ‘*psychology work*’, although he had declined an offer of a place on a group for sex offenders. He thought of his being detained in

Ashworth as not therapeutic but preventive. Patient E had attended several different groups, including anger management and a sex offenders' group. The sex offenders' group had forced him to face what he had done as he had previously not thought of himself as a sex offender, and it had also addressed the causes behind his offences. However, he was critical of the lack of 'imaginative' treatments that enable patients to move forward.

Patient F was critical of the treatment in Ashworth, comparing it negatively with the treatment he had first received in Broadmoor which had enabled him to make positive personal developments and he had appreciated having support after therapy sessions had ended. Patient G remarked on the fact that a specialist hospital could not provide the treatments that had been recommended for him (a neuropsychological assessment, cognitive skills work and further psychological interventions); he was told that he had to wait 2 years for these interventions. Patient D, who had refused treatment, said that what was most beneficial to him was discussing matters with other patients.

In a study by Ryan and colleagues (2002), which aimed to capture the voice of people with personality disorders detained in Broadmoor about treatment and services, 61 people were interviewed. The aim was to feedback these views to the government's advisers developing the DSPD programme. Six men and two women had a diagnosis of dissocial personality disorder, and 31 men had a 'mixed' diagnosis. The main themes that emerged from the study were: preferences about the nature of detention; experience of prison; the qualities of the staff; their perceptions of being vulnerable; what helped them; and what would be the traits of an 'ideal' service.

Regarding preferences about the nature of detention, almost 50% said that they preferred the '*status quo*'; 13 said they would like to go back to prison and 19 said they wanted to be '*somewhere else*'. Asked to give three reasons for their choices, 29 closely matched this response: '*Because of the security here there is very little to feel threatened by, so it is easier to talk about things, you can't soften up in prison as there are too many bullies, too many people wanting to take advantage of you*'. Twenty-nine people gave a response similar to the following: '*In prison you are in a cell and haven't got rehabilitation services, at Broadmoor you are able to look at the crime and your mental illness, you have caring staff and open spaces, in hospital the illness is your crime, in prison you receive punishment*'. Thirteen said they would prefer to be back in hospital because they '*didn't like people*' and wanted their '*own space*'.

When compared with Broadmoor, people felt that the positive aspects about prison were having an earliest date of release, '*realisation of situation*', education, and 'other factors' including exercise. Thirteen of those who responded and had been imprisoned (56 in total) had more than one negative comment to make about prison, the main factor being the lack of treatment in prison.

When questioned about qualities of staff, the most important quality by some margin was being caring and understanding. Almost 50% felt that staff should be experienced in working with people with personality disorder.

Fifty-six out of the 61 people interviewed said that they felt vulnerable. There were three main reasons for this: other people, therapy, and their own mental illness. Men were more likely than women to feel vulnerability when '*facing their situation*'.

The most popular way of coping with these feelings was talking it over with staff, although seven people said that they self-harmed or used drugs or alcohol.

The most favoured treatment by 66% was individual therapy, however this was influenced by gender and by type of disorder. A greater proportion of the men favoured this treatment, as did people with a mental illness in addition to personality disorder. The vast majority could name one treatment that had been helpful. Only one person said that no treatment had been beneficial. Just over 50% said they wanted improved access to treatment, and *'more in-depth groups, which don't skirt around the issues'* because *'personality disordered people need to be confronted'*. The inter-mixing of people with different diagnoses on the wards was also an issue; a third of people were concerned about sharing a ward with a person with a mental illness. However, a quarter of patients, said they would not have *'personality disorder only'* wards because *'they are all out to get each other, fighting and influence each other into self-harming'*.

According to another study (IMPALOX Group, 2007), use of medication may also be a cause of concern for patients/prisoners. One prisoner interviewed thought that his violent actions towards staff were due to being over-medicated with antipsychotics: *'It was making me agitated, making things worse. I was sedated but at the same time I was very paranoid. I could not think properly to figure out what was happening... I felt threatened: if I didn't get them, they would get me. I carried out 36 assaults in one week in Ashworth: I was drugged out of my mind'*.

In Grendon Underwood Therapeutic Prison, where the emphasis is on evidence-based behavioural and cognitive techniques, one prisoner describes a therapeutic community programme for dangerous, long-term offenders who are open to the idea of exploring their behaviour and what may have caused it:

'I have been given the time and space to work through and dismantle all the justifications and cognitive distortions I used to excuse not only the behaviour of those who abused me but also my own offending behaviour... I have learned to see others as people with feelings and rights of their own, and not just as bodies in which to take out frustration, anger or selfish gratification' (Anonymous, 2001 quoted in Castillo, 2003).

Transfer from prison to hospital

The transfer of prisoners with personality disorders from prison to medium or high security hospitals towards the end of their sentences for treatment may be unacceptable to the individual, who may prefer to receive treatment in the community (see Fallon *et al.*, 1999). A prisoner diagnosed with antisocial personality disorder, borderline personality disorder, PTSD, panic disorder and substance misuse who was nearing the end of his sentence but was thought to be at high risk of re-offending, was admitted to a medium-secure hospital with a specialised unit for personality disordered offenders (Morris *et al.*, 2007). The patient had strong views that he should have been given the option not to be admitted. When told he was being transferred, he self-harmed: *'They'd snatched my life away. I'm not mentally ill. I'd had problems. Long-standing problems. Things got worse for me'* (Morris *et al.*, 2007).

Organisation and experience of care

His experience once in the hospital unit was more positive: *'I was made to feel welcome. People were nice to me. I'd stereotyped it—seclusion, sedatives, injections every day—but when I got there it was relaxed. Everybody was alright'* (Morris *et al.*, 2007). He said he would have preferred not to have had treatment as it was not right for him at that time, but he found the hospital environment, such as having structure to the day, talking with other people, and his relationship with his psychiatrist, therapeutic (Morris *et al.*, 2007).

The DSPD programme

In an evaluation of the assessment procedure for the DSPD programme (IMPALOX Group, 2007), just over 50% of the 40 prisoners interviewed from HMP Whitemoor and the Westgate Unit and HMP Frankland, who had volunteered for assessment, said prior to the assessment programme they had not been given an opportunity by the prison service or any other agency to consider the impact of personality on events and behaviour, but that the programme itself had enabled them to think about themselves and their behaviour (including offending and the use of violence) in a different way. One individual commented about the programme: *'My world view has been turned upside down... It's been a good ride. I find things out about me, I know they were there. I'm pleased with me, and if I can get any more support, I'll grab it. I should have got it 20 years ago: but it's not too late.'* (IMPALOX Group, 2007).

A few prisoners said that they had been able to control their aggression and violent behaviour more effectively. One prisoner reflected that *'I've never, ever not been violent: trying or learning to control it is a major step for me. For 9 months I've not attacked anyone. You challenge yourself, but on these programmes, convicts challenge you also. But I've never previously taken criticism from anyone'* (IMPALOX Group, 2007).

However, others said that they were frustrated by the assessment process due to delays and because it raised expectations and this led to feelings of irritability and the 'propensity to minor violence'. Some were concerned about the lack of support after the assessment was over: *'The box is opened: I can't shut it, and I can't deal with it'* (IMPALOX Group, 2007). Overall, prisoners said that they valued the support from psychiatrists and psychologists and the majority said that they would like more contact with these professionals. Many were keen to start treatment.

In a corresponding study by Maltman and colleagues (2008) of patient perspectives of DSPD assessment at Peaks Unit, Rampton Hospital, which was based on 12 semi-structured interviews, six main themes emerged: fear, shock, offering hope, the label, information and coping with boredom.

Personal safety and prolonged detention were issues that were a source of 'fear' for the patients entering the unit. One patient thought that he was going *'to be around some really disturbed people...you hear that many stories of people like Hannibal Lecter...'* However although some people expected there to be institutional violence, this proved not to be the case. Some feared being detained for protracted periods: *'It's like entering a twilight zone and not coming back out'* (Maltman *et al.*, 2008).

Feelings of 'shock' were also expressed by the patients due to being admitted unexpectedly near to the date of release from prison: *'It was the day of my release and*

it came as a shock’; *‘I thought I would finish my licence off in prison and get out a free man, but it didn’t work like that.’* One man said that he was concerned about the impact that his transfer would have on his family. The security levels in the unit were also a cause of shock: *‘I got past the gate and it just reminded me of prison . . . going through security . . . I was thinking, “Well this can’t be a hospital”’*. Patients were also shaken by staff attitudes and behaviour, and the use of *‘strong arm tactics’*. One patient described staff being *‘manipulative . . . pressing my buttons to see how I reacted’*. However, other patients were positive about staff (Maltman *et al.*, 2008).

Being offered hope was also a recurrent theme in the interviews. Similar to the IMPALOX study (2007) patients said that they *‘wanted to come to hospital to get treatment’*. Many of the patients reported that the assessment and therapeutic interactions had been beneficial: *‘I actually get the feeling that people want us to move on and . . . that gives me a reason . . . to do the best I can to get out.’* Meetings to plan care were also viewed positively, and community meetings were thought to be of especial benefit. However some participants felt that they were given *‘false hope’*, especially about potential length of stay, suggesting that people should be given realistic assessment of their circumstances (Maltman *et al.*, 2008).

4.4.4 People with ASPD and learning or physical disabilities, and acquired cognitive impairments

As reviewed above, it is evident that the experience of many people with antisocial personality disorder is of being excluded from services or from being involved in decision-making concerning their care. This is also the experience of many people with disabilities of various kinds. These include learning disabilities (for example, Kunz *et al.*, 2004), physical disabilities and acquired cognitive impairments (for example, Darke *et al.*, 2008), which are both more prevalent and associated with poor outcomes in antisocial personality disorder. Given these facts, it is important that both the antisocial personality disorder and the disability are recognised and effective treatment offered. For many people little or no adjustment of the intervention programmes will be required but where uncertainty about this exists specialist advice should be sought.

4.4.5 Summary of service user experience

The review of service user experience suggests that a diagnosis of antisocial personality readily brought disadvantages (for example, exclusion from services) and access to the right kind of treatment is often difficult to achieve. The review also confirms the position identified in Chapter 2, that people with antisocial personality disorder have considerable mental health problems including drug and alcohol misuse, anxiety and depression. Indeed some of the *‘coping strategies’*, such as excessive alcohol consumption, could be seen in part as a result of the lack of more effective and appropriate means to deal with some of the comorbid problems.

Organisation and experience of care

Service users clearly valued treatment, including psychoeducation and cognitive-oriented treatments, but they also had a strong preference for positive relationships with staff, which promoted their involvement in their care. For service users in long-term care, being included in the design and planning of their care seemed particularly important. Clarity about the purpose of their treatment, particularly in high security environments, was also highlighted (echoing the needs of staff identified above) as was a need for clarity about transfer between prison services and hospital. In community settings, a positive engaging framework focused on achieving goals and objectives and recognising the multiple problems and pathologies faced by people with antisocial personality disorder is also important.

4.4.6 Recommendations

- 4.4.6.1 Staff, in particular key workers, working with people with antisocial personality disorder should establish regular one-to-one meetings to review progress, even when the primary mode of treatment is group based.
- 4.4.6.2 When working with women with antisocial personality disorder take into account the higher incidences of common comorbid mental health problems and other personality disorders in such women, and:
 - adapt interventions in light of this (for example, extend their duration)
 - ensure that in inpatient and residential settings the increased vulnerability of these women is taken into account.

People with antisocial personality disorder and acquired cognitive impairments

- 4.4.6.3 When a person with learning or physical disabilities or acquired cognitive impairments presents with symptoms and behaviour that suggest antisocial personality disorder, staff involved in assessment and diagnosis should consider consulting with a relevant specialist.
- 4.4.6.4 Staff providing interventions for people with antisocial personality disorder with learning or physical disabilities or acquired cognitive impairments should, where possible, provide the same interventions as for other people with antisocial personality disorder. Staff might need to adjust the method of delivery or duration of the intervention to take account of the disability or impairment.

Autonomy and choice

- 4.4.6.5 Work in partnership with people with antisocial personality disorder to develop their autonomy and promote choice by:
 - ensuring that they remain actively involved in finding solutions to their problems, including during crises
 - encouraging them to consider the different treatment options and life choices available to them, and the consequences of the choices they make.

Developing an optimistic and trusting relationship

- 4.4.6.6 Staff working with people with antisocial personality disorder should recognise that a positive and rewarding approach is more likely to be successful than a punitive approach in engaging and retaining people in treatment. Staff should:
- explore treatment options in an atmosphere of hope and optimism, explaining that recovery is possible and attainable
 - build a trusting relationship, work in an open, engaging and non-judgemental manner, and be consistent and reliable.

Engagement and motivation

- 4.4.6.7 When providing interventions for people with antisocial personality disorder, particularly in residential and institutional settings, pay attention to motivating them to attend and engage with treatment. This should happen at initial assessment and be an integral and continuing part of any intervention, as people with antisocial personality disorder are vulnerable to premature withdrawal from treatment and supportive interventions.

Inpatient services

- 4.4.6.8 Healthcare professionals should normally only consider admitting people with antisocial personality disorder to inpatient services for crisis management or for the treatment of comorbid disorders. Admission should be brief, where possible set out in a previously agreed crisis plan and have a defined purpose and end point.
- 4.4.6.9 Admission to inpatient services solely for the treatment of antisocial personality disorder or its associated risks is likely to be a lengthy process and should:
- be under the care of forensic/specialist personality disorder services
 - not usually be under a hospital order under a section of the Mental Health Act (in the rare instance that this is done, seek advice from a forensic/specialist personality service).

4.5 CARER EXPERIENCE

4.5.1 Introduction

The Care Services Improvement Partnership summarised the findings of the ‘Carers and Families of People with a Diagnosis of Personality Disorder Conference’ held in October 2005 (CSIP, 2006). The aim of the conference was to engage with carers to find out what the impact of caring for people with personality disorder meant for them, to identify areas for improvement and to identify good practice. The report of that conference is summarised below.

4.5.2 Diagnosis and stigma

Carers stated that obtaining information about the diagnosis from healthcare professionals was difficult. They felt that psychiatrists did not want to use the term 'personality disorder' and that they often lacked the skills and knowledge to help service users with a personality disorder. Carers thought that people were diagnosed with personality disorder once they had not responded to traditional treatment, rather than receiving a diagnosis based on symptoms. Some carers felt that being given the diagnosis had been helpful; however, they felt that because of the stigma associated with the disorder, professionals were reluctant to give a diagnosis of personality disorder for fear that their clients would be treated differently. Carers also reported that the diagnosis 'attracted less sympathy' than a diagnosis of severe mental illness.

With regard to stigma, carers felt that overall they could talk to their friends and neighbours about the difficulties associated with personality disorder, but that the stigma came from the professionals not wanting to work with service users with the diagnosis. There was a strong suggestion that training for staff (and carers) should be developed to address this issue. Carers were confident that they had much to offer to professionals and that education of staff should include specific content on the needs of carers, with carers being involved in the training. There was a recognition that personality disorder did not 'sit comfortably' within the healthcare system, and that such training could help to address this problem.

4.5.3 Carers' experience of staff, confidentiality and access to information

Carers felt that professionals often did not see beyond the service user and that staff were not always sympathetic to their needs. Carers reported considerable anger at having to care for family members to the point of hospitalisation, and then not to be given any information about the person's condition in hospital. GPs were felt by carers to be an important entry point to gain information. People felt that even having a poster in their GP's surgery would be useful as this would either make them think about talking to the GP regarding their responsibility of caring for someone with personality disorder, or would encourage them to ask the GP about support services.

Where agencies were involved, carers felt that poor inter-agency communications were the norm. Their experience was that professionals had limited knowledge of other services. The carer often felt that they knew more about the bigger picture than any single agency or professional but that their expertise and knowledge were disregarded.

4.5.4 Support

Carers felt that time and direct support for them was important to help them cope. They typically reported feeling very isolated, and though they acknowledged various carer support groups, many felt that they had not been given any support to understand

the diagnosis of personality disorder. Carers expressed that they wanted access to carers' networks or self-help and support groups so that they could learn from other people with similar experiences and also share good practice. Parents of people with personality disorder were often left feeling to blame for their child's problems. One carer expressed that: *'I need reassurance. I feel that somehow I have let my child down, what could I have done differently, what can I do with these feelings?'* Carers also felt that more work needed to be done around early intervention and that the issue of parents with a personality disorder required further attention

4.5.5 Summary of carer experience

Carers of people with antisocial personality disorder often bear the major burden of care. The nature of the antisocial and offending behaviour often associated with the disorder may mean that carers are treated unsympathetically, although they themselves may have considerable needs as a result of the behaviour of their family member. Carers are keen to be involved to gain more information and to build collaborative relationships with health and social care professionals. Families have the same rights to support and containment as other families caring for a person with a significant mental health problem.

4.5.6 Recommendations

Involving families and carers

- 4.5.6.1 Ask directly whether the person with antisocial personality disorder wants their family or carers to be involved in their care, and, subject to the person's consent and rights to confidentiality:
- encourage families or carers to be involved
 - ensure that the involvement of families or carers does not lead to a withdrawal of, or lack of access to, services
 - inform families or carers about local support groups for families or carers.
- 4.5.6.2 Consider the needs of families and carers of people with antisocial personality disorder and pay particular attention to the:
- impact of antisocial and offending behaviours on the family
 - consequences of significant drug or alcohol misuse
 - needs of and risks to any children in the family and the safeguarding of their interests.

4.6 OVERALL SUMMARY

This chapter covered the organisation of services and the experiences of staff who provided them and the services users and carers who are in receipt of the services.

Organisation and experience of care

A number of common themes can be identified across all three areas, which include: clarity about the purpose of the services provided; the need to challenge prejudice and therapeutic pessimism; the need to involve staff, service users and carers in the planning and delivering of care; and a significant increase in the range and quality of training and the requirement to back this up with continuing support and supervision. It also clear that this effort should not only be multi-disciplinary—if it is to be successful it should also involve more than one agency.

5 INTERVENTIONS IN CHILDREN AND ADOLESCENTS FOR THE PREVENTION OF ANTISOCIAL PERSONALITY DISORDER

5.1 INTRODUCTION

The diagnostic criteria for antisocial personality disorder stipulate that there must be evidence of conduct disorder in childhood (see DSM-IV; APA, 1994). This is consistent with epidemiological and other evidence, which demonstrates an early developmental trajectory for antisocial problems and other related difficulties (see Chapter 2). These factors, taken together with the considerable pessimism that has existed regarding treatment of antisocial personality disorder in adults, and the limited evidence that has been collected demonstrating the effectiveness of such treatment, have led to an increasing focus on interventions for children and their families to prevent the development of conduct disorder and subsequent antisocial personality disorder.

As was highlighted in Chapter 2, the development of conduct or related problems in childhood and adolescence does not mean that a person will inevitably develop antisocial personality disorder. Estimates of the probability that children who develop conduct disorder or related problems will go on to develop antisocial personality disorder generally range from 40% (Steiner & Dunne, 1997) to 70% (Gelhorn *et al.*, 2007). Despite this variation, it seems clear that preventive interventions targeting conduct disorders in children have the potential to substantially reduce antisocial personality disorder occurrence and/or severity. The reduction of the degree of distress and damage caused to children and their families as a result of a child's chronic conduct problems is itself, of course, a worthwhile venture. The focus in this particular chapter, however, is on the longer-term implications of treating and preventing conduct disorder in children and adolescents.

This chapter will first consider risk factors associated with the development of antisocial personality disorder (see Section 5.2). This will be followed by assessing the evidence regarding the effectiveness of early interventions for antisocial and other behavioural problems and interventions targeting children at risk of developing conduct disorder and antisocial personality disorder in later childhood or adulthood. These interventions are primarily focused on risk factors related to the parent(s), rather than the child, and they require at-risk children to be identified before the emergence of symptoms, which may be in early childhood, infancy, or even during pregnancy (see Section 5.3). The chapter will then consider separately the evidence regarding particular preventive interventions (see Section 5.4), including interventions that directly target the child (for example, Kazdin, 1995), interventions addressing the parents (for example Webster-Stratton, 1990), interventions directed at families (for example Szapocznik *et al.*, 1989) and interventions that simultaneously target families and the wider social environment (for example Henggeler *et al.*, 1992).

5.2 RISK FACTORS

5.2.1 Introduction

Early interventions for the prevention of antisocial personality disorders are reviewed in Section 5.3. An important debate regarding public health interventions concerns whether to focus these interventions on the population as a whole (universal prevention) or on individuals more likely to develop the disorder in the future (selected and indicated prevention). Universal prevention interventions seek to shift the population distribution of the disorder as a whole with the aim that those at the extremes of the distribution will benefit from this reduction in overall incidence of the disorder in the population. In addition, as the population is the focus of the interventions those individuals with a greater risk of developing the disorder are not stigmatised (see Farrington & Coid, 2003).

In contrast, selected and indicated preventative interventions require identifying people at risk of developing the disorder and targeting them for intervention. The advantage of this approach is that those at greatest risk receive intensive intervention and therefore such an approach is more likely to be cost effective. However, there are problems associated with the impact of labelling children (as has been discussed in more detail in Chapter 2). A further difficulty is that currently there is no specific tool or measure that can identify the relatively small number of people who go on to develop antisocial personality disorder with particularly high precision (Moran & Hagell, 2001). Advances in the knowledge of risk factors may enable identification of those at greatest risk who might particularly require intervention (Hill, 2003).

Few studies have directly sought to identify risk factors for the development of antisocial personality disorder (see Farrington & Coid, 2003). However, there are a number of studies that have examined predictors of antisocial behaviour and/or offending in adulthood that are likely to be informative in evaluating the developmental pathway to antisocial personality disorder.

5.2.2 Definition and aim of review

The aim of this review is to assess risk factors for the development of antisocial personality disorder. Risk factors reviewed in this section fall into three main categories: individual (relating to the child), family (relating to the family of the child) and social (relating to the social environment of the child).

5.2.3 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 4. Only studies with outcome data on offending and/or the proportion of participants meeting diagnostic criteria for antisocial personality disorder or conduct disorder were included. Only cohort studies with

Table 4: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library
Date searched	Database inception to June 2008; table of contents June 2008
Study design	Prospective cohort studies
Patient population	People with individual, family or social factors associated with risk of developing antisocial personality disorder
Interventions	Psychosocial interventions
Outcomes	Diagnosis of antisocial personality disorder, diagnosis of conduct disorder, offending behaviour

a minimum of 5 years' follow-up period and a minimum age at follow-up of 15 years were included.

5.2.4 Studies considered⁴

The review team conducted a new systematic search for cohort studies that assessed the risk factors for developing antisocial personality disorder. Twenty-nine trials examining clinical outcomes met the eligibility criteria set by the GDG. All were published in peer-reviewed journals between 1989 and 2008. In addition, 22 studies were excluded from the analysis. The most common reason for exclusion was that the data were not extractable.

5.2.5 Clinical evidence for risk factors

Evidence from the important outcomes and overall quality of evidence are presented in Table 5 (further information about included studies can be found in Appendix 17).

Studies used a variety of outcomes, therefore only very broad risk factors could be combined in the meta-analysis. As expected, child behaviour problems were associated with greater risk of antisocial personality disorder outcomes at preschool (odds ratio [OR] = 1.91; 1.66, 2.19), middle school (OR = 2.56; 2.10, 3.12) and adolescence

⁴ Here and elsewhere in the guideline, each study considered for review is referred to by a study ID in capital letters (primary author and date of study publication, except where a study is in press or only submitted for publication, then a date is not used). The references for studies in this section can be found in Appendix 17.

Table 5: Study information and summary evidence table on risk factors for developing antisocial personality disorder

	Risk factors identified in early childhood (0–5 years)	Risk factors identified in mid childhood (6–11 years)	Risk factors identified in adolescence (12–18 years)
Total no. of trials	6 studies	17 studies	10 studies
Study ID	BOR2004 FERGUSON1994 KOSKINEN2001 KRATZER1997 RAINE1994 STEVENSON2001	BABINSKI1999 BIEDERMAN1996 FARAONE1997 FARRINGTON1989 FERGUSON1994 HERRENKOHL2000 LOEBER1991 LOEBER1995 LUNTZ1994 MANNUZZA1998 MOFFITT2002 PAKIZ1997 SATTERFIELD1997 SOURANDER2006 TREMBLAY1994 WALKER1997 WIESNER2003A WIESNER2003B	FARAONE1997 FARMER2004 FARRINGTON1989 FERGUSON1994 HELGELAND2005 KLEIN1997 MCCABE2005 MOFFITT2002 RITTER2002 WHITE2001
Risk factors	Early childhood behaviour problems OR = 1.91 (1.66, 2.19) Family factors (maternal rejection, one parent family, parent separation) OR = 3.47 (1.80, 6.69)	Childhood factors <i>Behaviour problems</i> OR = 2.56 (2.10, 3.12) <i>IQ</i> OR = 2.00 (1.83, 2.18) <i>ADHD</i> OR = 6.22 (4.06, 9.54) Family factors <i>Parenting behaviour</i> OR = 2.64 (1.94, 3.59) <i>Parental separation and/or disharmony</i> OR = 2.23 (1.89, 2.64) Social factors (parent education, low income) OR = 2.39 (1.89, 3.04)	Adolescent factors <i>Behaviour problems</i> OR = 3.05 (2.56, 3.63) <i>IQ</i> OR = 2.12 (1.92, 2.33) Family factors <i>Combined outcomes</i> OR = 2.50 (1.82, 3.41) <i>Family antisocial behaviour</i> OR = 2.47 (1.82, 3.35) <i>Parental separation and/or disharmony</i> OR = 2.22 (1.27, 3.85)
Age at follow- up	18–32 years	15–32 years	20–32 years

(OR = 3.05; 2.56, 3.63). Although the presence of attention deficit hyperactivity disorder (ADHD) appeared to be a slightly stronger predictor (OR = 6.22; 4.06, 9.54).

There were a variety of family risk factors reported including parenting styles, parents' antisocial behaviour and parental disharmony/separation. These effects were all of a similar magnitude, for example, in the combined family measure in adolescence the OR was 2.50 (1.82, 3.41).

There was slightly less data on social risk factors but in a combined analysis of factors associated with social deprivation the OR was 2.39 (1.89, 3.04).

5.2.6 Clinical summary

There have been a number of studies assessing risk factors for developing offending behaviour and adult behaviour problems, and much less on receiving a diagnosis of antisocial personality disorder. Despite the relatively large number of studies with long follow-up periods it is only possible to draw very general conclusions regarding risk factors in this field.

There appears to be a number of factors associated with antisocial personality disorder including individual child factors (for example, exhibiting behaviour problems as a child, having a diagnosis or showing symptoms of ADHD), family factors (for example, parental antisocial behaviour and harsh parenting style) and social factors (for example, low socioeconomic status). However it should also be reiterated that although these factors may be associated with a greater risk of developing antisocial personality disorder, the majority of children with such risk factors will not in fact develop the disorder in adulthood.

5.3 EARLY INTERVENTIONS

5.3.1 Introduction

The primary aim of early interventions for antisocial and other behavioural problems and interventions targeting children at risk of developing conduct disorder and antisocial personality disorder in later childhood or adulthood is preventative, and as such, for the interventions to have any value, mechanisms must be in place to identify those children, and their families, who might derive benefit from them. The current 'lingua franca' of prevention is based on the work of Gordon (1983), popularised by the Institute of Medicine report. It differentiates between three strategies of prevention, each defined by the group they target: (1) universal, (2) selected and (3) indicated.

Universal strategies of prevention are directed at the general population. Where applicable, the term is to be preferred over the more traditional designation of 'primary prevention', because it specifies that the population to which the intervention is applied is not pre-selected. Universal preventive strategies may, and most often do, identify high-risk *populations*, but unlike selected intervention programmes, they do not seek to identify or target *individuals within a population* based on *individual*

characteristics indicative of high risk. Thus the programme is delivered universally. It is the population that is at risk (and in these interventions, that risk is generally low), not the individual within the population.

Selected prevention intervention, as a category, generally overlaps with 'secondary prevention', although it also includes some interventions that would be considered primary preventions. These strategies are applied to people who are markedly at risk of developing the disorder or who show its very early signs. Interventions tend to focus on the reduction of risk and the strengthening of resilience. Risk is obviously higher in these selected groups. Often this is a result of a concentration of risk factors rather than the intensity of any one factor. Hence poverty, unemployment, inadequate transportation, sub-standard housing, parental mental health problems and marital conflict may come together to affect a particular child and may be addressed in preventive programmes. For example, the Elmira Project (described fully below; see Olds *et al.*, 1997), found that an early intensive nurse home visitation intervention worked well to prevent child maltreatment in the early years and delinquency at 15 years' follow-up, but only in the highest risk group. These individuals were identified by the mother's age, low socioeconomic status and single parent status.

Indicated intervention, as a category, approximately mirrors the category of tertiary prevention. These interventions are aimed at specific disorder groups, and they target people in whom prodromal symptoms of the disorder are already evident but the full disorder has not yet developed. The treatment of conduct disorder, for example, can be conceptualised as an indicated intervention for antisocial personality disorder, since conduct disorder is part of the diagnostic criteria for antisocial personality disorder. It is often hard to identify an intervention as selected or indicated based on the therapeutic activity that is involved because treatment of conduct disorder can also be regarded as a selected preventive intervention, since conduct disorder can be a risk factor for antisocial personality disorder. Cognitive behavioural therapy (CBT), for example, may be used as a treatment strategy in both selected and indicated prevention interventions for antisocial behaviour problems. Also, in practice, modern intervention programmes tend to combine universal, selective and indicated prevention into complex packages (for example, Conduct Problems Prevention Research Group, 1992).

Behavioural problems affect approximately one in seven children and have in themselves major societal, economic and personal ramifications (Scott, 2007). If untreated, up to 50% of preschool children exhibiting behavioural problems will subsequently develop severe mental health disorders, disorders such as conduct disorder and oppositional defiant disorder, and depression (for example, Tremblay *et al.*, 2004), and the social costs of non-treatment additionally encompass the various consequences that these disorders entail, such as truancy, family stress, substance misuse, delinquency and unemployment (Barlow & Stewart-Brown, 2000). The evidence in support of management approaches to behavioural problems (including individual psychotherapy and parenting programmes), will be considered in Section 5.4. Parenting programmes share many elements with prevention programmes in that both aim to reduce harsh and abusive parenting, increase warm parenting and educate parents about normal development (for example, Barlow *et al.*, 2005). Given that

treatment services are unlikely to ever be able to meet the needs of all children with behavioural problems, the prevention of these difficulties may be an appropriate first step in reducing the prevalence and/or severity of antisocial personality disorder.

There have been many thousands of studies evaluating the effectiveness and benefits of preventive interventions for conduct disorder, although fewer RCTs (Buckner *et al.*, 1985; Durlak, 1997; Mrazek & Haggerty, 1994; Trickett *et al.*, 1994). In general, quasi-experimental investigations produce promising findings, but in the vast majority of cases, such positive results do not stand up to more rigorous RCT tests (Olds *et al.*, 2007). Even more disappointing is the fact that only a handful of controlled studies have followed samples for long enough to provide clear indications of whether antisocial personality disorder may be prevented through early intervention with asymptomatic children.

Current practice

Practitioners in children's services in the UK have become increasingly interested in focusing on prevention to address emotional and behavioural problems, including conduct disorder and related problems, in children and adolescents. A major initiative, the Sure Start Local Programmes, began in 1998 to address the needs of at-risk children by targeting those children and their families. The current prevailing view is that this programme has had only limited success, and this is generally attributed to the fact that the programme was insufficiently targeted on the families with most need (Belsky *et al.*, 2006). However, as a response to these limitations, changes were made to the programmes, including specifying services more clearly, placing greater emphasis on the child's well-being, focusing on reaching the most vulnerable and adjusting provision to take into account family disadvantage (Melhuish *et al.*, 2007; Belsky *et al.*, 2006).

The most recent evaluation suggests these modifications may have had an impact on outcomes (Melhuish *et al.*, 2008). There were improvements (small-to-medium effect sizes) in the home learning environment, families accessing services and reduced parenting risk. However, benefits of the programme for child development were of a small magnitude. There were no statistically significant effects on the naming vocabulary sub-scale of the British Ability Scale or on child negative social behaviour and small statistically significant effects on child positive social behaviour and independence (Melhuish *et al.*, 2008). There was some evidence that improvements to parenting and family outcomes may in turn lead to improved child outcomes but this has yet to be conclusively shown.

More recently, there has been an interest in developing and implementing programmes using the model of those developed by David Olds (see above). Such programmes, targeting vulnerable parents and children, are currently being carried out and the feasibility of their use in the UK has been tested (Barnes *et al.*, 2008; see below).

5.3.2 Definition and aim of review

The aim of this review is to assess early interventions for antisocial and other behavioural problems and interventions targeting children at risk of developing conduct disorder and antisocial personality disorder in later childhood or adulthood. Programmes under review fall into each of the three main categories of prevention discussed above (that is, universal prevention, selected prevention and indicated prevention).

5.3.3 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 6. This narrative review is restricted to studies with follow-up data on participants at a minimum of 15 years of age and a minimum follow-up period of at least 8 years. Only studies with outcome data on offending and/or the proportion of participants meeting diagnostic criteria for antisocial personality disorder were included.

5.3.4 Studies considered

The review team conducted a new systematic search for RCTs and quasi-experimental studies that assessed the benefits and disadvantages of early interventions for preventing antisocial personality disorder.

Seven trials examining clinical outcomes met the eligibility criteria set by the GDG (McGauhey *et al.*, 1991; Olds *et al.*, 1997; Schweinhardt *et al.*, 1997; Lally *et al.*, 1988; Campbell & Ramey, 1994; Reynolds, 1991; Hawkins *et al.*, 1991). All were published in peer-reviewed journals and books between 1988 and 2007. Fifty-

Table 6: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library
Date searched	Database inception to June 2008; table of contents June 2008
Study design	RCTs and quasi-experimental studies
Patient population	Children without behaviour problems followed up until a minimum of 15 years of age
Interventions	Psychosocial interventions
Outcomes	Diagnosis of antisocial personality disorder, offending

four studies were excluded from the analysis. The most common reason for exclusion was an inadequate follow-up period.

5.3.5 Clinical evidence for early interventions

Programmes for parents of infants and toddlers

This section reviews studies of interventions for infants and toddlers. Typically they are targeted at parents of newborn infants and may involve interventions in the antenatal period.

The infant health and development programme

Low birth weight is a risk factor for a range of health and developmental problems. In the early 1980s, McGauhey and colleagues devised a programme consisting of home visiting, parenting groups and educationally enriched day care, the latter designed to promote exposure to increasingly complex cognitive tasks and language experiences (McGauhey *et al.*, 1991). Nine hundred and eighty five low birth weight newborns were assigned either to this programme or to a control condition. The sample was stratified by birth weight, with a very low birth weight group comprising infants weighing less than or equal to 2,000 g and a low birth weight group comprising infants weighing between 2,001 and 2,500 g (Brooks-Gunn *et al.*, 1994). At the most recent follow-up, when children were 18 years old, approximately two-thirds of the sample was still adhering to the assessment protocol. An intent-to-treat analysis of data from this follow-up (McCormick *et al.*, 2006) found the intervention to have beneficial effects in the 2,001–2,500 g group but not for the lower weight sub-sample. The effects were mainly on risk behaviours and on various measures of cognitive competence.

Analysis of the costs of the programme indicated it to be a fairly costly intervention, but a cost-benefit analysis has not been conducted since savings achieved by the programme have not yet been computed (Karoly *et al.*, 2005). The decision to adopt enhanced care arrangements for low birth weight children should await a comprehensive cost-effectiveness analysis.

Nurse home-visiting programmes

Several studies on nurse home-visiting programmes have reported significant success in providing effective developmental support. As part of the treatment programme, the mother's concerns about being involved in a family intervention are addressed with the goal of making the treatment programme more acceptable to these mothers and facilitating treatment delivery (Olds, 2002). In the best researched programme, the Nurse-Family Partnership (NFP), the nurse's work is directed towards a number of aims, such as improving mothers' prenatal health-related behaviours (for example, by reducing mothers' consumption of cigarettes, alcohol and illegal drugs), enhancing the competence of early-life care received by the child, and helping parents develop a vision for their futures, plan subsequent pregnancies, complete their educations, find work, and enhance their economic self-sufficiency. Fathers, grandmothers, and other concerned family members or friends are systematically involved in the programme, which also

involves linking families with health and other services. Nurses receive detailed visit-by-visit programme guidelines to structure their work (Olds *et al.*, 2003).

The NFP model has been tested in three separate RCTs since 1977 (Olds *et al.*, 1997, 1998, 2002, 2004; Kitzman *et al.*, 1997, 2000; Olds *et al.*, 2002, 2004). The first of these studies, conducted in Elmira, New York, with a sample of 400 low income, primarily white families, collected follow-up data on families up to the point the child turned 15 (Olds *et al.*, 1997, 1998). The other two studies, one in Memphis with a sample of 1,138 low income, primarily African American families (Kitzman *et al.*, 1997, 2000), and one in Denver with a sample of 735 families, including a large portion of Hispanics (Olds *et al.*, 2002, 2004), yielded data that provided, though not unequivocally, additional support for the approach, although neither study reported follow-up data beyond 6 years. High rates of adherence to the evaluation protocol were achieved in the studies, with between 81 and 86% of mothers randomised being successfully followed-up for assessment at 4 to 15 years.

Data from the 15-year follow-up of the Elmira sample (Olds *et al.*, 1997) showed differences in rates of state-verified reports of child abuse and neglect between treatment and control groups, with families visited by nurses during pregnancy and infancy being 48% less likely to be identified as perpetrators of child abuse and neglect; for families with unmarried mothers and for low socioeconomic status families, the effect of the programme on maltreatment was increased, but if there was domestic violence in the household, the effect of the programme on maltreatment was reduced. There were also fewer arrests, convictions and days of incarceration among mothers visited by nurses. Importantly for this guideline, young people whose mothers were visited by nurses had 59% fewer arrests and 90% fewer adjudications as persons in need of supervision for incorrigible bad behaviour. They had fewer (although not quite significant statistically) convictions and violations of probation and fewer sexual partners. These and other beneficial effects of the programme were more notable in the families with the most economically deprived unmarried mothers. The impact of the programme was insufficient to cause changes in teachers' reports of behaviour problems, school suspensions and parents' or children's reports of major or minor acts of delinquency (Olds *et al.*, 1998).

The Memphis study replicated many of the initial results from the early follow-ups of the New York project (Kitzman *et al.*, 1997, 2000). In the Memphis study, follow-up in middle childhood revealed that children in the experimental group had higher intellectual functioning and receptive vocabulary, fewer behavioural problems in the borderline or clinical range and expressed less aggression and incoherence in response to story stems compared with children in the control group (Olds *et al.*, 2004). Nurses in the Denver trial produced effects consistent with the previous two trials (Olds *et al.*, 2002, 2004), and testing at 4-year follow-up showed more advanced language, superior executive functioning and better behavioural adaptation in those children from the nurse-visited group whose mothers had low psychological resources than in similar children from the control group. Notably, paraprofessionals, who were also employed to deliver the programme, produced about half the effects that nurses were able to deliver.

Based on these three trials, the Washington State Institute for Public Policy estimated that for every family served by nurses, society experiences a \$17,000 return on

the investment (Aos *et al.*, 2004). Thus, according to US evaluations, the NFP qualifies as an evidence-based community health programme, one that can help transform the lives of vulnerable mothers pregnant with their first children. A key element of implementation is enrolling first-time, low-income mothers early in pregnancy.

NFP is currently being implemented in ten pilot sites in England (Barnes *et al.*, 2008). Families have been recruited through NHS systems, with age as the single inclusion criteria for expectant first-time mothers under 20 years (income data not often available) and a slightly more elaborate set of inclusion criteria applied to expectant first-time mothers between the ages of 20 and 23 years (not in employment, education or training and never employed/had no qualifications or no stable relationship with the baby's father). In the first year, in all pilot sites, a total of 1,217 young mothers (average age 17.9 years, range 13 to 24 years), or 87% of those eligible for the programme, were successfully given treatment. Out of 7,500 nurse visits, a father was present for 1,820.

The first-year report of the evaluating team (Barnes *et al.*, 2008) suggest that delivery of NFP programmes meeting standards for good treatment fidelity is possible in the UK. This conclusion was based on the following observations:

1. Appropriate clients have been recruited.
2. NFP was delivered effectively in all sites.
3. NFP was acceptable to UK clients.
4. NFP was acceptable also to fathers and other family members.
5. NFP was acceptable to health visitor practitioners delivering the programme.
6. Organisational infrastructure and support were seen as favourably impacting on successful delivery.

Initial indicators of effectiveness are promising, with many clients reporting plans to return to education, closer involvement of fathers with infants, greater confidence as parents, and engaging in activities with children likely to enhance cognitive and social development. The data so far collected on the health-related changes that have already been observed in mothers as a result of treatment participation (for example, reduced smoking) may reasonably be expected to enhance child health and reduce negative child outcomes (for example, asthma).

In England, as in the US, NFP appears to function as an important bridge to other services for the most 'hard-to reach'. However, the history of prevention efforts make it clear that the true impact of NFP in the UK cannot be determined until a randomised UK trial has been conducted.

Preschool programmes for infants and toddlers

This section reviews studies on interventions for infants and toddlers typically at 6 months and up to 5 years of age. These interventions may involve preschool nursery programmes, educational interventions, and home visiting.

The High-Scope Perry Preschool Project

Of all preschool programmes aimed at disadvantaged children, the Perry Preschool Project is perhaps the best documented. The programme's initial goal (Schweinhart *et al.*, 1993) was to better equip poor minority children for school entry. It focused on poor families from a high-risk group, had low attrition rates and a follow-up to

age 40. It included 30 weekly special classes each lasting 2½ hours, as well as weekly home visits by teachers. Most children participated for 2 years. Active learning and the facilitation of independence and self-esteem were the focus of the intervention. Problem-solving skills and task persistence were also strongly encouraged. The teachers were highly skilled, supervised and had a special brief to establish good home-school integration.

In the study under review, this high-scope intervention was contrasted with two controls: a behavioural programmed learning approach and a child-centred nursery programme. The last follow-up occurred when the child reached the age of 40 years. Up to adolescence, the high-scope group fared best and the programmed learning group fared worst (Schweinhart *et al.*, 1985). At age 19, only 15% of children in the high-scope intervention group had been classified as 'mentally retarded' whereas 35% of the control group had been so labelled. While over half of the children in the control groups had been arrested, only 31% of the high-scope group had ever been detained (RR = 0.6, 95% CI: 0.38, 0.95). In the follow-up to age 27, lifetime arrest rates in the high-scope group were half those of the control groups. While minor offences and drug-related arrests accounted for much of this difference, recidivist crime was also reduced in the intervention group. Overall, 33% of the control groups but less than 7% of the high-scope group had been arrested more than five times (RR = 0.21, 95% CI: 0.07, 0.58). Similar improvements were observed in teenage pregnancy rates, high school graduation, home ownership and social benefits. Cost-benefit analysis revealed that the programme saved the US taxpayer \$7 for each dollar spent. This return was accrued from savings in welfare, social services, legal and incarceration expenditures (Schweinhart *et al.*, 1993; Schweinhart & Weikart, 1993).

The last follow-up reported progress to age 40, and 112 out of 123 of the adults who had participated in the study as children were interviewed (Schweinhart, 2007). Fifty-five per cent of the comparison but only 36% of the programme group had been arrested at one time (RR = 0.65, 95% CI: 0.43, 0.98). Forty-eight per cent of the no-programme group but only 32% of the programme group were arrested for one or more drug-related crimes (RR = 0.41, 95% CI: 0.19, 0.85). Significant group differences in arrests and crimes cited at arrests appeared consistently throughout the study participants' lifetime, but significant group differences in conviction and sentences appeared only at ages 28 to 40. Compared with the no-programme group, the programme group had significantly fewer members sentenced to prison for felonies from ages 28 to 40 (RR = 0.28, 95% CI: 0.09, 0.79).

The Syracuse University Family Development Research Programme

In the Syracuse University Programme the focus was on infant development, home-care and parenting skills (Lally *et al.*, 1988). Home and day care centre curricula were designed to foster active initiative and participation, as well as a sense of self-efficacy. The programme involved the use of sensorimotor and language games to enhance cognitive development in the infant. In weekly home visits by paraprofessionals, the role of the parent as primary teacher for the child was emphasised. One learning game was played at each visit. Support regarding employment, referral, and family relations was also provided to parents during home visits. Transportation of parents and

siblings to the child care centre for activity meetings was offered. The programme included high-quality half-day care for infants aged 6 to 15 months and full day care for those aged 15 to 60 months.

The sample was of a medium size ($n = 108$). There was no randomisation, and families receiving the intervention were compared with a matched comparison group, but this group was recruited only when the project children were already 3 years of age. The mean age of the mothers was 18 years, and more than 85% were single. All had low incomes and the majority were African-Americans.

The intervention continued until the infant reached the age of 5 years. A quarter (24%) of the children in the programme did not complete all 5 years of the intervention, and only 50 to 60% completed the follow-up at age 15. At follow-up, girls who had participated in the programme were found to be doing better in school than control girls based on grades, attendance, and teacher-rated self-esteem and impulse control. Boys in the two groups did not differ on measures of school performance, but for both boys and girls self-regard was more positive in the intervention group than in the control group, based on self-report measures. The rate of delinquency in the intervention group, calculated from police data, was 6%, whereas in the control group it was 22% (RR = 0.27, 95% CI: 0.09, 0.81).

There were also differences in terms of the seriousness of offences and the cost of crimes committed between the two groups. Lifetime average probation costs were calculated for the two groups, and were estimated at \$186 per child in the intervention group and \$1,985 per child in the control group (Lally *et al.*, 1988).

An acknowledgement of the effect of attrition on outcome data would suggest that these results should be treated with caution. It is reasonable to speculate that delinquency rates in families who could not be located for follow-up were quite high, since, of those families who were located, those with a child involved in juvenile delinquency proved the most difficult to find.

The Abecedarian Project

The Abecedarian Project was an RCT of early childhood education for healthy infants from impoverished families living in a small US community in North Carolina (Campbell & Ramey, 1994). One hundred and eleven infants from low income high-risk families were recruited to the project between 1972 and 1977 and randomised to receive the 5-year preschool intervention from infancy to age 5 years. Both groups received nutritional supplements and social services assistance, with the experimental group also receiving an educational intervention in a child care centre during the first 5 years. The focus of the programme was on cognitive and fine motor development, social and adaptive skills, language and other motor skills, and the child care centre also encouraged an unusually high level of parental involvement and offered social support.

The two groups were re-randomised at entry to kindergarten with half of each group receiving additional home-based as well as school-based support for the first 3 years (Ramey & Campbell, 1991). Children in the experimental group obtained higher achievement test scores than control children who had no intervention in either preschool or kindergarten to second grade. The bulk of this difference appeared to be

because of the preschool intervention. There was a further follow-up at ages 12 to 15 (Campbell & Ramey, 1994), where 80% of those children who were randomly assigned and 90% of those who received the assigned intervention were tested. The superiority of the experimental group was maintained and in a significant number of cases it increased. Importantly, the impact of the intervention in kindergarten to second grade did not endure.

One hundred and five participants of the study were followed up in terms of their crime records to age 21 (average age 21.4, range 18.7–23.9). Juvenile delinquency statistics were not reported but extensive data concerning criminal history were obtained. There were no differences between the groups in terms of arrests, regardless of offences, charges or convictions. The relative risk of arrest after age 16 was 1.10 (95% CI: 0.56–2.19). From this study there is no evidence to suggest that early preschool academic input addresses functions that come to impact on serious antisocial behaviour.

The Chicago Longitudinal Study of the Child-Parent Center Programme

The Chicago Longitudinal Study investigated the effectiveness of the Child-Parent Center Programme for more than 1,500 children born in 1979 or 1980. Beginning in preschool, the programme provided comprehensive services that had been administered through the public educational system. The Longitudinal Study of Children at Risk (Reynolds, 1991) examined the effects of a preschool plus a follow-through early intervention programme on later school outcomes in a sample of 1,106 economically disadvantaged families. The intervention had multiple components including parenting education, volunteering in the classroom, low staff-to-child ratios, home visitation and health and nutrition services including referrals by programme nurses. The system of intervention provided a smooth transition to school, it was in place by the age of 2 years and continued until the early grades. The teachers in the programme were well trained and well compensated. The programme was 3 hours per day, 5 days per week during the school year and also included a 6-week summer programme. Parents were expected to participate in the programme for about half a day per week through a variety of supported activities providing many opportunities for positive learning experiences in the school and the home.

The programme group consisted of 989 children and the comparison group of 550 children was drawn from alternative full day kindergarten programmes. There was no random assignment but some children could be divided into groups that were involved in child and parent centres in preschool classes, kindergarten and primary grades. Child and parent centres offered multiple services, emphasising literacy development, reduced class sizes and considerable parent support and involvement. A comprehensive analysis of this naturalistic dataset (Reynolds, 1994) indicated that follow-on from kindergarten and preschool to primary grades was essential for the achievement test superiority to be maintained to grade 5. Primary grade intervention (1 to 3 years) resulted in significant improvement in both school achievement and school adjustment. Participation in the Child-Parent Center preschool intervention was associated with significantly higher rates of school completion by age 20, lower rates of juvenile arrests for both violent and non-violent juvenile offences and lower rate of use of school remedial services (Reynolds *et al.*, 2001).

Extended intervention for 4 to 6 years was linked to significantly lower rates of remedial education and juvenile arrests for violent offences. One thousand, three hundred and sixty eight cases, 888 programme cases and 480 controls were available for the 22- to 24-year outcome assessments and more or less the entire sample was available to obtain crime and employment data. By age 24 years the rate of incarceration for the comparison group was 25.6% compared with 20.6% in the preschool programme group (RR = 0.80, 95% CI: 0.65, 0.98). School-age intervention did not significantly affect incarceration rate (RR = 1.10, 95% CI: 0.90, 1.34). Neither preschool (RR = 0.89, 95% CI: 0.77, 1.03) nor school-age (RR = 1.10, 95% CI: 0.90, 1.34) intervention significantly affected overall rates of arrests but preschool intervention reduced both felony arrests (RR = 0.78, 95% CI: 0.62, 0.98) and felony convictions (RR = 0.79, 95% CI: 0.62, 1.00). Violent crime convictions were also marginally reduced by preschool intervention (RR = 0.71, 95% CI: 0.46, 1.10). Participation in the extended programme was associated with a 32% reduction in rates of arrests (17.9% versus 13.9%; RR = 0.77, 95% CI: 0.59, 1.00) and convictions (RR = 0.68, 95% CI: 0.45, 1.04) for violence. Also quite pertinent in the present context, the findings indicated a dramatic reduction in out-of-home placements from 8.4 to 4.5% associated with the preschool intervention (RR = 0.53, 95% CI: 0.35, 0.81), probably indicative of a reduction in maltreatment.

Regression analyses indicated that the outcomes could be explained by a combination of increased cognitive skills, positive family support, positive post-programme school experiences and increased school commitment.

It should also be noted that there is considerable correlational evidence suggesting that early and prolonged low-quality day care represents a risk factor for negative developmental outcomes (Belsky, 2001; NICHD, 2003; Belsky *et al.*, 2007). However, there is also evidence from the Canadian longitudinal study (Cote *et al.*, 2007) that never having non-maternal care is a risk factor for physical aggression for children of mothers with low educational levels. In this sample (the largest parenting study yet conducted) early non-maternal care (before 9 months) was associated with a very slight increase in aggression in mothers of high education level relative to children who never had non-maternal care. But this was a small effect when compared with the increase of risk associated with the absence of non-maternal care in children of mothers of low education level. The GDG acknowledges that these are complex issues that are hard to argue from correlational data. However, the GDG wishes to assert that this does not indicate that good quality non-maternal care for young children is necessarily harmful in high risk samples (for example, low educational level) as this flies in the face of extant data. In terms of creating opportunities for children of mothers with limited resources, making adequate non-maternal care available is something that statutory providers should consider delivering.

School-based projects

This section reviews studies of school-age children with a mean age of 7 years. Typically these interventions consist of a combination of teacher training, parent training and skills-based interventions for children.

Seattle Social Development Project

This was a classroom-based project beginning in the first grade and ending at sixth grade (Hawkins *et al.*, 1991, 1992, 1995). The aim of the programme was to strengthen the child's bonds with their family and school, thus engendering a high level of adherence to the standards set by both. Bonds were conceptualised as positive emotional feelings towards others (attachment), an investment in a social unit (commitment) and the adoption of the values of that unit (belief). The interventions included teacher training, parent training and social and emotional skills development for the child. The interventions included proactive classroom management, cooperative learning strategies and interactive teaching. There was a component for parents encouraging engagement in the child's education and workshops in social learning principles of child behaviour management. There was a problem-solving curriculum as well as drug refusal skills training. The experimental design involved comparing experimental and control schools with both random and non-random assignment in a complex design.

Beginning in 1981, the intervention was randomly assigned among grade 1 pupils (7 years of age) in classrooms in eight public schools in high crime areas. These children were followed prospectively until 1985 when the study was extended to include grade 5 pupils (11 years of age) in ten additional schools. There were ultimately four groups: a full intervention group (n = 156; 114 available for follow-up) with an average dose of 4.13 years of intervention exposure; a late intervention group (n = 267; 256 available for follow-up) with an average exposure of 1.65 years; a parent training only group (n = 141; most recent study did not analyse this group; Hawkins *et al.*, 2005); and a control group (n = 220; 205 available for follow-up) who received no intervention.

First results were encouraging (Hawkins *et al.*, 1991; O'Donnell *et al.*, 1995). Boys in the high-risk sub-sample who participated in the programme had fewer anti-social peers and appeared to be less likely to be involved in delinquency. In girls the major benefit was in a reduced likelihood of substance use. At age 18 the intervention group reported less lifetime violence, less heavy alcohol use, less school misbehaviour and improved school achievement compared with controls (Hawkins *et al.*, 1999). The findings indicated that the postulated mediating variables were indeed influenced by the programme, even if the impact on delinquency was relatively low. There was substantial impact on sexual behaviour by age 21 including unplanned pregnancies and condom use (Lonczak *et al.*, 2002).

Criminal behaviour was assessed in interviews as well as official records (Hawkins *et al.*, 2005). The full intervention group was less likely to be involved in a high variety of crime (3% versus 9%, RR = 0.33, 95% CI: 0.11, 0.93), to have sold illegal drugs (4% versus 13%, RR = 0.30, 95% CI: 0.12, 0.74), to have abused substances (74% versus 82%, RR = 0.90, 95% CI: 0.80, 1.01) and to have a court record at the age of 21 (42% versus 53%, RR = 0.79, 95% CI: 0.62, 0.99). Although the effects reaching statistical significance were limited and the tests were not corrected for the possibility of Type I error, the full intervention group reported less crime or substance use across all measures indicating a relatively robust effect from the early intervention.

5.3.6 Clinical evidence summary

Early childhood interventions in the first 5 years of a child's life tend to show links to a broad range of positive outcomes. These include higher cognitive skills, school attainment, higher earning capacity, health and mental health benefits, reduced maltreatment and, significantly for this guideline, lower rates of delinquency and crime. Early childhood interventions are quite unique in this regard—there are no other interventions, as far as the GDG was aware, that have generated such a broad set of positive outcomes. That the impact of interventions should extend beyond educational performance to criminal behaviour is hardly surprising given the well-documented relationship between educational outcomes and adult mental health and social behaviour (for example, Chevalier & Feinstein, 2006). There are also indications from a number of studies that early interventions are cost effective in providing both savings and increased well-being that exceed the original investments in the programmes (Karoly *et al.*, 2005; Reynolds & Temple, 2006; Rolnick & Grunwald, 2003). The economic returns of early childhood interventions exceed cost by an average ratio of 6 to 1.

In contrast, the evidence for preschool interventions shows more moderate effects on later offending, with some programmes found not to be effective. A similar picture emerges with school-based interventions where, again, the evidence for effectiveness is modest and weaker than earlier interventions. The economic evidence from the US suggests that, in the long-term, early interventions may result in significant net savings in terms of reduced welfare payments and crime costs and improved future earnings (see below).

5.3.7 Health economics evidence

Three studies that evaluated the cost effectiveness of preschool programmes for infants and toddlers were included in the systematic review of the economic evidence (Nores *et al.*, 2005; Masse & Barnett, 2002; Reynolds *et al.*, 2002). Details on the methods used for the systematic search of the economic literature are described in Chapter 3. Evidence tables for all economic studies included in the guideline economic literature review are provided in Appendix 14.

A long-term cost-benefit analysis of the High-Scope Perry Preschool Programme followed up participants as they reached the age of 40 (Nores *et al.*, 2005). The initial costs of the programme were compared with any long-term benefits in terms of net changes (versus no intervention) in educational attainment, lifetime earnings, criminal activity and welfare payments. From various perspectives (the individual participant, general public and a combination of both), the programme resulted in significant long-term net benefits of between \$49,000 and \$230,000 per participant.

Another long-term cost-benefit analysis was conducted for the Abecedarian project, which followed up participants at age 21 (Masse & Barnett, 2002). Again, initial intervention costs were compared with long-term net benefits in terms of future earn-

Interventions in children and adolescents

ings, maternal earnings, education costs, health improvements and welfare use. The project resulted in significant long-term net benefits of \$100,000 per participant.

Finally, a long-term cost-benefit analysis of the Chicago Child-Parent centre programme was undertaken for participants at age 20 (Reynolds *et al.*, 2002). Initial intervention costs were compared with long-term net benefits in terms of education costs, child care costs, welfare payments, abuse/neglect costs and justice/crime costs. Again, from various perspectives (individual participant, taxpayer, and both), the programme resulted in significant net benefits of between \$12,000 and \$34,000 per participant.

5.3.8 From evidence to recommendations

The GDG considered the evidence available on early interventions and noted that the majority of the interventions were developed in non-UK settings and this raised some questions about the generalisability of the findings. However, the GDG was impressed by the consistent impact of these programmes often on quite disadvantaged families and took the view that the most effective interventions were those targeting families at risk. Existing evidence from the US indicates that early interventions may result in great cost savings for the public sector and the children's families. Early indications from pilot studies conducted in the UK suggest that it may be feasible to deliver these programmes in the UK. The GDG also recognised that the focus on effective identification of at-risk children and their families was central to the effectiveness of these programmes. It was felt that without this focus the impact of the programmes was likely to be significantly reduced and therefore not cost effective.

5.3.9 Recommendations

Identifying children at risk of developing conduct problems and potentially subsequent antisocial personality disorder

5.3.9.1 Services should establish robust methods to identify children at risk of developing conduct problems, integrated when possible with the established local assessment system. These should focus on identifying vulnerable parents, where appropriate antenatally, including:

- parents with other mental health problems, or with significant drug or alcohol problems.
- mothers younger than 18 years, particularly those with a history of maltreatment in childhood
- parents with a history of residential care
- parents with significant previous or current contact with the criminal justice system.

- 5.3.9.2 When identifying vulnerable parents, take care not to intensify any stigma associated with the intervention or increase the child's problems by labelling them as antisocial or problematic.

Early interventions for at-risk children

5.3.9.3 This recommendation has been deleted.

5.3.9.4 This recommendation has been deleted.

5.4 INTERVENTIONS FOR CHILDREN WITH CONDUCT PROBLEMS

5.4.1 Introduction

Current practice

The treatment and management of conduct disorder and related problems in the UK has significantly expanded in recent years. The NICE technology appraisal on parent-training programmes (NICE, 2006b) has had a great impact and programmes based on models developed by Webster-Stratton (Webster-Stratton *et al.*, 1988) among others, are now widely available in the UK.

In addition, a major pilot programme of multisystemic therapy was developed in 2008, which is currently being rolled out in ten sites across the UK. The outcomes of this pilot programme, which is subject to a formal evaluation, may have a considerable influence on the development of interventions for conduct disorder.

However, other approaches that may be of potential value, such as individually-focused interventions including cognitive problem-solving skills, are underdeveloped in the UK. Similarly other interventions, which are reviewed below, such as functional family therapy, multidimensional treatment foster care, or brief strategic family therapy, are not widely available in the UK. This is a particular concern because the primary focus of parent-training programmes is with younger children in the age range of 4 to 10 years. Evidence-based programmes for adolescents, where parent-training programmes may be less effective, are not well developed. Beyond main-stream provision in the NHS by CAMHS, there are also some specialist services (for example, youth offending teams) where these programmes may serve as effective preventive interventions for antisocial personality disorder.

In addition, a substantial proportion of young people with conduct problems will be involved in the criminal justice system where they are likely to receive interventions predominantly based on a cognitive and behavioural approach similar to that provided for adults (see Chapter 7 for further details).

5.4.2 Aim of review and definitions of interventions

The review looked at a wide range of family and individual interventions focused on children. These interventions were divided into four main categories: child-focused (skills-based training for children), parent-focused (behaviour management training for parents), family-focused (seeking to change problem interactions within the family), and multi-component (targeting the family and the wider social environment). The intention at the beginning of the guideline development process was to embed the recommendations in the technology appraisal on parent-training programmes for children with conduct disorder (NICE, 2006b) in this guideline.

Definitions of child-focused interventions

Cognitive problem-solving skills training

The emphasis of this intervention is on children's thought processes that impact on how they behave in interpersonal situations. The intervention includes:

- a) teaching a step-by-step approach to solving interpersonal problems
- b) structured tasks such as games and stories to aid the development of skills
- c) combining a variety of approaches including modelling and practice, role playing, and reinforcement (Kazdin, 2010).

Anger control training

This includes a number of cognitive and behavioural techniques similar to cognitive problem-solving skills training. However this includes training of other skills such as relaxation and social skills and a specific focus on managing anger. This is usually offered to school-age children who are aggressive (Kazdin, 2010).

Social problem skills training

This is a specialist form of cognitive problem-solving skills training that also aims to modify and expand the child's interpersonal appraisal processes through developing a more sophisticated understanding of beliefs and desires in others and to improve the child's capacity to regulate their emotional responses (see Fonagy *et al.*, 2002).

Definitions of parent-focused interventions

Parent-training programmes

The main goals of parent-training programmes are to teach the principles of child behaviour management, to increase parental competence and confidence in raising children and to improve the parent/carer-child relationship by using good communication and positive attention to aid the child's development. These programmes are structured and follow a set curriculum over several weeks; they are mainly conducted in groups, but can be modified for individual treatments. Examples of well-developed programmes are Triple P (Sanders *et al.*, 2000a) and Webster-Stratton (Webster-Stratton, 1988). The focus is primarily on the main caregiver of the child or

young person, although some programmes add a child-directed component (NCCMH, 2009).

Definitions of family-focused interventions

Structural or systemic family therapy

This is a psychological intervention derived from a model of the interactional processes in families. The intention is to help participants understand the effects of their interactions on each other as factors in the development and/or maintenance of behavioural problems. Additionally, the aim is to change the nature of the interactions so that families may develop relationships that are more supportive and have less conflict (NCCMH, 2005a).

Functional family therapy

This is a family-based psychological intervention that is behavioural in focus. The main elements of the intervention include engagement and motivation of the family in treatment, problem-solving and behaviour change through parent training and communication training, and seeking to generalise change from specific behaviours to have an impact on interactions both within the family and with community agencies such as schools (see for example Gordon *et al.*, 1995).

Brief strategic family therapy

This is a psychological intervention that is systemic in focus and is influenced by other approaches such as structural family therapy. The main elements of this intervention include engaging and supporting the family, identifying maladaptive family interactions and seeking to promote new more adaptive family interactions (see for example, Szapocznik *et al.*, 1989).

Definitions of multi-component interventions

Multisystemic therapy

This is the use of strategies from family therapy and behaviour therapy to intervene directly in systems and processes related to antisocial behaviour (for example, parental discipline, family affective relations, peer associations, and school performances) for children or adolescents (Henggeler *et al.*, 1992).

Multidimensional treatment foster care

Like multisystemic therapy, multidimensional treatment foster care also uses strategies from family therapy and behaviour therapy to intervene directly in systems and processes related to antisocial behaviour (for example, parental discipline, family affective relations, peer associations and school performances), but for children or adolescents in out of home placements. This includes family therapy with the child's biological parents and group meetings and other support for the foster parents (Chamberlain & Reid, 1998).

Table 7: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library
Date searched	Database inception to June 2008
Study design	RCT
Patient population	Children with conduct problems
Interventions	Psychosocial interventions
Outcomes	Behaviour problems, offending

5.4.3 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 7.

5.4.4 Studies considered⁵

The review team conducted a new systematic search for RCTs that assessed the benefits and disadvantages of psychosocial interventions for children, and related health economic evidence (see Appendices 8 and 11 respectively).

A total of 97 trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 6,665 participants. Of these, one trial was a report from the Joseph Rowntree Foundation (Scott *et al.*, 2006), one trial was a report of the Washington Institute of Public Policy (Barnoski, 2004), and 95 were published in peer-reviewed journals between 1973 and 2008. In addition, 117 studies were excluded from the analysis. The most common reason for exclusion was lack of relevant outcomes (further information about both included and excluded studies can be found in Appendix 15).

The included trials involved the following comparisons:

- Parent training compared with control (36 trials)
- Parent training plus an additional intervention for children compared with parent training (five trials)

⁵ Here and elsewhere in the guideline, each study considered for review is referred to by a study ID in capital letters (primary author and date of study publication, except where a study is in press or only submitted for publication, then a date is not used). The references for the studies can be found in Appendix 15.

- Parent training plus an additional intervention for parents compared with parent training (six trials)
- Cognitive problem-solving skills training compared with control (five trials)
- Social skills training compared with control (five trials)
- Anger control training compared with control (ten trials)
- Family interventions compared with control (11 trials)
- Multisystemic therapy compared with control (ten trials)
- Multidimensional treatment foster care compared with control (two trials)
- Other multi-component interventions compared with control (four trials)
- Cognitive and behavioural interventions compared with control (eight trials)
- Cognitive and behavioural plus other interventions compared with control (two trials).

5.4.5 Clinical evidence for interventions targeted at children

Evidence from the important outcomes and overall quality of evidence are presented in Table 8 and Table 9. Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

For all of these cognitive skills-based interventions there were a variety of outcomes reported. Wherever possible the primary outcome extracted in the meta-analysis was from a total behaviour scale. Measures specifically related to the content of the programme were judged to be less generalisable.

Cognitive problem-solving skills training

There were five trials on cognitive problem-solving skills training. At end of treatment there was a small-to-medium effect favouring cognitive problem-solving skills training (SMD -0.35 ; -0.59 to -0.10) and this effect was sustained and actually improved at 1-year follow-up (SMD -0.42 ; -0.84 to -0.00).

Anger control

There were ten trials on anger control. Trials that only included interventions for children appeared to be more effective (SMD -0.37 ; -0.58 to -0.16). Interventions that included a parent intervention in addition to anger control training did not appear to be effective (SMD -0.06 ; -0.25 to 0.13).

Social skills training

There were five trials on social skills training. Although the effects were of a similar magnitude as above (SMD -0.35 ; -0.73 to 0.03), there was significant heterogeneity and confidence intervals were compatible with benefit and no benefit.

Table 8: Study information table for trials of interventions targeted at children and/or for the treatment of conduct problems

	Cognitive problem-solving skills training versus control	Social skills training versus control	Anger control training versus control
Total no. of trials (total no. of participants)	5 RCTs (N = 274)	5 RCTs (N = 407)	10 RCTs (N = 1,167)
Study ID	KAZDIN1989 KENDALL1990 MICHELSON1983 VANMANEN2004 WEBSTER-STRATTON1997	DEFFENBACHER1996 DESBIEENS2003 ISON2001 PEPLER1995 VANMANEN2004	BARKLEY2000 DEFFENBACHER1996 FEINDLER1984 LIPMAN2006 LOCHMAN1984 LOCHMAN2002 LOCHMAN2004 OMIZO1988 SHECHTMAN2000 SUKHODOLSKY2000
Diagnosis	Conduct disorder and/or behaviour problems	Behaviour problems	Behaviour problems
Baseline severity	Diagnosis of conduct disorder/oppositional defiant disorder: KENDALL1990 VANMANEN2004 WEBSTER-STRATTON1997 Reported behaviour problems in the clinical range on a behaviour problem scale: KAZDIN1989 Referred for behaviour problems: MICHELSON1983	Diagnosis of conduct disorder/oppositional defiant disorder: ISON2001 VANMANEN2004 Reported behaviour problems in the clinical range on a behaviour problem scale: DEFFENBACHER 1996 ISON2001 Referred for behaviour problems: PEPLER1995	Diagnosis of conduct disorder/oppositional defiant disorder: BARKLEY2000 Reported behaviour problems in the clinical range on a behaviour problem scale: DEFFENBACHER1996 LOCHMAN1984 LOCHMAN2004 Referred for behaviour problems: FEINDLER1984 LIPMAN2006 LOCHMAN2002 OMIZO1988 SHECHTMAN2000 SUKHODOLSKY2000
Treatment length	123 days	219 days	156 days
Length of follow-up	1 year	No long-term follow-up	1 year
Age	Range: 4–13 years	Range: 6–14 years	Range: 5–16 years

Table 9: GRADE evidence summary for interventions targeted at children and/or adolescents with conduct problems (only important outcomes reported)

Cognitive problem-solving skills training compared with control for children and adolescents with conduct problems			
Patient or population: Children and adolescents with conduct problems			
Settings: Schools, psychiatric outpatients			
Intervention: Cognitive problem-solving skills training			
Comparison: Control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Behaviour (end of treatment)	274 (5)	⊕⊕⊕⊕ high	SMD -0.35 (-0.59 to -0.10)
Behaviour (follow-up) (follow-up: mean 1 years)	93 (2)	⊕⊕⊕○ moderate ¹	SMD -0.42 (-0.84 to -0.00)
¹ I-squared >50%			
Anger control compared with control for children with conduct problems			
Patient or population: Children and adolescents with conduct problems			
Settings: Schools			
Intervention: Anger control			
Comparison: Control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Total behaviour problems	357 (7)	⊕⊕⊕○ moderate ¹	SMD -0.37 (-0.58 to -0.16)
¹ Possible issue of reactivity of outcome measure			
Social skills training compared with control for children and adolescents with behaviour problems			
Patient or population: Children and adolescents with behaviour problems			
Settings: Schools			
Intervention: Social skills training			
Comparison: No treatment			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Total behaviour problems	407 (5)	⊕⊕○○ low ^{1,2}	SMD -0.35 (-0.73 to 0.03)
¹ I-squared >50%			
² CIs compatible with benefit and no benefit			

5.4.6 Clinical evidence summary for interventions targeted at children

Interventions that met the criteria of the review were mainly based on cognitive behavioural approaches. Most studies reported small-to-moderate reductions in behaviour problems. However, there was uncertainty whether the promising results on social skills and anger control interventions would translate to everyday clinical practice.

5.4.7 Health economics evidence for interventions targeted at children

No evidence on the cost effectiveness of interventions targeted at children was identified by the systematic search of the literature. Details on the systematic search of the economic literature are provided in Chapter 3.

5.4.8 From evidence to recommendations

There is some evidence for cognitive problem-solving skills training, anger control and social skills training as interventions targeted at children. The evidence for cognitive problem-solving skills training was slightly stronger with good evidence of efficacy at follow-up in children with relatively severe behavioural problems.

However, the evidence for anger control and social skills training was more limited with greater variability in effectiveness and questions about the generalisability of some outcome measures. The GDG judged that their main value may be in treating children with residual problems after cognitive problem-solving skills training, or in treating children when it is not possible to engage the family in treatment. They may also be effective in providing an alternative where children have not fully benefited from family interventions.

5.4.9 Recommendations

- 5.4.9.1 This recommendation has been deleted.
- 5.4.9.2 This recommendation has been deleted.
- 5.4.9.3 This recommendation has been deleted.
- 5.4.9.4 This recommendation has been deleted.
- 5.4.9.5 This recommendation has been deleted.

5.4.10 Clinical evidence for interventions targeted at parents

Evidence from the important outcomes and overall quality of evidence are presented in Table 10 and Table 11. Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

There were a large number of studies of parent training, with 36 trials comparing parent training with control. Parent training in behavioural management is mostly offered in groups but some of the studies were of parents offered this kind of help individually. There was a small-to-medium effect favouring parent training (SMD -0.36 ; -0.51 to -0.22). Heterogeneity was high in the meta-analysis ($I^2 = 63.3\%$), which is explained to some extent by age and level of risk. A subgroup analysis of the data suggests that children up to the age of 11 years appear to be more likely to respond than young people of 12 years or older (children: SMD -0.58 ; -0.78 to -0.39 ; young people: SMD -0.32 ; -0.64 to 0.00) although there is still overlap in confidence intervals. In addition, a subgroup analysis of the data comparing studies of children with different levels of risk (participants rated on factors such as the severity of behaviour problems and socioeconomic status) showed a smaller effect for studies that included participants at greater risk (high risk: SMD = -0.20 ; -0.33 to -0.07 ; less risk: SMD = -0.44 ; -0.54 to -0.33). There appears to be good evidence that adding an intervention (usually cognitive problem-solving skills training) focused on the child adds to the efficacy of parent training compared with parent training alone (SMD = -0.30 ; -0.51 to -0.09). There was less clear evidence for an additional benefit from adjunctive intervention focused on psychological problems in the parents (for example, CBT for depression in the mother; SMD = -0.12 ; -0.35 , 0.11).

It is also important to note that moderators of the effectiveness of parent training have been identified (Dadds *et al.*, 1987a; Dadds *et al.*, 1987b). More severe and more chronic antisocial behaviour and comorbidity with other diagnoses predict reduced responsiveness to treatment, including dropouts and negative outcomes. However inattention, impulsivity and hyperactivity problems increase the size of the response. Extremely high levels of parental negativity towards the child also reduce responsiveness to the programme. Low socioeconomic status is associated with more limited outcomes, in particular if it occurs in combination with social insularity in the family. Maternal psychopathology, in particular depression and life events, has also been found to reduce the effectiveness of parent training. There are also findings indicating that single parent status, only one parent attending, marital disharmony and maternal insecurity of attachment may undermine progress but many of these associations are not found consistently across studies. Families with children in the pre-adolescent age group are more likely to drop out of treatment. The best current evidence-based programmes include modules for targeting these moderating factors; however, their use is more often supported by correlational rather than RCT data, although RCT data does provide some evidence for limited interventions such as telephone reminders (Watt *et al.*, 2007). While the present review does not permit the GDG to make specific recommendations, in general it is desirable to

Table 10: Study information table for trials of interventions targeted at parents for the treatment of conduct problems

	Parent training versus control	Parent training + additional parent intervention versus parent training	Parent training + additional child intervention versus parent training	Parent training + problem-solving versus parent training + education
Total no. of trials (total no. of participants)	36 RCTs (N = 2,509)	5 RCTs (N = 366)	6 RCTs (N = 346)	1 RCT (N = 39)
Study ID	ADAMS2001 BANK1991 BARKLEY2000 BEHAN2001 BODENMANN2008 BRADLEY2003 CONNELL1997 FEINFIELD2004 GARDNER2006 HUTCHINGS2007 IRVINE1999 JOURILES2001 KACIR1999 KAZDIN1987 LOCHMAN2004 MAGEN1994 MARKIE-DADDS2006 MARTIN2003 NICHOLSON1999 NIXON2003 PATTERSON2007 SANDERS2000 SANDERS2000A SCOTT2001 SCOTT2006 STEWART-BROWN2007 STOLK2008 STRAYHORN1989 TAYLOR1998 TURNER2006 TURNER2007 WEBSTER-STRATTON1984 WEBSTER-STRATTON 1988 WEBSTER-STRATTON 1990 WEBSTER-STRATTON 1992 WEBSTER-STRATTON 1997	DADDS1992 IRELAND2003 SANDERS2000A SANDERS2000B WEBSTER-STRATTON 1994	BARKLEY 2000 DISHION1995 DRUGLI2006 KAZDIN1992 NOCK2005 WEBSTER-STRATTON1997	ELIAS2003
Diagnosis	Conduct disorder, oppositional defiant disorder and/or behaviour problems, offending history	Conduct disorder, oppositional defiant disorder and/or behaviour problems	Conduct disorder, oppositional defiant disorder and/or behaviour problems	Behaviour problems
Baseline severity: mean (SD)	Diagnosis of conduct disorder/oppositional defiant disorder: BARKLEY2000 CONNELL1997 JOURILES2001	Diagnosis of conduct disorder/oppositional defiant disorder: DADDS1992 SANDERS2000B WEBSTER-STRATTON1994	Diagnosis of conduct disorder/ oppositional defiant disorder: KAZDIN1992 Reported behaviour	Not relevant

Continued

Table 10: (Continued)

	Parent training versus control	Parent training + additional parent intervention versus parent training	Parent training + additional child intervention versus parent training	Parent training + problem-solving versus parent training + education
	<p>KAZDIN1987 NIXON2003 SCOTT2001 WEBSTER-STRATTON1984 WEBSTER-STRATTON 1997</p> <p>Reported behaviour problems in the clinical range on a behaviour problem scale: BODENMANN2008 FEINFELD2004 GARDNER2006 HUTCHINGS2007 IRVINE1999 KACIR1999 LOCHMAN2004 MAGEN1994 MARKIE-DADDS2006 MARTIN2003 PATTERSON2007 SANDERS2000 SANDERS2000A STEWART-BROWN2007 STOLK2008 WEBSTER-STRATTON 1988 WEBSTER-STRATTON 1990 WEBSTER-STRATTON 1992</p> <p>Referred for behaviour problems: ADAMS2001 BEHAN2001 BRADLEY2003 STRAYHORN1989 TAYLOR1998 TURNER2006 TURNER2007</p> <p>Offending history: BANK1991</p>	<p>Reported behaviour problems in the clinical range on a behaviour problem scale: SANDERS2000A</p> <p>Referred for behaviour problems: IRELAND 2003</p>	<p>problems in the clinical range on a behaviour problem scale: DISHION1995 DRUGLI2006</p>	
Treatment length	Mean: 140 days	Mean: 81 days	Mean: 150 days	126 days
Length of follow-up	Longest: 3 years	Longest: 1 year	Longest: 1 year	N/A
Age	Range: 1–18 years	Range: 2–9 years	Range: 6–14 years	Range: 8–11 years

Table 11: GRADE evidence summary for trials of interventions targeted at parents for the treatment of conduct problems (only important outcomes reported)

Parent training compared with control for children with behaviour problems			
Patient or population: Children with behaviour problems			
Intervention: Parent training			
Comparison: Control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Total behaviour problems (end of treatment) Total behaviour problems	2509 (36)	⊕⊕○ moderate ¹	SMD -0.36 (-0.51 to -0.22)
Conduct disorder/oppositional defiant disorder specific behaviour (end of treatment) Conduct problems	1403 (14)	⊕⊕○ moderate ¹	SMD -0.26 (-0.48 to -0.03)
Behaviour (follow-up) Total behaviour problems (follow-up: 12 months)	621 (9)	⊕○○ low ^{1,2}	SMD -0.29 (-0.58 to 0.00)
¹ I-squared >50%			
² CIs compatible with benefit and no benefit			
Components of parent training for children with behaviour problems			
Patient or population: Children with behaviour problems			
Intervention: Components of parent training			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Enhanced parent training (behaviour) – parent training + child intervention versus parent training	346 (5)	⊕⊕⊕ high	SMD -0.30 (-0.51 to -0.09)
Enhanced parent training (behaviour) – parent training + enhancement for parent versus parent training	290 (5)	⊕⊕⊕○ moderate ¹	SMD -0.12 (-0.35 to 0.11)
Enhanced parent training (attrition) – number of sessions attended	76 (1)	⊕⊕⊕○ moderate ²	SMD -0.38 (-0.84 to 0.07)
¹ CIs compatible with benefit and no benefit			
² Only one study			

include additional treatment modules in parent-training programmes that are likely to prevent the premature termination of treatment.

A number of individual parent training programmes have been evaluated and found to be effective (Nixon *et al.*, 2003). For younger children (typically between 3 and 6 years) one of the most prominent is parent-child interaction therapy (PCIT) (for example, Schuhmann *et al.*, 1998). For older children (typically between 5 and 12 years) the parent management training programmes developed in Oregon have also been shown to be effective (for example, Patterson *et al.*, 1982). However, it is difficult to make comparisons of effectiveness of group versus individual administration as it is rarely a subject of tests. Overall effect sizes for individual parent-training programmes are also confounded by lack of commensurability in terms of the clinical characteristics of the sample.

5.4.11 Clinical evidence summary for interventions targeted at parents

There is a very large evidence base confirming the effectiveness of parent training in a range of populations in a number of countries. There was significant heterogeneity in the meta-analysis; subgroup analyses suggest that differences in the ages of the children and in level of risk may explain, to some extent, some of the inconsistency. Given the limited evidence for individual parent-training programmes and the lack of comparators with the stronger evidence base for group-based training programmes the GDG decided to focus the recommendations on group-based interventions.

There are also a growing number of studies assessing adjuncts to parent training. The results of the meta-analysis suggest that a cognitive problem-solving intervention targeted at the child may be effective. Adjuncts targeted specifically at the parent's mental health problems were slightly less effective.

5.4.12 Health economic evidence for interventions targeted at parents

The only study identified by the systematic search of economic evidence that met the inclusion criteria for review was an economic analysis of parent training for children with conduct disorders (Dretzke *et al.*, 2005) undertaken for the NICE technology appraisal (NICE, 2006b). According to the technology appraisal, parent training was found to be cost effective and was recommended for implementation in health and social care settings. Details on the methods used for the systematic search of the economic literature are described in Chapter 3. Evidence tables for all economic studies included in the guideline economic literature review are provided in Appendix 14.

Economic analysis in the NICE technology appraisal on parent-training/education programmes for children with conduct disorders (NICE, 2006b)

The NICE technology appraisal on parent-training/education programmes in the management of children with conduct disorders (NICE, 2006b) incorporated economic evidence from two *de novo* economic models assessing the cost effectiveness of

parent-training/education programmes relative to no active intervention for this population.

The initial economic analysis (Dretzke *et al.*, 2005) assessed the cost effectiveness of three parent-training/education programmes differing in the mode of delivery and the setting: a group community-based programme, a group clinic-based programme, and an individually delivered, home-based programme. Costs included intervention costs only; no potential cost savings to the NHS following reduction of antisocial behaviour in treated children were considered. Total costs of these three types of interventions were estimated based on a 'bottom-up' approach, using expert opinion alongside information from the literature in order to determine the healthcare resources required for providing such programmes. Meta-analysis of clinical data had demonstrated that there was no difference in clinical effectiveness between group-based and individually delivered programmes. According to the findings of the economic analysis, the group clinic-based programme was the dominant option among the three parent-training/education programmes, as it provided the same health benefits (same clinical effectiveness) at the lowest cost (total intervention cost per family was £629 for the group clinic-based programme, £899 for the group community-based programme, and £3,839 for the individual home-based programme).

Further analyses were undertaken to estimate the cost effectiveness of parent-training/education programmes assuming various levels of response to treatment and various levels of improvement in children's HRQoL. According to this analysis, and after assuming an 80% uptake of such programmes, the group clinic-based programme resulted in a cost per responder of £10,060 and £1,006 at a 5% and 50% success (response) rate, respectively; and a cost per quality-adjusted life year (QALY) of £12,575 and £3,144 at a 5% and 20% improvement in HRQoL, respectively.

In contrast, provision of an individual home-based programme was demonstrated to incur a rather high cost of £19,196 per QALY gained, assuming it provided a 20% improvement in HRQoL. At lower levels of improvement in HRQoL, this figure became well above the £20,000 per QALY threshold of cost effectiveness set by NICE (The Guidelines Manual [NICE, 2006a]), rising at approximately £77,000 per QALY when a 5% improvement in HRQoL was assumed. This means that for families where individual parent training is the preferred option, for example in cases where parents are difficult to engage with, or the complexities of the family's needs cannot be met by group-based programmes, the improvement in HRQoL of the child needs to reach at least 20% for the intervention to meet the cost-effectiveness criteria set by NICE.

The initial economic analysis was based on hypothetical rates of response and percentages of improvement in HRQoL following provision of parent-training/education programmes, as well as on a number of assumptions. Therefore, the results should be interpreted with caution, as acknowledged by its authors. On the other hand, it should be noted that estimated figures were conservative, as they did not include any potential cost savings resulting from reduction in antisocial behaviour in treated children and associated costs of its management. Despite its limitations, the analysis demonstrated that group-based parent-training/education programmes for children with conduct disorders were, as expected, substantially more cost effective

than individually delivered programmes, because the two modes of delivery did not differ in terms of clinical effectiveness, while the intervention costs of group-based programmes were spread over a large number of treated families.

The additional economic analysis undertaken to support the NICE technology appraisal evaluated the cost effectiveness of the three parent-training/education programmes described above, plus an individually delivered clinic-based programme, over a time horizon of 1 year. Costs included intervention costs as the initial analysis, but they also incorporated cost savings to the NHS, education and social services following provision of parent-training/education programmes to children with conduct disorders. The analysis modelled three different health states, that is, normal behaviour, conduct problems and conduct disorders. It was found that the mean net cost of a parent-training/education programme in improving a child's behaviour from conduct disorder to an improved state (either conduct problems or normal behaviour) was £90 for a group community-based programme, £1,380 for an individually delivered clinic-based programme, and £2,400 for an individually delivered home-based programme; the group clinic-based programme proved to be cost saving overall. These results further support the argument that group-delivered parent-training/education programmes for children with conduct disorders are most likely to be cost effective, especially when long-term benefits, such as the sustained effects of therapy and a reduction in the rates of future offending behaviour, as well as future cost savings to healthcare, education and social services, are considered.

5.4.13 From evidence to recommendations

The clinical and economic evidence clearly supports the implementation of parent-training programmes for children with conduct problems. The results suggest that the likely effect of parent-training programmes will be felt more for younger children. This suggests that there may be a need to consider augmenting programmes for older children who have not benefited with cognitive problem-solving skills interventions. These additional interventions should be focused on the child as there is little evidence that focusing interventions specifically on the parent is effective. For those children who have not benefited and/or whose parents have refused treatment, a second option would be to give consideration to specific individual cognitive problem-solving skills interventions.

5.4.14 Recommendations

- 5.4.14.1 This recommendation has been deleted.⁶
- 5.4.14.2 This recommendation has been deleted.⁷
- 5.4.14.3 This recommendation has been deleted.
- 5.4.14.4 Additional interventions targeted specifically at the parents of children with conduct problems (such as interventions for parental, marital or inter-personal problems) should not be provided routinely alongside parent-training programmes, as they are unlikely to have an impact on the child's conduct problems.
- 5.4.14.5 This recommendation has been deleted.⁸
- 5.4.14.6 This recommendation has been deleted.
- 5.4.14.7 This recommendation has been deleted.
- 5.4.14.8 This recommendation has been deleted.⁹
- 5.4.14.9 This recommendation has been deleted.¹⁰

⁶ This footnote has been deleted.

⁷ This footnote has been deleted.

⁸ This footnote has been deleted.

⁹ This footnote has been deleted.

¹⁰ This footnote has been deleted.

5.4.15 Clinical evidence for interventions targeted at families

Evidence from the important outcomes and overall quality of evidence are presented in Table 12 and Table 13. Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Eleven trials assessed the effectiveness of family interventions. It appears that family interventions are more effective than control for reducing both behavioural problems (SMD = -0.75 ; -1.19 to -0.30) and offending (RR = 0.67 ; 0.42 to 1.07).

The heterogeneity observed in the risk of re-offending was explained by problems with therapist competence in BARNOSKI2004. A subgroup analysis found a large difference when including only competent (RR = 0.57 ; 0.42 to 0.78) or non-competent therapists (RR = 0.70 ; 0.36 to 1.38). Data from MCPHERSON1983 was not included in the analysis as data were not extractable.

The heterogeneity observed in the behaviour scales outcome appeared to be due to NICKEL2005 and NICKEL2006A. A subgroup analysis showed that substantially larger effects were reported (SMD = -1.48 ; -1.97 to -0.99) in these studies on reduction in drug use, compared with the other studies' effects on total behaviour (SMD = -0.42 ; -0.68 to -0.15).

5.4.16 Clinical evidence summary for interventions targeted at families

There appears to be good evidence for the effectiveness of family interventions in a range of adolescents with conduct problems including offenders. In addition, quasi-experimental implementation studies confirm the effectiveness of these interventions in naturalistic settings.

Table 12: Study information table for trials of family interventions

	Family interventions versus control for children and adolescents with behaviour problems	Family interventions versus control for adolescents at risk of re-offending	Family interventions versus CBT
Total no. of trials (total no. of participants)	6 RCTs (N = 177)	2 RCTs 2 quasi-experimental studies (N = 894)	1 RCT (N = 56)
Study ID	NICKEL2005 NICKEL2006 NICKEL2006A SANTISTEBAN2003 SAYGER1988 SZAPOCZNIK1989	ALEXANDER1973 BARNOSKI2004 GORDON1995 MCPHERSON1983	AZRIN2001
Diagnosis	Conduct disorder, oppositional defiant disorder and/or behaviour problems, bullying	History of offending	Conduct disorder
Baseline severity: mean (SD)	Diagnosis of conduct disorder/oppositional defiant: SZAPOCZNIK1989 Reported behaviour problems in the clinical range on a behaviour problem scale: SANTISTEBAN2003 Referred for behaviour problems: SAYGER1988 History of bullying: NICKEL2005 NICKEL2006 NICKEL2006A	Not relevant	Not relevant
Treatment length	Mean: 106 days	Mean: 92 days	Mean: 180 days
Length of follow-up	Longest: 1 year	Longest: 1 year	N/A
Age	Range: 6–18 years	Range: 13–17 years	Mean: 15 years

Table 13: GRADE evidence summary for family interventions (only important outcomes reported)

Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Behaviour scales (end of treatment) (follow-up: mean 6 months)	237 (6)	⊕⊕⊕○ moderate ¹	SMD -0.75 (-1.19 to -0.3)
Risk of re-arrest (follow-up: 18 months - 5 years) (BARNOSKI2004 participants treated by competent therapists)	613 (3)	⊕⊕⊕○ moderate ²	RR 0.57 (0.42 to 0.77)
Risk of re-arrest (follow-up: 18 months - 5 years) (BARNOSKI2004 participants treated by both competent and non-competent therapists)	819 (3)	⊕⊕⊕○ moderate ^{1,2}	RR 0.67 (0.42 to 1.07)
¹ I-squared >50%			
² Quasi-experimental studies			

5.4.17 Health economic evidence for interventions targeted at families

Systematic literature review

Two studies from the US were identified that considered the cost effectiveness of interventions targeted at families (Barnoski, 2004; Crane *et al.*, 2005). The study by Barnoski (2004) evaluated functional family therapy for moderate to high-risk juvenile offenders (13 to 17 years). Costs of the intervention were compared with differences in recidivism rates and resulting criminal justice costs versus no intervention. Overall, functional family therapy resulted in significant net savings due to lower rates of recidivism compared with no intervention. The study by Crane and colleagues (2005) was a simple retrospective cost analysis of in-home or in-office family therapy versus no treatment for youths with conduct disorder. Over 30 months both interventions resulted in significant net savings ($p < 0.0001$) in terms of reduced future healthcare spending. No studies were identified that considered the cost effectiveness of family interventions in the UK. Details on the methods used for the systematic search of the economic literature are described in Chapter 3. Evidence tables for all economic studies included in the guideline economic literature review are provided in Appendix 14.

Economic modelling

Objective

The guideline systematic review and meta-analysis of clinical evidence demonstrated that provision of functional family therapy to families of adolescents with a history of

offending behaviour significantly reduces the rates of future reconviction. Offending behaviour and subsequent reconviction lead to substantial costs, not only to the criminal justice system but also to victims and society in general. A cost analysis was undertaken to assess whether the costs to the NHS of providing functional family therapy to families of adolescents at risk for offending behaviour are offset by future cost savings resulting from reduction in offending behaviour (and subsequent reconviction rates) in young offenders.

Methods

Intervention examined Functional family therapy is a short-term intervention: on average 8 to 12 sessions are needed for mild problems and up to 30 hours of direct service (for example, clinical sessions, telephone calls and meetings involving community resources) for more difficult cases. For most participants, sessions are spread over a 3-month period. Functional family therapy programmes have been successfully delivered in home-based, clinic-based and school-based settings. In Washington where functional family therapy was evaluated, trained therapists had caseloads of 10 to 12 families (Barnoski, 2004). The effectiveness of therapy in reducing recidivism may be directly related to the competence of the therapist (Barnoski, 2004). Implementation of functional family therapy, therefore, focuses particularly on developing therapist competence rather than simply teaching skills.

Costs considered in the analysis A simple economic model was developed to estimate the net total costs (or cost savings) associated with provision of functional family therapy to families of adolescents at risk for offending behaviour. Adolescents with conduct disorder and/or offending behaviour have been found to incur substantial costs to the health, educational, social and criminal justice services. Scott and colleagues (2001a) estimated the public costs incurred by children with conduct disorder from 10 years of age through adulthood (by age 28) in the UK. The authors reported a total cost of £70,000 per person diagnosed with conduct disorder in childhood, compared with £7,000 for a person without any conduct problems. Criminal justice system services bore most of this cost (64%), whereas the cost to educational services reached 18% of the total cost. Foster and residential care costs amounted to 11% of the total cost, and social benefits to another 4%. Finally, the cost to the health-care services was only 3% of the total cost incurred by individuals with conduct disorder from childhood through adulthood.

NICE recommends that economic analyses of healthcare interventions adopt a NHS and personal social services (PSS) perspective (NICE, 2006a). However, in the case of adolescents with offending behaviour, the majority of incurred costs falls on the criminal justice system, education services, social and other public services. Only a small minority of costs is covered by the NHS and PSS perspective. For this reason, the economic analysis adopted a broader perspective than that of the NHS and PSS, including any costs to public services for which appropriate information was available.

The study by Scott and colleagues (2001a) illustrated the variety and magnitude of costs associated with conduct disorder and, more broadly, offending behaviour;

nevertheless, little evidence exists about the potential reduction (or increase) in specific cost components resulting from provision of functional family therapy to families of young offenders. Clinical evidence has demonstrated that functional family therapy significantly reduces reconviction rates, and subsequently costs relating to crime. It is likely that provision of functional family therapy, by reducing offending behaviour, also reduces other types of cost, such as health and social care costs, as well as costs to the educational services. However, no appropriate relevant data that could inform this economic analysis were identified in the literature. For this reason, the analysis has considered only intervention costs (that is, costs of providing functional family therapy) and costs related to crime/offending behaviour of adolescents. All other categories of costs to the public sector, such as health and social care costs and costs to educational services, were conservatively assumed to be the same for adolescents receiving functional family therapy and for those not receiving the intervention, and were subsequently omitted from the analysis. This is acknowledged as a limitation of the economic analysis. However, costs relating to crime constitute the most substantial part of the costs incurred by young offenders; therefore, the economic analysis has probably considered the majority of costs associated with providing functional family therapy to families of young offenders.

Model input parameters

Clinical efficacy of functional family therapy and baseline re-offending rate in juvenile offenders

Clinical data on re-arrest rates (reflecting re-offending behaviour) associated with provision of functional family therapy were derived from three studies (ALEXANDER1973; BARNOSKI2004; GORDON1995). Meta-analysis of these data undertaken for the guideline showed that providing functional family therapy to families of adolescents with offending behaviour reduced the rate of re-arrest compared with usual care/no treatment. Of the three clinical studies included in the meta-analysis, BARNOSKI2004 reported results for participants treated by both competent and non-competent therapists, and separate results for a subgroup of participants treated by competent therapists only. Therefore, two separate guideline meta-analyses were performed: one including all efficacy data reported in the relevant literature, and one sub-analysis including efficacy data on families treated by competent therapists only. The results of the meta-analysis indicated that provision of functional family therapy by both competent and non-competent therapists reduces the re-arrest rates in adolescents with offending behaviour, but these results were non-significant at the 0.05 level (mean RR of re-arrest of functional family therapy versus control: 0.67; 95% CI: 0.42 to 1.07). In contrast, when only data on competent therapists were considered, functional family therapy was shown to significantly reduce the re-arrest rates in juvenile offenders (mean RR of re-arrest of functional family therapy versus control: 0.59; 95% CI: 0.43 to 0.79). Details on the clinical studies considered in the economic analysis are available in Appendix 15. The forest plots of the respective meta-analyses are provided in Appendix 16.

The baseline re-offending rate for adolescents with previous offending behaviour was taken from a national report containing 12-month data on re-offending for adolescents aged 10 to 17 years released from custody (either from prison, secure training centres or secure children's homes) or commencing a non-custodial court disposal, or given an out-of-court disposal (either a reprimand or final warning) in England and Wales in 2006 (Ministry of Justice, 2008b). According to this document, the re-offending rate in this population was 38.7% over 12 months. This rate was defined by the number of offenders in the cohort re-offending at least once during the 12-month follow-up period, where the offence resulted in a conviction at court or an out-of-court disposal. The 12-month rate of adolescent re-offending following provision of functional family therapy in the economic analysis was calculated by multiplying the estimated RR of re-arrest of functional family therapy versus control by the baseline re-offending rate.

Intervention costs (costs of providing functional family therapy)

In order to calculate total intervention costs, relevant resource use was estimated and combined with respective unit costs. Resource use estimates were based on information provided in the clinical studies included in the guideline systematic review. According to these estimates, functional family therapy consisted of 12 sessions over a 90-day period lasting 1.5 hours each, delivered to groups of ten families of adolescents with offending behaviour.

The unit cost of therapists providing functional family therapy was estimated to be similar to that of clinical psychologists (Band 7). The national unit cost of clinical psychologists has been estimated at £67 per hour of client contact in 2006/07 prices (Curtis, 2007). This estimate was based on the mid-point of Agenda for Change salaries Band 7 of the April 2006 pay scale according to the National Profile for Clinical Psychologists, Counsellors and Psychotherapists (NHS, 2006). It includes salary, salary on-costs, overheads and capital overheads but does not take into account qualification costs as the latter are not available for clinical psychologists.

Based on the above resource use estimates and the unit cost of clinical psychologists, the cost of providing the Reasoning and Rehabilitation programme was estimated at £121 per adolescent with offending behaviour in 2006/7 prices.

Costs of adolescent offending behaviour

In order to estimate the annual cost resulting from repeat of offending behaviour by adolescent offenders, three types of data are needed:

- proportion of different types of offences committed by adolescent re-offenders
- costs associated with each type of offence
- number of offences per adolescent re-offender per year.

Data on the proportion of different types of offences committed by adolescent re-offenders in England and Wales were derived from a national report published by the Ministry of Justice (2008b). The same document reported that the number of offences per juvenile re-offender were 3.181 over 12 months.

Regarding costs associated with each type of offence committed by adolescent offenders, these were taken from a variety of sources:

- Costs of offences against individuals and households, such as violence including homicide, sexual offences, theft including stealing vehicles and stealing from vehicles, robbery, criminal and malicious damage and domestic burglary were taken from Home Office data (Dubourg & Hamed, 2005). This report estimated a wide range of costs associated with crime, including costs incurred in anticipation of crime, such as security expenditure and insurance administration, costs directly resulting from crime, such as stolen or damaged property, lost output, emotional and physical impact on victims, health services to victims, other victim services, as well as costs to the criminal justice system, including police services.
- Costs of non-domestic burglary and costs of fraud and forgery were also based on Home Office data (Brand & Price, 2000). Reported costs included the same cost elements as described above.
- The cost of motoring offences (excluding thefts from or of vehicles and drink driving) was assumed to correspond to the cost of accidents leading to damage (but not injury) as reported by the Department of Transport (2007). This cost included police costs, costs relating to insurance and administration services, and costs resulting from property damage.
- The cost of drugs import/export/production and supply was derived from Home Office estimates of the average cost of arrest for drugs possession and supply (Godfrey *et al.*, 2002). The same report suggested that the cost of arrest for possession of drugs (but not supply) was equal to the general cost of arrest. The latter cost was reported in the same document and was assumed to reflect the cost associated with arrest for drug possession and small-scale supply.
- The costs of public order or riot, soliciting or prostitution, handling, and absconding or bail offences were (rather conservatively) assumed to correspond to the cost of general arrest, as reported in Godfrey and colleagues (2002). The costs of drink driving and other, not specified, offences were based on assumptions.

Costs reported in the literature were uplifted to 2007 prices using the Retail Prices Index (Office for National Statistics, 2008). The cost per offence committed by adolescent re-offenders was estimated as the mean cost of all offences weighted by the proportion of offences committed on average by an adolescent re-offender. Table 14 shows the percentage of offences committed by adolescent re-offenders, the cost of each type of offence as estimated in the literature, and the weighted average cost per offence committed by adolescent re-offenders.

The average cost per offence committed by adolescent re-offenders was estimated at £3,639. Since this population has been found to commit 3.181 offences over 12 months (Ministry of Justice, 2008b), the 12-month cost associated with offending behaviour is £11,576 per juvenile re-offender.

Time horizon of the analysis Of the three studies included in the relevant guideline meta-analysis of functional family therapy clinical data, two studies had a time

Table 14: Percentage and costs of offences committed by adolescent re-offenders

Type of offence	Percentage ¹	Cost (£, 2007 prices)	Source of cost
Violence (serious)	0.48	45,686	Dubourg & Hamed, 2005
Violence (non serious)	19.80	9,180	Dubourg & Hamed, 2005
Robbery	2.61	8,298	Dubourg & Hamed, 2005
Public order or riot	9.90	1,671	Godfrey <i>et al.</i> , 2002
Sexual	0.22	35,825	Dubourg & Hamed, 2005
Sexual (child)	0.08	35,825	Dubourg & Hamed, 2005
Soliciting or prostitution	0.00	1,671	Godfrey <i>et al.</i> , 2002
Domestic burglary	2.89	3,724	Dubourg & Hamed, 2005
Other burglary	2.87	3,373	Brand & Price, 2000
Theft	13.65	722	Dubourg & Hamed, 2005
Handling	1.50	1,671	Godfrey <i>et al.</i> , 2002
Fraud and forgery	0.84	1,874	Brand & Price, 2000
Absconding or bail offences	4.59	1,671	Godfrey <i>et al.</i> , 2002
Taking and driving away and related offences	3.66	4,715	Dubourg & Hamed, 2005
Theft from vehicles	1.43	978	Dubourg & Hamed, 2005
Other motoring offences	10.72	1,840	Department of Transport, 2007
Drink driving	0.65	200	Assumption
Criminal or malicious damage	13.76	987	Dubourg & Hamed, 2005
Drugs import/export/production/supply	0.29	4,308	Godfrey <i>et al.</i> , 2002
Drugs possession/small scale supply	4.51	1,671	Godfrey <i>et al.</i> , 2002
Other	5.54	1,500	Assumption
TOTAL	100.00	3,639†	

¹ Source: Ministry of Justice, 2008b; †Total weighted cost (100.00)

horizon of 18 months (ALEXANDER1973 and BARNOSKI2004, with a total study population of 765 adolescents) and one study had a time horizon of 5 years (GORDON1995, with a study population of 54 adolescents). For the base-case analysis, a 2-year time horizon was chosen. However, time horizons up to 5 years were tested in sensitivity analysis, to explore the magnitude of potential savings resulting from provision of functional family therapy.

Discounting Costs incurred beyond 12 months were discounted at an annual rate of 3.5%, as recommended by NICE (NICE, 2006a).

Table 15 provides all input parameters utilised in the base-case analysis of the economic model of functional family therapy for families of adolescents at risk for offending behaviour.

Sensitivity analysis One- and two-way sensitivity analyses were undertaken to explore the robustness of the results under the uncertainty characterising some model input parameters. The following scenarios were tested in sensitivity analysis:

- Use of the 95% CIs of the RR of re-arrest of functional family therapy versus control.
- Exclusion of data on adolescents seen by non-competent therapists (that is, using a mean RR of re-arrest of functional family therapy versus control 0.59 with 95% CIs 0.43 to 0.79).

Table 15: Input parameters utilised in the economic model assessing the net costs (or savings) resulting from provision of functional family therapy to families of adolescents at risk for offending behaviour

Input parameters	Value	Source of data - comments
RR (95% CIs) of functional family therapy versus control – all therapists	0.67 (0.42 to 1.07)	Guideline meta-analysis
Baseline re-offending rate of adolescent re-offenders (12 months)	38.7%	Ministry of Justice, 2008b
Intervention cost per adolescent	£121	Based on 12 sessions lasting 1.5 hours each, delivered to groups of 10 families
Weighted average cost per offence committed by adolescent re-offenders	£3,639	See Table 14
Number of offences per adolescent re-offender (12 months)	3.181	Ministry of Justice, 2008b
Annual discount rate	0.035	NICE, 2007

Interventions in children and adolescents

- Increase of intensity of functional family therapy; 18 sessions of 2 hours each were assumed.
- Reduction in the baseline re-offending rate for adolescents with previous offending behaviour; an annual rate of 20% was tested.
- Extension of the time horizon of the analysis beyond 2 years; limited evidence suggested that the effect of functional family therapy in reducing the re-arrest rates in adolescents with a history of offending behaviour remained over 5 years (GORDON1995). Therefore, potential net savings accrued over 3, 4 and 5 years following provision of functional family therapy were estimated. This scenario was combined with all other scenarios described above.
- Potential net savings accrued over 3, 4 and 5 years were also estimated assuming that the effect of the intervention was reduced over time; in this scenario the RR of functional family therapy versus control was multiplied by a factor of 1.15 for every year after 2 years from initiation of the intervention, to capture this assumed decline in the clinical effect over time, until functional family therapy had no beneficial effect over control (that is, until RR became 1).
- Reduction in the annual cost of offending behaviour per re-offender: a conservative figure of £1,000 per offence and two offences per re-offender per year were simultaneously assumed, resulting in a total annual cost of offending behaviour of £2,000 (instead of £11,576, which was the respective estimate used in base-case analysis) – therefore, any savings expected from reduction in re-offending following provision of functional family therapy would be much lower under this hypothesis.
- Simultaneous use of an RR of functional family therapy versus control of 0.79 (which was the upper 95% CI in the sub-analysis that included competent therapists) and a conservative annual cost of offending behaviour per adolescent re-offender of £2,000, as estimated in the previous scenario.
- Combination of alternative time horizons between 2 and 5 years with all other scenarios described above.

Results

Base-case analysis The reduction in re-offending rates achieved by provision of functional family therapy to families of adolescents at risk for re-offending yielded cost-savings equalling £2,908 per adolescent with offending behaviour over the 2 years of the analysis. Providing functional family therapy incurs a cost of £121 per adolescent, but this cost was offset by the substantial savings from reduction in offending behaviour. Overall, functional family therapy resulted in a net saving of £2,787 per adolescent with offending behaviour over 2 years. Full results of the base-case analysis are reported in Table 16.

Sensitivity analysis Results of the cost analysis were robust under the different scenarios examined in sensitivity analysis. Under all scenarios, provision of functional family therapy resulted in overall net savings even under a time horizon of 2 years, with the only exception being the use of the upper 95% CI of RR of re-arrest of functional family therapy versus control taken from meta-analysis of data including

non-competent therapists (this upper 95% CI had a value of 1.07 as results were non-significant at the 0.05 level). Under the most optimistic scenario of a lasting effect of 5 years, and using the lower 95% CI of the RR of re-arrest of functional family therapy versus control, functional family therapy resulted in net savings of £12,021 per adolescent with offending behaviour. Full results of sensitivity analysis are presented in Table 17.

Table 16: Results of economic analysis assessing the net costs (or savings) resulting from provision of functional family therapy to families of adolescents at risk for offending behaviour

Costs per adolescent (2007 prices)	Functional family therapy	Control	Difference
Functional family therapy cost	£121	0	£121
Cost of offending behaviour	£5,901	£8,809	- £2,908
Total cost	£5,922	£8,809	- £2,787

Table 17: Results of sensitivity cost analysis of provision of functional family therapy to families of adolescents at risk for offending behaviour

Scenario tested	Net cost at different time horizons (2007 prices)			
	2 years	3 years	4 years	5 years
Meta-analysis of data from all therapists				
• Mean RR	- £2,787	- £4,166	- £5,499	- £6,788
• Lower 95% CI	- £4,988	- £7,414	- £9,757	- £12,021
• Upper 95% CI	£737	£1,030	£1,313	£1,586
Meta-analysis of data from competent therapists				
• Mean RR	- £3,491	- £5,205	- £6,862	- £8,463
• Lower 95% CI	- £4,900	- £7,284	- £9,587	- £11,812
• Upper 95% CI	- £1,729	- £2,607	- £3,456	- £4,276
Increase in intensity of functional family therapy	- £2,665	- £4,046	- £5,379	- £6,667
Baseline adolescent re-offending rate of 20%	- £1,382	- £2,095	- £2,784	- £3,450
Increase in RR by 15% annually after 2 years	- £2,786	- £3,746	- £4,206	- £4,206
Annual cost of offending behaviour of £1,000	- £131	- £250	- £365	- £476
Use of upper 95% CI of RR of competent therapists plus annual cost of offending behaviour of £1,000	- £39	- £115	- £188	- £259

Discussion – limitations of the analysis

The results of the economic analysis suggest that provision of functional family therapy to families of adolescents with a history of offending behaviour is likely to be cost saving from a broad economic perspective in the UK. Intervention costs were shown to be offset by savings from a reduction in the rates of re-arrest. The results were robust under the majority of scenarios examined in sensitivity analysis. The only exception was the use of results of meta-analysis that included data on both competent and non-competent therapists; in this case, results were statistically insignificant and use of the upper 95% CI of the RR of re-arrest of functional family therapy versus control did not produce cost savings. However, given that in the UK both clinical psychologist and family therapist training has moved towards competence-based models of training (Roth & Pilling, 2008), it is unlikely that those deemed not sufficiently competent would be involved in implementation of functional family therapy. Furthermore, under the accreditation and audit processes used in the National Offender Management Service (NOMS), poor therapists or programme tutors would not be allowed to deliver such programmes (National Offender Management Service, 2008).

Adolescents with offending behaviour incur significant costs to health, social, educational and criminal justice services, as well as to their families (Scott *et al.*, 2001a). The economic analysis considered only intervention costs and costs relating to offending behaviour owing to lack of evidence for a difference in other types of costs between functional family therapy and no treatment. Cost data on offending behaviour were derived from several published sources reporting UK data and included, in most cases, a wide range of costs, such as costs incurred in anticipation of offending behaviour (for example, security expenditure), costs directly resulting from offending (such as costs of stolen or damaged property and emotional and physical impact on victims), costs of offering health and other services to victims, as well as costs to the criminal justice system. Although it is acknowledged that omission of educational, social and other healthcare costs constitutes a limitation of the analysis, existing evidence indicates that costs of offending behaviour are probably the most significant costs incurred by adolescents with offending behaviour. Besides, it is likely that functional family therapy, by improving adolescent behaviour, also reduces other costs incurred by adolescent offenders, such as costs falling on special educational services. If this is true, then the economic analysis has only underestimated the net savings gained from functional family therapy. Furthermore, some of the cost data on offending behaviour that were utilised in the economic analysis comprised criminal justice system costs only. The healthcare costs and emotional distress of victims, the financial and economic burden to the families of both victims and offenders, and the feelings of fear and insecurity in anticipation of crime were not considered in most documents reporting cost data on offending behaviour. Had these factors been considered, the cost savings from reduction in offending behaviour might be greater than figures reported in the analysis.

Sensitivity analysis showed that even if a more intensive functional family therapy programme were implemented, the intervention would still be cost saving. More intensive functional family therapy programmes than this described in the base-case

economic analysis may be needed in more complex cases, and this would result in higher intervention costs. On the other hand, it has been shown that adolescents with a more severe history of offending behaviour are characterised by higher rates of re-offending and higher numbers of offences per year (Ministry of Justice, 2008b). Therefore, a reduction in offending behaviour in this group of adolescents would lead to greater cost savings, compared with adolescents with mild offending behaviour. Consequently, complex cases, which might require more intensive treatment, are likely to produce greater cost savings, offsetting the higher intervention costs.

The time horizon of the analysis was 2 years, according to available evidence. However, limited evidence indicates that the beneficial effect of functional family therapy may last for longer time periods (over 5 years following provision of the therapy). Consequently, net savings from functional family therapy estimated in base-case analysis are rather conservative; greater cost savings may be realised if the effect of functional family therapy lasts longer than 2 years.

Conclusion

Overall, and despite conservative estimates utilised in the economic model, provision of functional family therapy to families of adolescents at risk for offending behaviour is likely to be cost-saving. Given that functional family therapy is also an effective intervention that improves adolescent offending behaviour, functional family therapy is likely a cost-effective intervention.

5.4.18 From evidence to recommendations

The evidence suggests that a range of family interventions, including systemic and strategic family therapy, may be effective for children with conduct problems and conduct disorder. Interventions such as functional family therapy may be particularly effective for older adolescents for whom the evidence for the efficacy of parent-training programmes is weak, and are also likely to be cost effective. The evidence suggests that functional family therapy, and potentially brief strategic family therapy, should become viable alternatives to parent training for older adolescents. This requires individual clinicians to consider the relative benefits of the two, including child and adult preferences.

5.4.19 Recommendations

- 5.4.19.1 This recommendation has been deleted.
- 5.4.19.2 This recommendation has been deleted.
- 5.4.19.3 This recommendation has been deleted.

5.4.20 Clinical evidence for multi-component interventions

Evidence from the important outcomes and overall quality of evidence are presented in Table 18 and Table 19. Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Some researchers have combined two or more psychological and/or psychosocial interventions, provided concurrently or consecutively, in an attempt to increase the effectiveness of the intervention. For example, a course of family intervention may be combined with a module of social skills training. The combinations are various and thus these multi-modal interventions do not form a homogenous group of interventions that can be analysed together.

Ten trials on multisystemic therapy that met the inclusion criteria for the review were included. There was significant heterogeneity for most outcomes; however, there was consistent evidence of a medium effect on reduction in offending outcomes including number of arrests (SMD -0.44 ; -0.82 to -0.06) and being arrested (RR 0.65 ; 0.42 to 1.00).

The main source of heterogeneity was LESCHIED2002, which found no difference between multisystemic therapy and treatment as usual on all primary outcomes. A possible explanation is that the majority of trials of multisystemic therapy were conducted in the US by the founders Henggeler and colleagues, whereas LESCHIED2002 is a Canadian trial undertaken independently from the founders of multisystemic therapy. However, a study by OGDEN2004 on a Norwegian sample, which was also conducted independently, found positive effects for multisystemic therapy for slightly different outcomes.

Table 18: Study information table for trials of multi-component interventions for adolescents at risk of offending

	Multisystemic therapy versus control	Multidimensional treatment foster care versus control	Other multi-component interventions versus control
Total no. of trials (total no. of participants)	10 RCTs (N = 1,642)	2 RCTs (N = 166)	3 RCTs (N = 265)
Study ID	BORDUIN1995 BORDUIN2001 HENGgeler1992 HENGgeler1997 HENGgeler1999 HENGgeler2006 LESCHIED2002 OGDEN2004 ROWLAND2005 TIMMONS-MITCHELL 2006	CHAMBERLAIN1998 CHAMBERLAIN2007	BARRETT2000 (family therapy + anger control + problem solving skills) CAVELL2000 (problem solving skills + mentoring) FRASER2004 (family therapy + parent training + social skills training)
Diagnosis	Young people with an offending history	Young people with an offending history	Oppositional defiant disorder and/or behaviour problems; young people with an offending history
Baseline severity: mean (SD)	Not relevant	Not relevant	Diagnosis of conduct disorder/oppositional defiant disorder: BARRETT2000 Reported behaviour problems in the clinical range on a behaviour problem scale: CAVELL2000 Referred for behaviour problems: FRASER2004
Treatment length	128 days	174 days	208 days
Length of follow-up	Longest: 4 years	Longest: 2 years	Longest: 1 year
Age	Range: 9–18 years	Range: 12–17 years	Range: 6–12 years

Table 19: Evidence summary of multi-component interventions (only important outcomes reported)

Multisystemic therapy compared with control for adolescents with conduct problems at risk of offending			
Patient or population: Adolescents with conduct problems at risk of offending			
Intervention: Multisystemic therapy			
Comparison: Control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Number of arrests - short term follow-up (follow-up: 0–4 years)	675 (7)	⊕⊕⊕○ moderate ¹	SMD -0.44 (-0.82 to -0.06)
Arrest (follow-up: 0–14 years)	996 (5)	⊕⊕⊕○ moderate ¹	RR 0.64 (0.45 to 0.91)
¹ I-squared >50%			
Multidimensional treatment foster care compared with control for adolescents with conduct problems at risk of offending			
Patient or population: Adolescents with conduct problems at risk of offending			
Intervention: Multidimensional treatment foster care			
Comparison: Control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Recidivism (follow-up: mean 2 years)	166 (2)	⊕⊕⊕⊕ high	SMD -0.55 (-0.36, -0.82)

Henggeler and colleagues (2006a) argue the lack of effectiveness reported in LESCHIED2002 is probably because of problems with treatment fidelity and the challenges of setting up a new multisystemic therapy service. There were differences in effectiveness between sites and the site with the lowest fidelity was also found to have the least favourable outcomes.

There were only two trials that met the inclusion criteria of the review on multidimensional treatment foster care. There was a medium effect favouring multidimensional treatment foster care (SMD = -0.55; -0.36 to -0.82).

There were three trials assessing other multi-component interventions. It was not possible to meta-analyse these studies as there were major differences in the interventions and their effectiveness, as well as very high heterogeneity ($I^2 = 83.9\%$). There was considerable variability in outcomes, with BARRETT2000 finding a large effect

favouring the intervention (SMD = 1.41; -2.19, -0.63). In contrast, CAVELL2000 (SMD = 0.26; -0.25, 0.77) and FRASER2004 (SMD = -0.17; -0.60, 0.25) found no benefit for the intervention.

5.4.21 Clinical evidence summary for multi-component interventions

There is a relatively large evidence base concerning the effectiveness of multisystemic therapy. While there was significant heterogeneity, there is good evidence of efficacy for reducing offending for up to 14 years' follow-up.

There were promising findings on the efficacy of multidimensional treatment foster care, with consistent moderate reductions in offending associated with this intervention compared with treatment as usual.

There is inconclusive evidence for the effectiveness of other multi-component interventions.

5.4.22 Health economic evidence for multi-component interventions

One study from the US was identified that considered the cost effectiveness of multi-component interventions targeted at children (Foster *et al.*, 2006). The study evaluated the cost effectiveness of the Fast-Track intervention, a 10-year, multi-component intervention designed to reduce violence among at-risk children with conduct problems. The extra costs of the intervention programme versus no treatment were evaluated against three clinical outcomes: cases of conduct disorder averted; criminal offences avoided; and acts of interpersonal violence averted. Overall, for all three outcomes, the intervention was not cost effective at conventional willingness-to-pay thresholds. Subgroup analyses showed that the intervention was more cost effective for high-risk than low-risk children.

5.4.23 From evidence to recommendations

The evidence suggests that for children at risk of going into care, multidimensional treatment foster care is an effective intervention. For conduct disordered adolescents for whom parent training is not appropriate and who are at significant risk of offending, multisystemic therapy is an effective intervention. It is important for both of these interventions that high fidelity to the model is preserved. The limited economic evidence from a US setting suggests that multi-component interventions may only be cost effective in high-risk children.

5.4.24 Recommendations

5.4.24.1 For young people aged between 12 and 17 years with severe conduct problems and a history of offending and who are at risk of being placed in care

Interventions in children and adolescents

or excluded from the family, consider multisystemic therapy.

5.4.24.2 This recommendation has been deleted.

5.4.24.3 This recommendation has been deleted.

5.4.24.4 This recommendation has been deleted.

5.5 COORDINATION OF CARE

The primary objective of early interventions for conduct problems in childhood is to prevent the development of antisocial personality disorder in adults. However, as will be clear from the evidence above, these interventions may not always be successful, and even where a child does not go on to develop ASPD significant mental health problems may continue into adult life. It is therefore very important that healthcare professionals working with children effectively coordinate the care they provide and also ensure an appropriate transition to adult services for those children who require continuing care.

5.5.1 Recommendations

General principles when working with children and their families

- 5.5.1.1 Child and adolescent mental health service (CAMHS) professionals working with young people should:
- balance the developing autonomy and capacity of the young person with the responsibilities of parents and carers
 - be familiar with the legal framework that applies to young people, including the Mental Capacity Act, the Children Acts and the Mental Health Act.

Transition between child and adolescent services to adult services

5.5.1.2 Health and social care services should consider referring vulnerable young people with a history of conduct disorder or contact with youth offending schemes, or those who have been receiving interventions for conduct and related disorders, to appropriate adult services for continuing assessment and/or treatment.

5.5.2 Research recommendations

Through identifying research limitations from the evidence-based reviews, the guideline development group has formulated the following research recommendations.

5.5.2.1 Effectiveness of multisystemic therapy versus functional family therapy

Is multisystemic therapy or functional family therapy more clinically and cost effective in the treatment of adolescents with conduct disorders? A large-scale RCT comparing the clinical and cost effectiveness of multisystemic therapy and functional family therapy for adolescents with conduct disorders should be conducted. It should examine the medium-term outcomes (for example, offending behaviour, mental state, educational and vocational outcomes and family functioning) over a period of at least 18 months. The study should also be designed to explore the moderators and mediators of treatment effect, which could help to determine the factors associated with benefits or harms of either multisystemic therapy or functional family therapy.

Why this is important

Multisystemic therapy and functional family therapy are two interventions with a relatively strong evidence base in the treatment of adolescents with conduct disorders, but there have been no studies directly comparing their clinical and cost effectiveness. Their use in health and social care services in the UK is increasing. Both interventions target the same population, but although they share some common elements (that is, work with the family), multisystemic therapy is focused on both the family and the wider resources of the school, community and criminal justice systems, and through intensive individual case work seeks to change the pattern of antisocial behaviour. In contrast, functional family therapy focuses more on the immediate family environment and uses the resources of the family to change the pattern of antisocial behaviour. The study should be designed to facilitate the identification of subgroups within the conduct disorder population who may benefit from either multisystemic therapy or functional family therapy.

5.5.2.2 Interventions for infants at high risk of developing conduct disorders

Do specially designed parent-training programmes focused on sensitivity enhancement (a set of techniques designed to improve secure attachment behaviour between

Interventions in children and adolescents

parents and children) reduce the risk of behavioural disorders, including conduct problems and delinquency, in infants at high risk of developing these problems? An RCT comparing parent-training programmes focused on sensitivity enhancement with usual care should be undertaken. It should examine the long-term outcomes over a period of at least 5 years, but with consideration given to the possibility of a further 10-year follow-up. The study should also be designed to explore the moderators and mediators of treatment effect that could help determine the factors associated with benefits or harms of the intervention.

Why this is important

There is limited evidence from non-UK studies that interventions focused on developing better parent–child attachment can have benefits for infants at risk of developing conduct disorder. Determining the criteria and then identifying children at high risk (usually via parental risk factors) is difficult and challenging. Even when these factors are agreed, engaging parents in treatment can be difficult. It is important that a range of effective interventions is developed to increase the treatment choice and opportunities for high-risk groups. Several interventions, such as Nurse–Family Practitioners, are being developed and trialled in the UK. It is important for this group of children to have an alternative, effective intervention.

6 RISK ASSESSMENT AND MANAGEMENT

6.1 INTRODUCTION

At the population level there is a strong statistical association between the diagnosis of antisocial personality disorder and offending (including violent offending). The Office for National Statistics' study found antisocial personality disorder in 63% of male remand prisoners, 49% of male sentenced prisoners and 31% of female prisoners in England and Wales (Singleton *et al.*, 1998). In the National Confidential Inquiry's study of the 249 homicide offenders who had recent contact with psychiatric services (Appleby *et al.*, 2006), 30% had a primary or secondary diagnosis of personality disorder, and the inquiry concluded that this figure was almost certainly an underestimate. There are similar statistics from health and criminal justice settings and from community samples.

With the growth of offending behaviour programmes in the criminal justice system and the expansion of personality disorder services in the NHS, both criminal justice and healthcare systems are devoting considerable resources to discovering the extent to which mental health treatments can reduce the offending risk associated with antisocial personality disorder. However as will be apparent throughout this chapter, it should be cautioned that there is more research on risk assessment than on risk management. Until such evidence emerges it is necessary to keep expectations of health service interventions around risk within reasonable bounds.

6.2 ASSESSMENT OF VIOLENCE RISK

6.2.1 Introduction

The diagnosis of antisocial personality disorder, like some other mental disorders, is associated with an increased risk of offending behaviour, including violence. However, antisocial personality disorder is a very broad diagnostic category (see DSM-IV; APA, 1994), even when compared with other diagnoses in mental health. It encompasses people who never commit offences as well as a minority who commit the most serious crimes, with a great range in between. As a result the diagnosis alone is of little value as an indicator of violence risk.

The clinical assessment of violence risk in antisocial personality disorder is more problematic than in some other mental disorders, such as schizophrenia, because antisocial personality disorder lacks unequivocal symptoms such as delusions and hallucinations. The clinical interview and mental state examination are therefore less reliable as a means of assessing the severity of the disorder. Some patients may be

both persuasive and deceptive, making a clinical interview a poor guide to the severity of the disorder and its associated risks. Therefore much effort has been expended on the development and evaluation of tools that may assist in the assessment of violence risk. Any measure that discriminates between degrees of severity of antisocial personality disorder is likely to be of assistance in risk assessment; the Psychopathy Checklist (Hare, 1980; Hart, 1998a, 1998b) is therefore one of the most useful instruments in this field.

The statistical evaluation of risk assessment tools

Risk assessment is concerned with probability, therefore it lends itself to a statistical approach comparing prediction and outcome. In order to evaluate risk assessment tools it is necessary to appraise the extent to which they maximise the detection of violent outcomes (true positives) while minimising the number of false alarms (false positives). Table 20 sets out the model for the possible outcomes of violence risk prediction.

Table 20: Possible outcomes of violence risk prediction

	Violent outcome	Non-violent outcome
Predicted violence	True positive (TP)	False positive (FP)
Predicted non-violence	False negative (FN)	True negative (TN)

In this model the quality of the test or tool is judged by two main criteria:

Sensitivity is defined as the proportion of the violent outcome group scoring positive for predicted violence on the risk assessment instrument, that is, sensitivity = $TP/(TP + FN)$.

Specificity is defined as the proportion of the non-violent outcome group scoring in the predicted non-violence group on the risk assessment instrument, that is, specificity = $TN/(FP + TN)$.

There is a trade-off between these measures. As the test or tool is made less stringent by lowering the cut-off score it picks up more true positives (sensitivity rises) but it also picks up more false positives (specificity falls). The ideal is to maximise sensitivity while keeping specificity high.

To illustrate this: from a population in which the point prevalence rate of depression is 10% (that is, 10% of the population has depression at any one time), 1000 women are given a test with 90% sensitivity and 85% specificity. It is known that 100 women in this population have depression, but the test detects only 90 (true positives), leaving 10 undetected (false negatives). It is also known that 900 women do not have depression, and the test correctly identifies 765 of these (true negatives), but classifies 135 incorrectly as having depression (false positives). The positive predictive

value of the test (the number correctly identified as having depression as a proportion of positive tests) is 40% ($90/90 + 135$), and the negative predictive value (the number correctly identified as not having depression as a proportion of negative tests) is 98% ($765/765 + 10$). Therefore, in this example, a positive test result is correct in only 40% of cases, while a negative result can be relied upon in 98% of cases.

The qualities of a particular tool are summarised in a receiver operator characteristic (ROC) curve, which plots sensitivity (expressed as %) against (100% - specificity) (see Figure 3).

A test with perfect discrimination would have a ROC curve that passed through the top left hand corner; that is, it would have 100% specificity and pick up all true positives with no false positives. In reality that is never achieved, but the area under the curve (AUC) measures how close the tool achieves the ideal. A perfect test would have an AUC of 1 and anything above 0.5 is better than chance.

The AUC is the preferred statistic for evaluating risk assessment tools and is the most common metric used in such studies (Mossman, 1994). Its main advantage, in comparison with the other statistics, is that such estimates appear not to be affected by the base rate of the phenomenon under consideration, which in this case is violence (see Mossman, 1994). For these reasons, the review below uses AUC to compare tools used for violence risk assessment.

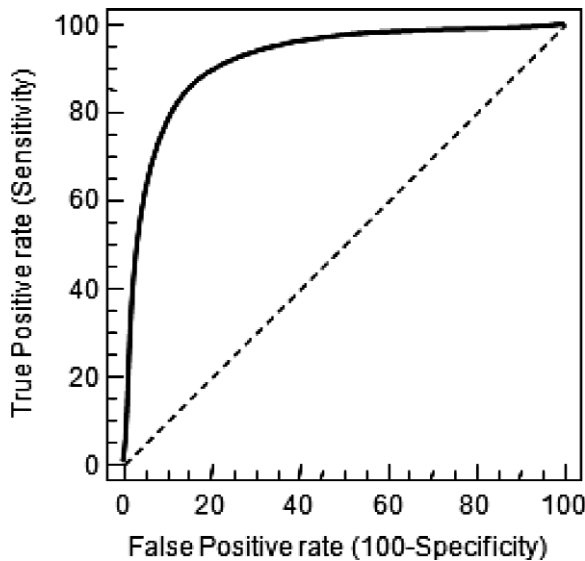


Figure 3: An example ROC curve

Statistical prediction and healthcare

While the AUC is used because it is generally agreed to be the best available statistic (Mossman, 1994), practitioners should be wary of the uncritical application of statistical approaches to risk assessment and management in a health setting. The main problems are set out below.

Statistics take no account of the values that are central to healthcare: The AUC statistic is concerned with maximising the number of right decisions. As violence is relatively unusual in mental health populations, Monahan (1981) pointed out that the best way to be right most of the time is to predict that no patients will be violent. That course of action is unacceptable because errors in medicine come with values attached and their values are not equal. The consequences of failing to predict an act of serious violence (a false negative) are very different from the consequences of wrongly predicting violence (a false positive). Fulford and colleagues (2006) have written extensively on the importance of values in mental health; for the purposes of this discussion the crucial point is that the statistics cannot be considered in isolation.

The apparent value of a risk prediction instrument will be determined to a large extent by the population to which it is applied: Gordon (1977) observed that many risk assessments are tested in prisoner populations where there are high baseline levels of violence risk. The same is true of many of the studies summarised below. In these circumstances it is perhaps remarkable that these instruments are able to achieve a reasonable level of discrimination. Clinicians who work with a more average group of patients may therefore reasonably expect that a standardised assessment may be even more effective in identifying patients who have a high violence risk. This principle leads to a paradox. Standardised risk assessments are most widely used in forensic populations where most patients will have an increased violence risk, meaning that fine discrimination between degrees of risk is more difficult. In a general psychiatry population, where most patients have a lower level of risk, standardised instruments ought to be of more value in identifying the small number who present a high risk.

Even the best instruments have high rates of error when applied to individuals: Sensitivity, specificity and the AUC are population or group measures, but there are much greater uncertainties associated with individual prediction. In part this limitation is intrinsic to the statistical method; just because an individual has most attributes of a group does not mean he or she has all of them, even though those attributes generally go together.

Violence risk prediction is different because the reality is ambiguous and it is also subject to change. All the evidence concerning a particular individual may indicate an extremely high risk of violence but it counts for nothing if the potential perpetrator meets with an accident or dies of natural causes on his or her way to committing an act of violence. More realistically, a medical intervention or supervision on probation can turn a true positive into a false positive, by preventing an act of violence.

Violence risk is multifaceted rather than unitary: A comprehensive assessment of violence risk includes qualitative and descriptive elements. For example, it may specify the likely victim or class of victim (for example, women and children), the type of violence (for example, sexual versus non-sexual, predatory versus impulsive), the severity (for example, use of weapons, whether the violent act is life-threatening, and so on) and the frequency and probability of violence. Statements of probability will

usually be conditional on, for example, availability of alcohol and involvement in destabilising relationships. Different considerations apply to the management of, for example, low frequency but life-threatening predatory violence on the one hand and frequent, impulsive, and less serious violence on the other. It is impossible to encapsulate this complexity within a unitary statistical measure. In clinical practice a good risk assessment is not a statement of probability but a comprehensive description of many different aspects.

6.2.2 Current practice

It is generally accepted that the best way of assessing violence risk in mental health settings is through structured clinical judgement (Monahan *et al.*, 2001). The alternative methods are unstructured clinical judgement and actuarial measures. Unstructured clinical judgement relies on the skills of the individual clinician and has no rules beyond the basic rules of clinical practice. The clinician is free to take into account any information they see fit, and they can use their discretion to arrive at a judgement of violence risk.

The unstructured clinical approach is widely used but it is becoming difficult to defend. Although it can work reasonably well it depends on individual skill, experience and thoroughness. Practice varies between individuals and, because there is no structure or standard, it is virtually impossible to give explicit training or to raise standards. Decisions lack transparency so it is difficult to guard against bias and to guarantee non-discriminatory practice. Communication is compromised because there is no common language or agreed set of variables.

In a reaction against the clinical method, the actuarial approach specifies the information to be collected and how it is to be analysed in order to arrive at a decision. The exercise of clinical discretion is explicitly forbidden in order to exclude bias. This approach is derived from the insurance industry and it is surprisingly effective in predicting violence at the population level.

However, actuarial methods are less useful or appropriate in a clinical setting because the focus is on the individual patient. When applied to individuals, actuarial or standardised measures will often be inaccurate because they ignore idiosyncratic features, including both protective and aggravating factors. For example, morbid jealousy may be associated with a very high risk of violence even in the absence of other actuarial risk factors. Conversely, the onset of incapacitating physical illness may lower violence risk even when all the actuarial indicators are present.

In principle there is also an objection to relying on actuarial measures in clinical settings. They treat the individual as nothing more than a representative of a class of people, all of whose characteristics are assumed to be identical. It could be argued that such measures rely on the same logic as prejudice and are therefore incompatible with the value placed by health services on individual formulation and needs assessment.

Despite these reservations, actuarial assessments such as the Violence Risk Assessment Guide (VRAG; Quinsey *et al.*, 1998), the Sex Offender Risk Assessment

Guide (Quinsey *et al.*, 1998), and Static-99 (Hanson & Thornton, 1999) are widely used by forensic mental health services. They should not be used as stand-alone measures of risk but will often form part of a comprehensive assessment. When used in that way they become incorporated into the exercise of structured clinical judgement.

Structured clinical judgement combines the positive aspects of the actuarial and clinical approaches. There is a mandatory requirement to collect standardised information, but the clinician is free to interpret that information in the light of all that is known about the individual case. There is some standardisation and transparency while clinicians retain the freedom to take into account any and all available information before reaching a decision.

The most widely used instrument in the field of structured clinical judgement is the Historical, Clinical, Risk Management-20 (HCR-20; Webster *et al.*, 1997) which involves the collection of 20 items (see Section 6.2.5). It then requires consideration of any items that may be specific to the particular case, before requiring clinical teams to construct risk management scenarios. Each scenario considers a possible violent outcome, along with warning signs and factors that make it more or less likely, leading to a plan for managing those risk factors.

Despite the importance given to clinical discretion, this method is based on standardised measures of risk. It requires that clinical decisions are informed by such measures rather than determined by them but it still raises questions about the accuracy of the tools used for violence risk prediction. The next section considers the extent to which such measures are successful in predicting violence risk in populations of people with antisocial personality disorder.

6.2.3 Definition and aim of topic of review

Risk assessment tools are defined in the review as validated psychometric instruments that are used to predict violence and/or offending. The review was limited to assessment tools that in the view of the GDG were likely to be used in UK clinical practice. They included the Psychopathy Checklist in its full (PCL-R; Hare *et al.*, 1991) and screening versions (PCL-SV; Hart *et al.*, 1999), HCR-20 (Webster *et al.*, 1997), VRAG (Quinsey *et al.*, 1998), Level of Supervision Inventory (LSI; Andrews & Bonta, 1995), Offender Group Reconviction Scale (OGRS; Copas & Marshall, 1998), and Risk Assessment Management and Audit Systems (RAMAS; O'Rourke & Hammond, 2000).

GRADE profiles could not be generated because the guidance and software on grading reviews of such studies are at a preliminary stage. Therefore quality assessments for each individual study were provided in the evidence summary tables. The following review assesses predictive validity. It does not replicate the clinical use of these tools nor does it imply they should be used for risk assessment in a clinical setting. In some cases the tools were not designed or intended for risk prediction but that should not be an obstacle to their statistical evaluation.

6.2.4 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 21.

6.2.5 Studies considered

The review team conducted a new systematic search for observational studies that assessed the risk of antisocial behaviour, focusing on violence and/or offending (see Appendix 8).

Broad inclusion criteria were adopted because there was initial interest in the capacity of the scale to predict violence/offending behaviour not exclusive to antisocial personality disorder. The interventions consisted of risk assessment tools seeking to predict violent and/or offending behaviour at either the group or individual level using outcomes such as sensitivity, specificity, the AUC, PPV and NPV. The primary outcome measure examined was AUC with values of 0.6 to 0.8 indicating a moderate level of prediction, 0.8 to 0.9 a high level of prediction and values greater than 0.9 indicating a very high level of prediction.

Trials consisting of 30% or more of participants with schizophrenia or psychoses were excluded from the analysis.

Twenty studies met the inclusion criteria set by the GDG. Of these, 19 were published in peer-reviewed journals between 1991 and 2007. One further study was a publication from the Ministry of Justice (Coid *et al.*, 2007). In addition, 38 studies were excluded from the analysis. The most common reason for exclusion was not providing relevant data that met the criteria of the review.

Table 21: Databases searched and inclusion/exclusion criteria for clinical effectiveness of psychological interventions

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library
Date searched	Database inception to November 2007; table of contents November 2007 to June 2008
Study design	Observational studies
Patient population	People with antisocial personality disorder; people in psychiatric institutions; people in prison
Interventions	Risk assessment tools
Outcomes	Sensitivity, specificity, the AUC, positive predictive validity (PPV), negative predictive validity (NPV)

Of the 19 included studies, five assessed the HCR-20, 15 the Psychopathy PCL-R, three the PCL-SV, eight the VRAG, three the LSI and one the OGRS. No studies on RAMAS met the eligibility criteria of the review.

Historical, Clinical, Risk Management-20 (HCR-20)

The HCR-20 (Webster *et al.*, 1997) takes a structured clinical assessment approach to risk assessment. This scale consists of 20 items on historical, clinical and risk management issues. The ten historical items include previous violence, substance misuse problems, major mental illness, psychopathy and personality disorder. The five clinical items are concerned with lack of insight, negative attitudes, active symptoms of mental illness, impulsivity and unresponsiveness to treatment. The five risk management items include feasibility of plans, exposure to destabilisers (destabilising influences that may be general or specific to the individual), lack of personal support, non-compliance with remediation attempts and stress.

The HCR-20 is an aid to clinical management of violence risk in individuals. Some aspects of it, namely the formulation of risk scenarios, make sense only in an individual clinical context and are not amenable to statistical evaluation as predictors of risk. Nevertheless the HCR-20 has at its core 20 items said to correlate strongly with violence risk. It is both valid and essential to examine the predictive value of those items, while recognising that it is an artificial exercise not intended to represent clinical use of the tool. The HCR-20 requires the 20 items to be used as the basis for a formulation and risk management plan which goes beyond simple, actuarial prediction. Even so, if the 20 items had no predictive value it would be impossible to justify their inclusion in preference to any other collection of items.

Five studies were identified that met the eligibility criteria of the review. A summary of the study information and data for each of these studies is provided in Table 22.

Most studies reported data on the area under the curve (AUC). Only Grann and colleagues (2000) provided additional information on sensitivity and specificity. Mean follow-up period ranged from 2 to 10 years.

AUC statistics ranged from 0.6 to 0.8 in most studies indicating that the HCR-20 was moderately predictive of violence and/or offending. A pooled estimate was obtained from studies (Dahle, 2006; Grann *et al.*, 2000; Warren *et al.*, 2005; Morrissey *et al.*, 2007) providing extractable data (AUC = 0.68; 0.65, 0.71). Almost all studies individually found AUC values to be statistically significant; only Warren and colleagues (2005) reported consistent evidence of no effect. This may be explained by the sample consisting only of women; most other studies included samples that were either exclusively or predominantly male. Serious violence is relatively unusual in women and may be associated with different causal factors than those that operate in men.

Clinical use of the HCR-20 allows for the inclusion of idiosyncratic risk items that may increase its predictive power. This flexibility means the HCR-20 can include clinical consideration of risks arising from (for example) sexual offending, stalking, morbid jealousy or dysfunctional intimate relationships even though it does not lend itself to statistical evaluation in these areas. In short it is argued by its proponents that the HCR-20 (and other structured clinical systems of risk management) has greater clinical utility than is reflected in a statistical analysis of group prediction. While the

Table 22: Study information and data on the HCR-20

Study	Population/setting	Follow-up	Outcome	Result	Quality
Coid <i>et al.</i> , 2007	N = 1396 (1353 prisoners released) Gender: all male Setting: prisoner cohort, UK	6 days – 2.91 years (M = 1.97 years)	Serious re-offending	Any: AUC = 0.630 (p < 0.001) Drug: AUC = 0.577 (p < 0.01) Theft: AUC = 0.667 (p < 0.001) Robbery: AUC = 0.565 (ns) Violence: AUCs = 0.638 (p < 0.001)	+
Dahle, 2006	N = 307 Mean age at baseline: 30 years (SD = 5.35) Gender: all male Setting: German prisons	10 years	Criminal convictions	Reimprisonment 5 years post-release: AUC = 0.70, SD = 0.03 Moderately predictive Reimprisonment 10 years post-release: AUC = 0.71, SD = 0.03	++
Grann <i>et al.</i> , 2000 (only 10 history items used – with some modification)	Personality disorder: N = 358 (also schizophrenia: N = 202) Age: 32 years Gender: 322 men, 36 women Setting: retrospective follow-up of violent offenders receiving forensic psychiatric evaluation, Sweden	2 years post-release (retrospective)	Violent crime	Personality disorder only: AUC = 0.71 (0.66, 0.76) Cut-off 12: sensitivity = 0.72, specificity = 0.60, PPV = 0.38, NPV = 0.86	+
Morrissey <i>et al.</i> , 2007	N = 73 (60 patients remained in institution at 12-month follow-up) Gender: all male	12 months	Institutional aggression	Interpersonal physical aggression: AUC = 0.68 (0.56-0.81; p < 0.05)	+

Continued

Table 22: (Continued)

Study	Population/setting	Follow-up	Outcome	Result	Quality
	<p>Age: 43–76 (M = 38; SD = 8.9)</p> <p>Setting: high security forensic intellectual disability service, England and Wales</p> <p>Learning disability</p> <p>Diagnosis: 81% mental retardation, 54.8% personality disorder, 28.8% psychotic disorder, 8% mood disorder (including dual diagnosis)</p>			<p>Result</p> <p>Verbal and property aggression: AUC = 0.77 (0.64–0.88; p < 0.01)</p>	
Warren <i>et al.</i> , 2005	<p>N = 132 (completers – 261 at baseline)</p> <p>Gender: all female</p> <p>Age: 60.3% under 32 39.67% over 32</p> <p>Setting: maximum security prisons, US</p>	12 months	Criminal convictions	<p>High correlation with PCL-R (r = .80, p < .01)</p> <p>Did not predict violent crime:</p> <p>Violent crime – AUC = 0.49 (0.38, 0.59)</p> <p>Potentially violent crime – AUC = 0.60 (0.49, 0.72)</p> <p>Crimes against persons – AUC = 0.46 (0.36, 0.56)</p> <p>But predicted non-violent crime: AUC = 0.68</p>	+

methodological challenges are considerable it seemed to the GDG that such a claim could be tested empirically. No evidence is available at present.

Psychopathy Checklist

Psychopathy is more or less synonymous with the categories of antisocial personality disorder in DSM-IV and with dissocial personality in ICD-10 (Maden, 2007). The

Psychopathy Checklist Revised (PCL-R; Hare, 1991) is a measure of psychopathy rather than risk but it has been shown to correlate highly with violence risk in many situations and it is widely used in violence risk assessment as a measure of severity for antisocial personality disorder. In fact the PCL-R is one of the most widely researched of all violence risk assessment tools. This scale consists of 20 items providing a score from 0 to 40. A more recent screening version (PCL-SV) has also been developed based on only 12 items providing a score from 0 to 24 (Hart *et al.*, 1999). Although the PCL-SV is less widely researched than the PCL-R it too has an established correlation with violence risk. In the MacArthur study of violence in general psychiatric patients the PCL-SV was the single best predictor of subsequent violence (Monahan *et al.*, 2001). Both versions can be scored based on case notes alone, with an optional interview for additional information. Psychopathy is generally defined as a score of 30 or above in North America and 25 or above in Europe (Maden, 2007).

Fifteen studies were identified that met the eligibility criteria of the review. A summary of the study information and data for each of these studies is provided in Table 23. Most studies were of the PCL-R, but three (Edens *et al.*, 2004; Urbaniok, 2007; Walters *et al.*, 2007) were of the PCL-SV.

Follow-up ranged from 2 to 32 years. As with the HCR-20, most studies reported an AUC ranging from 0.60–0.80 suggesting the PCL-R and PCL-SV versions are moderately predictive of violence and/or offending. Only three studies (Morrissey *et al.*, 2007; Walters & Mandell, 2007; Warren *et al.*, 2005) reported non-significant

Table 23: Study information and data on the PCL-R and PCL-SV

Study	Population/setting	Follow-up	Outcome	Result	Quality
Buffington-Vollum <i>et al.</i> , 2002 (PCL-R)	N = 58 Gender: all male Age: 35.22 (SD = 10.72) Sex offenders Setting: prison, US	2 years	Institutional disciplinary offences	Cut-off 30 – Any: sensitivity = 0.36, specificity = .88, PPV = 0.69, NPV = 0.64 Cut-off 30 – Physically aggressive: sensitivity = 0.40, specificity = 0.79, PPV = 0.14, NPV = 0.93 Cut-off 30 – Verbally aggressive: sensitivity = 0.38, specificity = 0.88, PPV = 0.69, NPV = 0.67 Cut-off 30 – Non-aggressive: sensitivity = 0.35, specificity = 0.83, PPV = 0.46, NPV = 0.76	+

Continued

Table 23: (Continued)

Study	Population/setting	Follow-up	Outcome	Result	Quality
Coid <i>et al.</i> , 2007 (PCL-R)	N = 1396 (1353 prisoners released) Gender: all male Setting: prisoner cohort, UK	6 days – 2.91 years (M = 1.97 years)	Serious re-offending	Any: AUC = 0.646 (p < 0.001) Drug: AUC = 0.596 (p < 0.001) Theft: AUC = 0.662 (p < 0.001) Robbery: AUC = 0.570 (ns) Violence: AUC = 0.639 (p < 0.001)	++
Dahle, 2006 (PCL-R)	N = 307 Mean age at baseline: 30 years (SD = 5.35) Gender: all male Setting: German prisons	10 years	Criminal convictions	Reimprisonment 5 years post-release: AUC = 0.69, SD = 0.03	++
Edens <i>et al.</i> , 2006 (PCL-SV) (McArthur study)	N = 695 (441 not followed up) Age: 30 years Gender: 59% male Setting: hospitals in US Diagnosis: 40% depression or dysthymia, 24% substance misuse disorders, 17% schizophrenia or schizo-affective disorder, 13% bipolar disorder, 4% other disorder, 2% personality disorder	50 weeks	Violence	At least one violent act: 20-week follow-up: AUC = 0.78 50-week follow-up: AUC = 0.76	+
Grann <i>et al.</i> , 1999 (PCL-R)	N= 352 Age: 32 (range 16–72) Gender: 316 men, 36 women Setting: Court ordered forensic psychiatric evaluations, Sweden Diagnosis: 100% personality disorder	8 years (retrospective)	Violent recidivism	Violent recidivism: 2 years – AUC = 0.72 (0.66–0.78) 5 years – AUC = 0.70 (0.63–0.76)	+
Harris <i>et al.</i> , 1991 (PCL-R)	N = 176 (169 had the opportunity to recidivate) Gender: all male	10 years	Violent recidivism	Relative improvement over chance (RIOCI) = 62.4% (p < .001)	+

Continued

Table 23: (Continued)

Study	Population/setting	Follow-up	Outcome	Result	Quality
	Age: under 25 Setting: maximum security psychiatric hospital				
Kroner & Loza, 2001 (PCL-R)	N = 78 Mean age at baseline: 29 years (SD = 8.3) Gender: all male Setting: prisons, Canada	2 years	Violent and non-violent recidivism	Violent recidivism: AUC = 0.70 Non-violent recidivism: AUC = 0.70	+
Kroner <i>et al.</i> , 2005 (PCL-R)	N = 206 Age: 30 years Gender: all male Setting: violent offenders, Canada	–	Post-release criminal convictions Revocations (violations of parole leading to reincarceration)	New convictions: AUC = 0.67 Revocations: AUC = 0.67	+
Loza & Green, 2003 (PCL-R)	N = 91 Mean age: 30 Gender: all male Setting: released from prison, Canada	5 years	Violent and general recidivism	Violent recidivism: AUC = 0.67 General recidivism: AUC = 0.67	+
Morrissey <i>et al.</i> , 2007 (PCL-R)	N = 73 (60 patients remained in institution at 12-month follow-up). Gender: all male Age: 43–76 (M = 38; SD = 8.9) Setting: high security forensic intellectual disability service, England and Wales Learning disability Diagnosis: 81% mental retardation, 54.8% personality disorder, 28.8% psychotic disorder, 8%	12 months	Institutional aggression	Interpersonal physical aggression: AUC = 0.54 (0.39–0.68) Verbal and property aggression: AUC = 0.49 (0.32–0.65)	+

Continued

Table 23: (Continued)

Study	mood disorder (including dual diagnosis)	Follow-up	Outcome	Result	Quality
Salekin <i>et al.</i> , 1998 (PCL-R)	<p>Population/setting</p> <p>N = 78</p> <p>Gender: all female</p> <p>Age: 30.57 (SD = 7.69)</p>	12–16 months	Recidivism	<p>Cut-off 29: sensitivity = 0.11, specificity = 0.91, PPV = 0.50, NPV = 0.55</p> <p>AUC = 0.64</p>	+
Urbaniok <i>et al.</i> , 2007 (PCL-SV)	<p>Setting: prison in US</p> <p>N = 96</p> <p>Age: 18–77 (M = 29.7, SD = 9.3)</p> <p>Gender: all make</p> <p>Setting: Switzerland</p> <p>Diagnosis: 70.8% personality disorder</p>	18–32 years	Recidivism (combined = violent and sexual)	<p>Cut-off 18 – combined recidivism: AUC = 0.59 (0.49–0.68)</p> <p>Cut-off 15 – combined recidivism: AUC = 0.61 (0.50–0.71)</p> <p>Cut-off 14 – combined recidivism: AUC = 0.69 (0.59–0.89)</p> <p>Cut-off 13 – combined recidivism: AUC = 0.64 (0.55–0.73)</p> <p>Cut-off 18 – violent recidivism: AUC = 0.56 (0.47–0.68)</p> <p>Cut-off 18 – sexual recidivism: AUC = 0.57 (0.42–0.71)</p>	+
Walters <i>et al.</i> , 2003 (PCL-R)	<p>N = 185</p> <p>Age: 36.55 (SD = 9.61)</p> <p>Setting: prison US</p> <p>Diagnosis: 45.4% personality disorders, 20.0% no disorder, 9.2% substance use disorders, 7.0% schizophrenic disorders, 5.9% other psychoses, 4.3% mood disorders, 4.3% sexual disorders, 2.7% anxiety disorders, 1.1% adjustment disorders</p>	2 years	Institutional disciplinary offences	Any disciplinary offence – AUCs = .575	+
Walters & Mandell, 2007 (PCL-SV)	<p>N = 136</p> <p>Age: 20–65 years (M = 34.24, SD = 8.50)</p>	2 years	Institutional incidents	<p>Any incident – AUC = 0.522 (0.42–0.62)</p> <p>Major incident – AUC = 0.60 (0.49–0.71)</p>	

Continued

Table 23: (Continued)

Study	Gender: all males	Follow-up	Outcome	Result	Quality
	Population/setting Setting: medium secure prison US			Aggressive incident – AUC = 0.62 (0.48–0.77)	
Warren <i>et al.</i> , 2005 (PCL-R)	N = 132 (completers – 261 at baseline) Gender: all female Age: 60.3% under 32 39.67% over 32 Setting: maximum security prisons, US	12 months	Criminal convictions	Prediction of crime: did not predict violent crime Violent crime – AUC = 0.46 (0.36–0.56) Potentially violent crime – AUC = 0.62 (0.52–0.73) Crimes against persons – AUC = 0.50 (0.40–0.60) But predicted non-violent crime: AUC = 0.67	+

AUC statistics. Pooled estimates of AUC values for the PCL-R (Dahle, 2006; Grann *et al.*, 1999; Warren *et al.*, 2005) and PCL-SV (Urbaniok *et al.*, 2002; Walters & Mandell, 2007) were calculated from studies that provided extractable data. It appears that the PCL-R (AUC = 0.69; 0.67, 0.70) predicted violence or offending slightly better than PCL-SV (AUC = 0.58; 0.54, 0.63).

The non-significant findings may partly be explained by the populations in these studies. As discussed above, Warren and colleagues (2005) comprised an exclusively female population within a high secure prison in the US. Similarly, Morrissey and colleagues (2007) differed from other studies in focusing on a sample of people with intellectual disability. Finally, Walters and colleagues (2003) focused on disciplinary violations whereas most other studies reported recidivism rates.

Violence Risk Assessment Guide (VRAG)

The VRAG (Quinsey *et al.*, 1998) takes an actuarial approach to risk assessment. The 12 items were derived from a study of 600 male patients released from a high secure hospital in Canada as the highest predictors of violence at 7 years’ follow-up. These items include PCL-R score, problems at junior school, alcohol misuse, age, personality disorder and so on. The main criticism of VRAG is its lack of face validity, that is, three items scored by VRAG as being associated with reduced risk (having a diagnosis of schizophrenia, extent of victim injury and female victim) appear to contradict clinical judgement and the wider literature (Maden, 2007).

Eight studies were identified that met the eligibility criteria of the review. A summary of the study information and data for each of these studies is provided in Table 24.

Table 24: Study information and data on the VRAG

Study	Population/setting	Follow-up	Outcome	Result	Quality
Coid <i>et al.</i> , 2007	N = 1396 (1353 prisoners released) Gender: all male Setting: prisoner cohort, UK	6 days – 2.91 years (M = 1.97 years)	Serious re-offending	Any: AUC = 0.719 (p < 0.001) Drug: AUC = 0.655 (p < 0.001) Theft: AUC = 0.713 (p < 0.001) Robbery: AUC = 0.623 (p < 0.001) Violence: AUC = 0.700 (p < 0.001)	+
Edens <i>et al.</i> , 2006 (McArthur study)	N = 695 (441 not followed up) Age: 30 years Gender: 59% male Setting: hospitals in US Diagnosis: not reported	50 weeks	Violence	At least one violent act: 20-week follow-up: Modified VRAG – AUC = 0.73 Modified VRAG without PCL-SV – AUC = 0.64 50-week follow-up: Modified VRAG without PCL-SV – AUC = 0.64	+
Grann <i>et al.</i> , 2000 (only 10 history items used – with some modification)	Personality disorder: N = 358 (also schizophrenia: N = 202) Age: 32 years Gender: 322 men, 36 women Setting: retrospective follow-up of violent offenders receiving forensic psychiatric evaluation, Sweden	2 years post-release (retrospective)	Violent crime	Personality disorder only: AUC = 0.68 (0.62–0.73) Cut-off 13: sensitivity = 0.57, specificity = 0.71, PPV = 0.40, NPV = 0.83	+
Harris <i>et al.</i> , 2003 (sub-sample of Quinsey 1998)	N = 396 Age: 36 years (SD = 11) Gender: all male Setting: sex offenders (child molesters and/or rapists) in prison or at risk of re-offending, Canada Diagnosis: 63% personality disorder, 4% schizophrenia	Retrospective analysis – 3 years	Violent recidivism Sexual recidivism	Violent recidivism AUC = 0.73 (0.68–0.78) Sexual recidivism: AUC = 0.65 (0.59–0.71)	+

Continued

Table 24: (Continued)

Study	Population/setting	Follow-up	Outcome	Result	Quality
Kroner & Loza, 2001	N = 78 Mean age at baseline: 29 years (SD = 8.3) Gender: all male Setting: prisons, Canada	2 years	Violent and non-violent recidivism	Violent recidivism: AUC = 0.64 Non-violent recidivism: AUC = 0.75	+
Kroner <i>et al.</i> , 2005	N = 206 Age: 30 years Gender: all male Setting: prison, Canada	–	Post-release criminal convictions Revocations (violations of parole leading to reincarceration)	New convictions: AUC = 0.75 Revocations: AUC = 0.73	+
Loza & Green, 2003	N = 91 Mean age: 30 Gender: all male Setting: released from prison, Canada	5 years	Violent and general recidivism	Violent recidivism: AUC = 0.63 General recidivism: AUC = 0.77	+
Rice & Harris, 1997	N = 288 (N = 159 were not included in the development of VRAG) Gender: all male Sex offenders	10 years	Recidivism	Violent recidivism: AUCs = 0.76 (N = 288) Sexual recidivism: AUCs = 0.77 (N = 159)	+

AUC values once more ranged from 0.60-0.80 indicating a moderately accurate prediction for the risk of violence and/or offending. A pooled estimate was obtained from studies (Grann *et al.*, 2000; Harris *et al.*, 2003) providing extractable data (AUC = 0.65; 0.55, 0.77).

Offender Group Reconviction Scale (OGRS)

OGRS (Copas & Marshall, 1988) is another actuarial instrument that focuses on the prediction of offending at the group level for offenders in England and Wales. It has five static factors: age, sex, number of previous convictions, number of custodial sentences under 21 years of age, and seriousness of the index offence.

One study was identified that met the eligibility criteria of the review. A summary of the study information and data for the included study is provided in Table 25. Three studies were excluded because they consisted of samples with greater than 30% of participants having a diagnosis of schizophrenia.

Table 25: Study information and data on the OGRS

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Coid <i>et al.</i> , 2007	N = 1396 (1353 prisoners released) Gender: all male Setting: prisoner cohort, UK	6 days – 2.91 years (M = 1.97 years)	Serious re-offending	Any: AUC = 0.77 p < .001 Drug: AUC = 0.69 p < .001 Theft: AUC = 0.76 p < .001 Robbery: AUC = 0.69 p < .001 Violence: AUC = 0.72 p < .001	+

The AUC ranged from 0.69 to 0.72 indicating a moderately accurate prediction. However, the data were too sparse to be able to draw conclusions on the efficacy of this assessment tool for the target population of this review.

Level of Service Inventory (LSI)

The LSI (Andrews & Bonta, 1995) is another actuarial instrument designed to predict re-offending and the need for probation supervision. The LSI consists of 54 items and 10 subscales using both static (for example, age and previous conviction) and dynamic factors (for example, alcohol misuse and accommodation problems) to predict re-offending.

Three studies were identified that met the eligibility criteria of the review; all were focused on predicting criminal convictions either generally or more specifically of violent recidivism. A summary of the study information and data for each of these studies is provided in Table 26.

As with the previous instruments the AUC values ranged from 0.60 to 0.80; all were statistically significant and indicated moderate predictive validity. However, it was not possible to pool the AUC values because of a lack of extractable data—only Dahle (2006) provided sufficient detail.

6.2.6 Clinical evidence summary

There was considerable similarity in the AUC values obtained for most of the scales reviewed. The PCL-R, LSI, OGRS and HCR-20 all had AUC values indicating a moderate level of prediction. Therefore there are a number of measures available that

Table 26: Study information and data for LSI

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Dahle, 2006	N = 307 Mean age at baseline: 30 years (SD = 5.35) Gender: all male Setting: German prisons	10 years	Criminal convictions	Re-imprisonment 5 years post-release: AUC = 0.70, SD = 0.03 Reimprisonment 10 years post-release: AUC = 0.65, SD = 0.03	++
Kroner <i>et al.</i> , 2005	N = 206 Age: 30 years Gender: all male Setting: prison, Canada	–	Post-release criminal convictions Revocations (violations of parole leading to reincarceration)	New convictions: AUC = 0.69 Revocations: AUC = 0.71	+
Loza & Green, 2003	N = 91 Mean age: 30 Gender: all male Setting: released from prison, Canada	5 years	Violent and general recidivism	Violent recidivism: AUC = 0.67 General recidivism: AUC = 0.78	+

are adequately effective at predicting violence and/or offending at the group level, with little data to differentiate them.

While these studies provide useful data on the prediction of recidivism and violence at the group level, there are limits to applying this data in clinical practice. Risk assessment instruments measure the extent to which an individual resembles a group in which there is a particular, statistical risk of violence. The instrument may tell professionals more about that individual than they would know if they did not carry out the assessment, but it has limited accuracy as a predictor of the individual's behaviour.

6.2.7 From evidence to recommendations

All of the risk assessment tools included in the review appeared to predict risk moderately well and there did not appear to be clear evidence to distinguish these measures

in their level of prediction. Therefore the GDG concluded that the use of a structured instrument would be beneficial as a supplement to a structured clinical assessment. It was also noted that these measures should be provided by staff with sufficient expertise (for example, working in tertiary services) and already be familiar in UK clinical practice (for example, the PCL-R, PCL-SV and HCR-20).

In addition, for secondary services, where there may not be the resources to conduct assessments using such instruments, the GDG felt it would be important for staff to record detailed histories of previous violence and other risk factors.

Finally, in the event that a violence risk assessment may be required in primary care, the GDG concluded that a history of previous violence should be taken and referral to specialist services should be considered.

6.2.8 Recommendations

Primary care services

6.2.8.1 Assessing risk of violence is not routine in primary care, but if such assessment is required consider:

- current or previous violence, including severity, circumstances, precipitants and victims
- the presence of comorbid mental disorders and/or substance misuse
- current life stressors, relationships and life events
- additional information from written records or families and carers (subject to the person's consent and right to confidentiality), because the person with antisocial personality disorder might not always be a reliable source of information.

6.2.8.2 Healthcare professionals in primary care should consider contact with and/or referral to secondary or forensic services where there is current violence or threats that suggest significant risk and/or a history of serious violence, including predatory offending or targeting of children or other vulnerable people.

Secondary care services

6.2.8.3 When assessing the risk of violence in secondary care mental health services, take a detailed history of violence and consider and record:

- current or previous violence, including severity, circumstances, precipitants and victims
- contact with the criminal justice system, including convictions and periods of imprisonment
- the presence of comorbid mental disorder and/or substance misuse
- current life stressors, relationships and life events
- additional information from written records or families and carers (subject to the person's consent and right to confidentiality), as the person with antisocial personality disorder might not always be a reliable source of information.

- 6.2.8.4 The initial risk management should be directed at crisis resolution and ameliorating any acute aggravating factors. The history of previous violence should be an important guide in the development of any future violence risk management plan.
- 6.2.8.5 Staff in secondary care mental health services should consider a referral to forensic services where there is:
- current violence or threat that suggests immediate risk or disruption to the operation of the service
 - a history of serious violence, including predatory offending or targeting of children or other vulnerable people.

Specialist personality disorder or forensic services

- 6.2.8.6 When assessing the risk of violence in forensic, specialist personality disorder or tertiary mental health services, take a detailed history of violence, and consider and record:
- current and previous violence, including severity, circumstances, precipitants and victims
 - contact with the criminal justice system, including convictions and periods of imprisonment
 - the presence of comorbid mental disorder and/or substance misuse
 - current life stressors, relationships and life events
 - additional information from written records or families and carers (subject to the person's consent and right to confidentiality), as the person with antisocial personality disorder might not always be a reliable source of information.
- 6.2.8.7 Healthcare professionals in forensic or specialist personality disorder services should consider, as part of a structured clinical assessment, routinely using:
- a standardised measure of the severity of antisocial personality disorder (for example, PCL-R or PCL-SV)
 - a formal assessment tool such as HCR-20 to develop a risk management strategy.

6.3 RISK MANAGEMENT

6.3.1 Introduction

The priority for mental health services is arguably not risk assessment as much as risk management. The task is not only to define and measure risk but to intervene in order to reduce it. It is extremely rare for medical treatment to carry any third-party risk, so it is essential that services take systematic action to reduce violence risk.

The key to effective risk management is the assessment of risk as a multi-faceted construct using a descriptive approach rather than an estimate of high, medium or low risk. A description of the nature of the risk, including the factors likely to increase or decrease it, should lead seamlessly to a management plan.

6.3.2 Current practice

No formal evaluations or systematic reviews relating to violence risk management in antisocial personality disorder were found.

6.3.3 Definition and aim of topic of review

Formal evaluation studies assessing interventions designed to manage the risk of violence and/or offending were the subject of this review. Broad inclusion criteria were adopted because there was initial interest in the capacity of the intervention to manage risk of violence/offending behaviour, which is not exclusive to antisocial personality disorder.

6.3.4 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 27.

6.3.5 Studies considered

The review team conducted a new systematic search for observational studies on risk management interventions that aimed to reduce the risk of violence and/or offending. No studies that met the criteria of the review were identified. The GDG therefore developed good practice recommendations based on a consideration of the risk assessment literature including the National Confidential Inquiry into Suicide and

Table 27: Databases searched and inclusion/exclusion criteria for clinical effectiveness of psychological interventions

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library
Date searched	Database inception to November 2007; table of contents November 2007 to June 2008
Study design	Observational studies
Patient population	People with antisocial personality disorder; people in psychiatric institutions; people in prison
Interventions	Risk management interventions
Outcomes	Reduction in risk of violence/offending

Homicide by People with Mental Illness (Appleby *et al.*, 2006); professional consensus; the recommendations of inquiries following homicides (Department of Health, 2007a); and recommendations produced by other bodies including the Risk Management Authority Scotland (2006).

6.3.6 Essential features of a risk management plan

When considering the evidence for risk management, the GDG drew heavily on the Department of Health (2007a) document, *Best Practice in Managing Risk: Principles and Evidence for Best Practice in the Assessment and Management of Risk to Self and Others in Mental Health Services*. This was developed by the Department of Health as part of its National Mental Health Risk Management Programme. It includes 16 best practice points, which the GDG appraised as an effective synopsis of the current best practice in risk management; these are summarised below (see Box 1).

Box 1: Best practice in risk management (Department of Health, 2007a)

Introduction

1. Best practice involves making decisions based on knowledge of the research evidence, knowledge of the individual service user and their social context, knowledge of the service user's own experience, and clinical judgement.

Fundamentals

2. Positive risk management as part of a carefully constructed plan is a required competence for all mental health practitioners.

3. Risk management should be conducted in a spirit of collaboration and based on a relationship between the service user and their carers that is as trusting as possible.

4. Risk management must be built on recognition of the service user's strengths and should emphasise recovery.

5. Risk management requires an organisational strategy as well as efforts by the individual practitioner.

Basic ideas in risk management

6. Risk management involves developing flexible strategies aimed at preventing any negative event from occurring or, if this is not possible, minimising the harm caused.

7. Risk management should take into account that risk can be both general and specific, and that good management can reduce and prevent harm.

8. Knowledge and understanding of mental health legislation is an important component of risk management.

Continued

Box 1: (Continued)

9. The risk management plan should include a summary of all risks identified, formulations of the situations in which identified risks may occur, and actions to be taken by practitioners and the service user in response to crisis.

10. Where suitable tools are available, risk management should be based on assessment using the structured clinical judgement approach.

11. Risk assessment is integral to deciding on the most appropriate level of risk management and the right kind of intervention for a service user.

Working with service users and carers

12. All staff involved in risk management must be capable of demonstrating sensitivity and competence in relation to diversity in race, faith, age, gender, disability and sexual orientation.

13. Risk management must always be based on awareness of the capacity for the service user's risk level to change over time, and a recognition that each service user requires a consistent and individualised approach.

Individual practice and team working

14. Risk management plans should be developed by multidisciplinary and multi-agency teams operating in an open, democratic and transparent culture that embraces reflective practice.

15. All staff involved in risk management should receive relevant training, which should be updated at least every three years.

16. A risk management plan is only as good as the time and effort put into communicating its findings to others.

These best practice points are general rather than specific but endorse the use of structured clinical risk assessment in formulating risk management plans (as identified in Section 6.2.6). Many of the points are concerned with attitudes and expectations and it is worth considering how some of these general expectations can be applied to the specific question of managing violence risk in antisocial personality disorder.

Use of structured assessment tools

Structured assessments have increased value when they include a measure of the severity of the personality disorder (usually the PCL-R or PCL-SV) because it is difficult to estimate severity by other clinical methods. Many of the predictive factors used by risk assessment scales relate to the underlying construct of antisocial personality disorder so they ought to be particularly useful in this condition.

Static and dynamic risk factors

While risk assessment relies heavily on static factors such as history of violence, the management of risk depends on the manipulation of dynamic factors. The presence of static risk factors does not imply that a person cannot be treated or the degree of risk modified. For example, even in the most severe personality disorder, a considerable reduction in violence risk can often be achieved through treatment of drug or alcohol problems, and through anger management (for a review of interventions for antisocial personality disorder see Chapter 7).

Multi-agency working

As risk depends in large part on what a person has already done, most high-risk patients with antisocial personality disorder will already have been in contact with the criminal justice system. Proper management of violence risk will rarely be a task for mental health services alone. It is necessary to work with other disciplines and in many cases health will not be the lead agency.

Admission to hospital

Admission to hospital is rarely an appropriate treatment for antisocial personality disorder. The main exceptions are at times of crisis, when the admission should have a clearly defined purpose and end point; for the treatment of comorbid conditions (for example, severe depression with a serious associated risk of suicide); and in specialised services for patients who present particularly high risks that cannot be safely managed by other means.

Supervision and treatment in the community

Although its manifestations fluctuate over time, antisocial personality disorder is a lifelong condition and the key to successful risk management is often a long-term supportive, therapeutic relationship, which may involve more than one agency. In high-risk cases the supervision may be mandatory but compulsion should be seen as a step towards developing a therapeutic relationship rather than a substitute for it.

6.3.7 From evidence to recommendations

The recommendations that follow draw on three sources of evidence: the review of specialist assessment tools (an influential factor in the decision to identify specific measures in addition to their psychometric properties was their current use in the UK and their ability to inform a risk management plan; see Section 6.2.6); other guidance on the treatment and management of antisocial personality disorder; and the expert opinion of the GDG. The GDG used methods of informal consensus to arrive at the recommendations.

6.3.8 Recommendations

- 6.3.8.1 Services should develop a comprehensive risk management plan for people with antisocial personality disorder who are considered to be of high risk. The plan should involve other agencies in health and social care services and the criminal justice system. Probation services should take the lead role when the person is on a community sentence or is on licence from prison with mental health and social care services providing support and liaison. Such cases should routinely be referred to the local Multi-Agency Public Protection Panel.

7 INTERVENTIONS FOR PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER AND ASSOCIATED SYMPTOMS AND BEHAVIOURS

7.1 INTRODUCTION

Both psychological and pharmacological interventions for people with antisocial personality disorder are poorly researched and direct evidence on the treatment of this population is scarce. Three relatively recent reviews failed to identify any high-quality evidence for people receiving treatment for antisocial personality disorder (Salekin, 2002; Warren *et al.*, 2003; Duggan *et al.*, 2007a).

A number of approaches have been adopted to address this problem: the use of lower quality evidence, including evidence such as case studies and case series (for example, Salekin, 2002); the use of research on other personality disorders or mixed populations of people with personality disorder including a proportion with antisocial personality disorder, usually a relatively small proportion (for example, Warren *et al.*, 2003); and consideration of the impact of treatments for comorbid problems (such as drug misuse) in antisocial personality disorder populations (Duggan *et al.*, 2007a). All three approaches are problematic in guiding treatment choice for antisocial personality disorder because of difficulties understanding causality (Salekin, 2002), lack of generalisability (Warren *et al.*, 2003), and the lack of direct evidence for the treatment of the disorder itself (Duggan *et al.*, 2007a).

In order to address these limitations, the GDG opted to identify the best available evidence on:

- (i) the treatment of people with antisocial personality disorder – this was to ensure that new studies or studies excluded by other reviews could be considered
- (ii) the treatment of specific components of the diagnostic construct of antisocial personality disorder (for example, impulsivity and aggression) – this was to include important evidence on the treatment of a particular aspect of antisocial personality disorder
- (iii) interventions for offenders that aim to reduce re-offending – this was considered important because offending and related behaviours are both key to the difficulties associated with antisocial personality disorder.

The GDG recognised that the inclusion of evidence for offending behaviour was potentially controversial and that offending behaviour might be seen as a poor proxy outcome in the treatment of antisocial personality disorder. The rationale for using offending behaviour as a proxy for a diagnosis of antisocial personality disorder (where the latter has not been recorded) is threefold. First, a history of antisocial behaviour is a particular feature of antisocial personality disorder in the DSM-IV diagnostic system (APA, 2000), specifically the ‘failure to conform to social norms

with respect to lawful behaviours as indicated by repeatedly performing acts that are grounds for arrest'. Second, interventions aimed at reducing offending behaviour often focus on other diagnostic criteria of antisocial personality disorder as mediating variables in the treatment process. To date, such work has included studies of impulsivity, aggressiveness, and lack of remorse as 'treatment targets'. Therefore, evidence that has a bearing on the amelioration of these factors is also potentially relevant to the treatment of antisocial personality disorder. Third, surveys of offenders very often find high rates of personality disorder that are significantly above the levels found in community-based studies of prevalence, in particular among those who are imprisoned and those with entrenched patterns of more serious offences. As noted earlier, a survey for the UK Office for National Statistics interviewed 3,142 prisoners and found that 49% of male sentenced prisoners, 63% of males on remand, and 31% of female prisoners met criteria for diagnosis of antisocial personality disorder (Singleton *et al.*, 1998).

7.1.1 Treatment of comorbid disorders

Given the limited evidence for the treatment of antisocial personality disorder and that guidance on disorders commonly comorbid with antisocial personality disorder generally does not consider the impact of antisocial personality disorder on treatment recommendations, the GDG decided to review the evidence for the treatment of comorbid disorders. The evidence on the treatment of comorbid disorders was restricted to populations with antisocial personality disorder, and evidence was not extrapolated from studies of offenders or other populations. In the review of interventions for offending behaviour, the GDG also decided to include studies of interventions for drug and alcohol misuse and dependence in offender populations where such studies met quality criteria.

7.2 PSYCHOLOGICAL INTERVENTIONS FOR ANTISOCIAL PERSONALITY DISORDER

7.2.1 Introduction

There has been little formal development of psychological interventions specifically for the treatment of antisocial personality disorder with considerably more emphasis placed on the psychological treatment of other personality disorders, primarily borderline personality disorder (for example, Kernberg, 1984; Linehan, 1997). As with personality disorder more generally, psychoanalytic approaches to treatment held sway initially (Cordess & Cox, 1998); more recently developments in cognitive behavioural treatments have emerged but such approaches in antisocial personality disorder are not supported by a strong evidence base (Duggan *et al.*, 2007a).

Psychological interventions for comorbid disorders are, by contrast, well developed and are as effective or more effective than pharmacological treatments for common

mental disorders (for example, NCCMH, 2005a, 2005b, 2006). This suggests that such interventions may have a significant role to play in the treatment of comorbid disorders in antisocial personality disorder. Similarly effective psychological treatments for drug and alcohol disorders have also been developed (NCCMH, 2007a) and may again be of benefit to people with antisocial personality disorder with comorbid drug and alcohol problems.

Although psychological interventions specifically for antisocial personality disorder are limited, interventions for some of the components of the antisocial personality disorder diagnostic construct have been better developed, principally for the treatment or management of aggression. However, the relevance of anger management as an intervention for an aspect of the antisocial personality disorder diagnostic construct may be limited. Anger is not explicitly included in the diagnostic criteria for antisocial personality disorder and while anger may be related to impulsivity and aggression, reducing anger may not reduce impulsivity and aggression. Equally, when delivered to offenders, anger management interventions may reduce levels of anger without having an impact on offending, aggressive or violent behaviours if the causes of those behaviours in an individual are unrelated to anger. The majority of literature on anger management has focused on populations of college students (Edmonson & Conger, 1996; Del Vecchio & O'Leary, 2004; Beck & Fernandez, 1998). The GDG felt that it would not be appropriate to extrapolate from college students with elevated levels of anger to people with antisocial personality disorder. As a consequence, this review is not concerned with the efficacy of anger management in these populations.

In contrast to the limited development of specific treatment for antisocial personality disorder, there has been considerable development of interventions aimed at reducing offending behaviour. These include a wide range of cognitive and behavioural interventions (for example, Landenberger & Lipsey, 2005; Lipsey *et al.*, 2001, 2007; Lipton *et al.*, 2002; Tong & Farrington, 2006; Wilson *et al.*, 2005), and to a lesser extent therapeutic communities (Lees *et al.*, 2003). Within the UK criminal justice system the use of cognitive and behavioural interventions such as Reasoning and Rehabilitation (for example, Cann *et al.*, 2003) and Enhanced Thinking Skills (for example, Friendship *et al.*, 2002) is widespread.

Current practice

Healthcare services

Most people with antisocial personality disorder in the community remain undiagnosed and untreated (Department of Health, 2003). They do not come into contact with mental health services and often do not perceive any need for treatment of their personality problems. Some people with the disorder may seek treatment for comorbid mental health disorders, including anxiety and depression, but whether they have a formal diagnosis of antisocial personality disorder or not, they may nevertheless be excluded from services because of their personality disorder or the mistaken belief that they will not be able to benefit from treatment. People with antisocial personal-

ity disorder may also make limited use of inpatient services in a crisis but are unlikely to be offered or engage in long-term treatment.

In contrast to mental health services, a significant number of people with antisocial personality disorder are treated by drug and alcohol services in both the statutory and non-statutory sector. Here the focus on treatment will be on the drug or alcohol misuse not the personality problem.

Health services treating people specifically for their antisocial personality disorder are largely limited to specialist healthcare services such as forensic services. However, even within forensic services specific provision for antisocial personality disorder is underdeveloped. At the very severe end of the spectrum the recent development of the Dangerous and Severe Personality Disorder Service (Home Office, 1997) has seen the establishment of new units in two special hospitals (Rampton and Broadmoor) and two high secure prisons (HMP Frankland and HMP Whitemoor).

The criminal justice system

The large majority of people receiving interventions for antisocial personality disorder and related problems will be in the criminal justice system, with the interventions provided either by the probation or prison services. The explicit aim of these interventions is to reduce offending behaviour. These interventions are highly manualised and subject to stringent quality assurance and auditing (T³ Associates, 2003). Whether individuals in the criminal justice system receive interventions will depend on a range of factors including the availability of places on offending behaviour programmes in the institution or probation service, the type and length of their sentence (as this may or may not facilitate their enrolment in a programme), and, if they are in prison, whether they voluntarily choose to enrol on a programme.

The majority of psychological interventions delivered in the criminal justice system are cognitive behavioural and largely based on social learning theory, a development of behavioural learning models that has been adapted to take account of findings from cognitive and developmental psychology (Bandura, 2001). These interventions include: behaviour modification; relaxation training; systematic desensitisation; social skills training; problem-solving therapy; cognitive therapy; and moral reasoning or moral reconnection therapy. Virtually all of these methods have been employed in efforts to reduce offending behaviour and this represents the largest research base of evidence for interventions with offenders. The literature has been reviewed in a number of meta-analyses (for example, Lipton *et al.*, 2002; Landenberger & Lipsey, 2005; Tong & Farrington, 2006; Lipsey *et al.*, 2007).

Beyond the health and criminal justice system interventions, the provision of care and support for people with antisocial personality disorder is also very limited. As they may cause disruption and a threat to staff or other services users, people with antisocial personality disorder may find themselves excluded from a range of services that might otherwise support them in the community (including during transition from the care of the criminal justice system to the community), such as housing, welfare and employment services.

7.2.2 Definition and aim of review

The review considered psychological interventions for antisocial personality disorder and its constructs. This included interventions for people specifically diagnosed with antisocial personality disorder, but also interventions for the symptoms or behaviours associated with this diagnostic construct including anger, impulsivity and aggression. However, studies of populations with diagnoses of serious mental illness (including schizophrenia) were excluded. In addition, interventions for offending behaviour in people without a diagnosis of antisocial personality disorder were considered, including for offenders with substance misuse problems.

Outcomes

For the review of the effectiveness of interventions for adults with antisocial personality disorder, the GDG chose re-offending as the primary outcome. There are a number of measures of re-offending including conviction, arrest, breaches of conditions attached to parole or probation, re-incarceration and recidivism. Conviction was considered the most robust measure but where this was not reported other re-offending outcomes were extracted in the order of priority listed above.

7.2.3 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 28 (further information about the search for health economic evidence can be found in Appendix 11.)

The review team conducted a series of systematic searches for RCTs that assessed the efficacy and cost effectiveness of psychological interventions specifically for the

Table 28: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library, C2-SPECTR, NCJRS, IBSS, FEDRIP
Date searched	Database inception to June 2008
Study design	RCT
Patient population	People with antisocial personality disorder, people with behaviour or symptoms associated with the antisocial personality construct, offending behaviour
Interventions	Psychological interventions
Outcomes	Offending, reduction in impulsivity, anger or aggression

treatment of antisocial personality disorder, behaviours or symptoms associated with the antisocial personality disorder construct, and offending behaviour (see Table 31).

One trial (DAVIDSON2008) met the eligibility criteria of the GDG in the first systematic search to assess the treatment of antisocial personality disorder.

Two further searches were conducted separately on behaviours and symptoms associated with the antisocial personality disorder construct, and on offending behaviour.

7.2.4 Studies considered¹¹

A total of 22 trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 3,237 participants. Of these, two trials were reported in books (JOHNSON1995, PORPORINO1995), two were reports from the US Department of Justice (AUSTIN1997, PULLEN1996), and 18 were published in peer-reviewed journals between 1973 and 2008 (ARMSTRONG2003, DAVIDSON2008, DEMBO2000, DUGAN1998, ELROD1992, GREENWOOD1993, GUERRA1990, KINLOCK2003, LEEMAN1993, LIAU2004, OSTROM1971, ROHDE2004, ROSS1988, SCHLICHTER1981, SHIVRATTAN1988, SPENCE1981, VAN VOORHIS2004, VANNOY2004). In addition, 97 studies were excluded from the analysis. The most common reason for exclusion was lack of a comparison group (further information about both included and excluded studies can be found in Appendix 15).

For the treatment of people with antisocial personality disorder, there was one trial (DAVIDSON2008) that met the eligibility criteria of the review providing information on 39 participants.

For the treatment of people with symptoms or behaviour associated with the antisocial personality disorder construct, there was one trial that investigated the treatment of anger by comparing anger management with control (VANNOY2004).

For the treatment of offending behaviour in adults with substance misuse problems, there were four trials investigating cognitive and behavioural interventions, three of which were group-based interventions (AUSTIN1997; JOHNSON1995; KINLOCK2003) and one which was individually based (DUGAN1998).

For the treatment of offending behaviour in adults, there were five trials comparing group-based cognitive and behavioural interventions with control (ARMSTRONG2003; LIAU2004; PORPORINO1995; ROSS1988; VANVOORHIS2004).

For the treatment of offending behaviour in young people, seven trials compared group-based cognitive and behavioural skills interventions with control (GUERRA1990; LEEMAN1993; OSTROM1971; PULLEN1996; ROHDE2004; SCHLICHTER1981; SPENCE1981); one trial was on individual cognitive and behavioural interventions (SHIVRATTAN1988) and three trials compared multi-component interventions with control (ELROD1992; GREENWOOD1993; DEMBO2000).

¹¹Here and elsewhere in the guideline, each study considered for review is referred to by a study ID in capital letters (primary author and date of study publication, except where a study is in press or only submitted for publication, then a date is not used). The references for studies can be found in Appendix 15.

7.2.5 Clinical evidence for the treatment of antisocial personality disorder

The search identified one study relating to the treatment of antisocial personality disorder (DAVIDSON2008). The study compared CBT with treatment as usual for people with antisocial personality disorder living in the community (see Table 29 and Table 30). Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

DAVIDSON2008 did not find an effect for CBT on anger or verbal aggression compared with treatment as usual for people with antisocial personality disorder in the community. The trial did find a small, non-significant effect for social functioning and physical aggression compared with treatment as usual.

7.2.6 Clinical evidence summary for the treatment of antisocial personality disorder

The evidence for the treatment of antisocial personality disorder in the community is limited to one trial. The quality of the evidence is low to moderate where further research is likely to have an impact on the effect estimate of CBT in the community for people with antisocial personality disorder. The limited economic evidence from this trial suggests that CBT may not be cost saving in the short term (see below).

7.2.7 Economic evidence for the treatment of antisocial personality disorder

One economic study on psychological treatment of antisocial personality disorder was included in the systematic economic literature review (Davidson *et al.*, 2008).

Table 29: Study information table on CBT for treatment of antisocial personality disorder

Cognitive behavioural therapy versus treatment as usual for antisocial personality disorder	
Total no. of trials (total no. of participants)	1 RCT (N = 52)
Study ID	DAVIDSON2008
Population	People with antisocial personality disorder
Setting	Community
Treatment length	6–12 months
Length of follow-up	12 months

Table 30: GRADE evidence summary for interventions for antisocial personality disorder

CBT compared with treatment as usual for people with antisocial personality disorder in the community			
Population: antisocial personality disorder			
Settings: community			
Intervention: CBT versus treatment as usual			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size
Novaco Anger Scale - Total	39 (1)	⊕⊕○○ low ^{1,2,3}	SMD -0.06 (-0.69 to 0.56)
Novaco Anger Scale - Provocation Inventory (subscale)	39 (1)	⊕⊕○○ low ^{1,2,3}	SMD -0.18 (-0.81 to 0.45)
Social Functioning Questionnaire	39 (1)	⊕⊕⊕○ moderate ^{2,3}	SMD -0.27 (-0.9 to 0.36)
Aggression (ITT) - Verbal aggression	52 (1)	⊕⊕⊕○ moderate ^{2,3}	RR 0.94 (0.73 to 1.21)
Aggression (ITT) - Physical aggression	52 (1)	⊕⊕⊕○ moderate ^{2,3}	RR 0.77 (0.42 to 1.41)
¹ Outcome is not directly relevant to antisocial personality disorder			
² Data sparse			
³ Effect compatible with benefit and no benefit			

The study, which was conducted in the UK, was a simple cost analysis of CBT plus treatment as usual versus treatment as usual alone conducted alongside an RCT included in the guideline systematic review of clinical evidence (DAVIDSON2008). The study examined healthcare costs (including psychiatric care, accident and emergency visits and primary care), social work costs and costs borne by the criminal justice system. The time horizon of the analysis was 12 months. Overall, the total cost per person in the CBT group was higher than the respective cost in the treatment as usual group (£38,004 versus £31,097, respectively). The healthcare cost was similar in both groups (£1,295 in the CBT group and £1,133 in the TAU group). The cost of providing CBT was £1,300 per participant. Details on the methods used in the systematic review of the economic literature are described in Chapter 3. Evidence

tables for all economic studies included in the guideline economic literature review are in Appendix 14.

7.2.8 Clinical evidence for the treatment of the constructs of antisocial personality disorder

One trial relating to clinical evidence for the treatment of the constructs of antisocial personality disorder met the eligibility criteria set by the GDG, providing data on 31 participants (VANNOY2004). The included study was a trial of group-based anger management versus waitlist in an offender population. This small study reported data only on a continuous measure and was considered to be of low quality. The outcomes of the trial were trait anger (STAXI; SMD -0.64 , -1.36 to 0.09) and state anger (STAXI; SMD -0.96 , -1.70 to -0.21).

7.2.9 Clinical evidence summary for the treatment of the constructs of antisocial personality disorder

The evidence for the treatment of the constructs of antisocial personality disorder is extremely limited and does not support the development of any recommendations.

7.2.10 Economic evidence for the treatment of the constructs of antisocial personality disorder

No evidence on the cost effectiveness of treatment of the constructs of antisocial personality disorder was identified by the systematic search of the literature. Details on the systematic search of the literature are provided in Chapter 3.

7.2.11 Clinical evidence for the treatment of offending in substance misuse offenders

The review found four trials that investigated cognitive and behavioural interventions for the treatment of offending in substance misuse offenders, three of which were group based interventions (AUSTIN1997; JOHNSON1995; KINLOCK2003) and one was individually based (DUGAN1998). This review provided data on 582 participants (see Table 31 and Table 32). Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

For the treatment of offending in substance misuse offenders, the five included studies were identified as cognitive and behavioural interventions. The review found this intervention to have a medium effect on offending and major infractions combined (RR = 0.76 ; 0.60 , 0.97) and a small non-significant effect on mean number of offences (SMD 0.19 ; -0.18 to 0.55).

Table 31: Study information table for group-based cognitive and behavioural intervention compared with non-treatment control for substance misuse offenders

Group-based cognitive and behavioural intervention compared with non-treatment control	
Total no. of trials (total no. of participants)	4 RCTs (N = 426)
Study ID	AUSTIN1997 DUGAN1998 JOHNSON1995 KINLOCK2003
Population	Offenders with substance misuse problems
Setting	Institution (prison): DUGAN1998 KINLOCK2003 Community (probation): AUSTIN1997 JOHNSON1995
Average treatment length	114 days
Length of follow-up	Longest follow-up: 1 year

7.2.12 Clinical evidence summary for the treatment of offending in substance misuse offenders

There appears to be modest evidence for the effectiveness of cognitive and behavioural interventions, primarily delivered in groups, in reducing offending for adults with substance misuse problems. This effect has been found in a variety of settings including institutional prison-based settings and outpatient and probation settings in the community.

7.2.13 Economic evidence for the treatment of offending in substance misuse offenders

One study met the inclusion criteria for the systematic economic literature review (Alemi *et al.*, 2006). The study, which was conducted in the US, compared the costs over 2.75 years of a combination of probation and substance misuse treatment versus

Table 32: GRADE evidence summary for the treatment of offending in substance misuse offenders

Group-based cognitive and behavioural intervention compared with non-treatment control for substance misuse offenders			
Population: substance misuse offenders			
Settings: prison, probation and outpatient			
Intervention: cognitive and behavioural interventions versus control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Comments
Any bad antisocial personality disorder outcome [dichotomous] - Re-offending	394 (3)	⊕⊕⊕○ moderate ¹	RR 0.78 (0.58 to 1.04)
Any bad antisocial personality disorder outcome [dichotomous] - Major infractions	160 (1)	⊕⊕○○ low ^{1,2,3}	RR 0.74 (0.49 to 1.11)
Mean number of offences	117 (1)	⊕⊕○○ low ^{1,2,3}	SMD 0.19 (-0.18 to 0.55)
¹ Population does not directly involve antisocial personality disorder			
² Sparse data			
³ Effect is compatible with benefit and no benefit			

probation alone. Overall, a combination of probation and treatment was \$6,300 more expensive than traditional probation per participant annually, mainly because of greater mental hospitalisation and additional treatment costs. The study characteristics and results are presented in the form of evidence tables in Appendix 14. Details on the systematic search of the economic literature are provided in Chapter 3.

7.2.14 Clinical evidence for the treatment of offending behaviour in adults

There were five trials comparing the effects of group-based cognitive and behavioural interventions with control on re-offending for adult offenders treated within the criminal justice system (institutional settings or in the community on probation or parole) (see Table 33 and Table 34). Conviction was considered the most robust measure of re-offending but where this was not reported, other re-offending outcomes were

Table 33: Study information table for group-based cognitive and behavioural interventions for offenders

Group-based cognitive and behavioural intervention versus non-treatment control	
Total no. of trials (total no. of participants)	5 RCTs (N = 1798)
Study ID	ARMSTRONG2003 LIAU2004 PORPORINO1995 ROSS1988 VANVOORHIS2004
Population	Offenders
Setting	Institution (prison): ARMSTRONG2003 PORPORINO1995 Community (probation): ROSS1988 VANVOORHIS2004 In between institution and probation (halfway house): LIAU2004
Average treatment length	115 days
Length of follow-up	Longest follow-up: 9 months
Age	18–20 years: ARMSTRONG2003 20+ years: LIAU2004 PORPORINO1995 ROSS1988 VANVOORHIS2004

extracted (for further details see Section 7.2.2). Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Group-based cognitive and behavioural interventions were found to provide a modest effect on re-offending (RR 0.78; 0.55 to 1.08). The population included in this analysis was predominantly adult male offenders. LIAU2004, which included a small

Table 34: GRADE evidence summary for group-based cognitive and behavioural intervention for offenders

Group-based cognitive and behavioural intervention versus non-treatment control			
Patient or population: Offenders			
Settings: Prison/institutional and probation/parole			
Intervention: Cognitive and behavioural intervention for offenders			
Comparison: Untreated comparison			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Relative effect (95% CI)
Re-offending - inclusive measures [male and mixed offenders] – ITT data only	1270 (5)	⊕⊕○○ low ^{1,2}	RR 0.78 (0.55 to 1.08)
Re-offending [young male offenders, age range or mean 18–20] – ITT data only	212 (1)	⊕⊕○○ low ^{2,3}	RR 1.00 (0.82 to 1.22)
¹ Some of the heterogeneity is explained by one study			
² Population is not directly ASPD			
³ Effect compatible with benefit and no benefit			

proportion of female offenders, was not included in the meta-analysis because it was not possible to extract intention-to-treat (ITT) data.

7.2.15 Clinical evidence summary for the treatment of offending behaviour in adults

There appears to be modest evidence for the effectiveness of group-based cognitive behavioural skills interventions, delivered in community and institutional settings, in reducing offending for adults in the criminal justice system.

Group-based cognitive behavioural skills interventions for offending behaviour delivered to offenders in criminal justice settings (prison/institutional settings and probation/parole) have a small but positive effect on the rate of re-offending for adult male offenders aged 21 and over. However, the more limited evidence base on young adult offenders aged 18 to 20 indicates that young offenders do not respond to these interventions.

7.2.16 Health economic evidence for the treatment of offending behaviour

Systematic literature review

One US study focusing on interventions targeted at adult offenders was identified by the systematic search of economic literature (Zhang *et al.*, 2006). The study evaluated a state-wide multiple community-based services parole programme in California by comparing programme costs with incarceration costs avoided because of decreases in recidivism. Over 2 years, programme participants had lower recidivism and reincarceration rates than the untreated population, resulting in significant net savings of \$21 million.

Economic modelling

Objective

The guideline systematic review and meta-analysis of clinical evidence demonstrated that provision of Reasoning and Rehabilitation, a group-based cognitive behavioural skills intervention (Cann *et al.*, 2003), to adult offenders can potentially reduce the rates of future offending behaviour. Offending behaviour leads to substantial costs to the society, including the criminal justice system and victims of crime. A cost analysis was undertaken to assess whether the costs to the NHS of providing Reasoning and Rehabilitation to adults with offending behaviour are offset by future cost savings resulting from reduction in re-offending behaviour in this population.

Methods

Intervention examined Reasoning and Rehabilitation programmes are offered to people with offending behaviour in institutional and community correctional settings. They typically consist of 38 curriculum-based sessions of 2 hours' duration each over approximately 8 to 12 weeks. Programmes are delivered to small groups of eight to ten participants (T³ Associates, 2003).

Costs considered in the analysis A simple economic model was developed to estimate the net total costs (or cost savings) associated with provision of Reasoning and Rehabilitation to adult offenders. Published evidence on the costs incurred by adults with offending behaviour is limited. One study conducted in the UK that assessed the effectiveness of CBT in adults with antisocial personality disorder reported 12-month service costs incurred by this population, including healthcare, social work and criminal justice system costs (Davidson *et al.*, 2008). The total costs per adult with antisocial personality disorder receiving CBT over 12 months were £38,000. Of these, only 7% were healthcare costs (including provision of CBT); the vast majority of costs were associated with social work and use of criminal justice system services.

NICE recommends that economic analyses of healthcare interventions adopt a NHS and PSS perspective (NICE, 2006a). However, the criminal justice system and social and other public services are likely to bear the majority of costs incurred by adults with offending behaviour and only a small proportion of costs fall on the NHS and PSS. For this reason, the economic analysis adopted a broader perspective than

that of the NHS and PPS, including any costs to public services for which appropriate information was available.

Existing clinical evidence suggests that provision of Reasoning and Rehabilitation to adults with offending behaviour may reduce rates of re-offending, and therefore costs relating to crime. It is unknown whether participation of adult offenders in such programmes has an effect on other costs, such as costs to health and social care services, although it is likely that reducing offending behaviour may result in a decrease in other costs too. Because of lack of appropriate relevant data that could inform the economic model, the analysis has considered only intervention costs (that is, costs of providing Reasoning and Rehabilitation) and costs related to crime/adult offending behaviour. All other categories of public sector costs, such as health and social care costs, were conservatively assumed to be the same for adult offenders participating in Reasoning and Rehabilitation programmes and for those not receiving the intervention, and were subsequently omitted from the analysis. This is acknowledged as a limitation of the economic analysis. However, costs relating to crime are likely to constitute the most substantial part of the costs incurred by adult offenders; therefore, the economic analysis is likely to have considered the majority of costs associated with providing Reasoning and Rehabilitation to adults with offending behaviour.

Model input parameters

Clinical efficacy of Reasoning and Rehabilitation and baseline re-offending rate in adult offenders

Clinical data on re-offending rates associated with Reasoning and Rehabilitation were taken from three studies (PORPORINO1995; ROSS1988; VAN VOORHIS2004). Meta-analysis of these data undertaken for the guideline showed that the intervention reduced the rate of re-offending in adult offenders compared with no treatment, but results were non-statistically significant at the 0.05 level (mean RR of re-offending for Reasoning and Rehabilitation versus control: 0.78; 95% CI: 0.55 to 1.08). These results were characterised by considerably high heterogeneity caused by inclusion of ROSS1988 in the meta-analysis. When this study was removed, there was no heterogeneity in the results but the effect of the intervention was reduced (mean RR of re-offending for Reasoning and Rehabilitation versus control: 0.88; 95% CI: 0.75 to 1.03). Details of the clinical studies considered in the economic analysis are available in Appendix 15. The forest plots of the respective meta-analyses are provided in Appendix 16.

The baseline re-offending rate for adults with previous offending behaviour was taken from a national report containing 12-month data on re-offending for adults released from custody or commencing a court order (sentences under probation supervision excluding fines) in England and Wales in 2006 (Ministry of Justice, 2008a). According to this document, the re-offending rate in this population was 39% over 12 months. This rate was determined by the number of offenders in the cohort offending at least once during the 12-month follow-up period, where the offence resulted in a court conviction or an out-of-court disposal. The 12-month rate of adult re-offending following provision of Reasoning and Rehabilitation in the economic

analysis was calculated by multiplying the estimated RR of re-offending of the intervention versus control by the baseline re-offending rate.

Intervention costs (costs of providing the Reasoning and Rehabilitation programme)

In order to estimate total intervention costs, relevant resource use was estimated and combined with respective unit costs. Resource use estimates associated with provision of a Reasoning and Rehabilitation programme were adopted from T³ Associates (2003) and were consistent with resource use described in studies providing the efficacy data for this analysis. According to these estimates, the evaluated intervention consisted of 38 sessions lasting 2 hours each, delivered to groups of eight adults with offending behaviour.

The unit cost of therapists providing Reasoning and Rehabilitation was assumed to equal that of clinical psychologists (Band 7) due to lack of more relevant unit cost estimates. However, it is recognised that therapists providing Reasoning and Rehabilitation may be on a lower salary scale, and therefore the total intervention cost may have been overestimated. The national unit cost of clinical psychologists has been estimated at £67 per hour of client contact in 2006/07 prices (Curtis, 2007). This estimate was based on the mid-point of Agenda for Change salaries Band 7 of the April 2006 pay scale according to the National Profile for Clinical Psychologists, Counsellors and Psychotherapists (NHS, 2006). It includes salary, salary on costs, overheads and capital overheads but does not take into account qualification costs as the latter are not available for clinical psychologists.

Based on the above resource use estimates and the unit cost of clinical psychologists, the cost of providing the Reasoning and Rehabilitation programme was estimated at £637 per adult with offending behaviour at 2006/7 prices.

Costs of adult offending behaviour/cost savings from reducing adult re-offending rates

In order to estimate the annual cost resulting from re-offending behaviour by adult offenders, three types of data are needed:

- proportion of different types of offences committed by adult re-offenders
- costs associated with each type of offence
- number of offences per adult re-offender per year.

Data on the proportion of different types of offences committed by adult re-offenders in England and Wales were derived from a national report published by the Ministry of Justice (2008a). The same document reported that the number of offences per adult re-offender were 3.742 over 12 months.

Costs associated with each type of offence committed by adult offenders were taken from a variety of sources, as reported in Chapter 5, Section 5.4.14. Costs were uplifted to 2007 prices using the Retail Prices Index (Office for National Statistics, 2008). The cost per offence committed by adult re-offenders was estimated as the mean cost of all offences weighted by the proportion of offences committed on average by an adult re-offender. Table 35 shows the percentage of offences committed by adult re-offenders, the cost of each type of offence as estimated in

Table 35: Percentage and costs of offences committed by adult re-offenders

Type of offence	Percentage ¹	Cost (£, 2007 prices)	Source of cost
Violence (serious)	0.38	45,686	Dubourg & Hamed, 2005
Violence (non serious)	10.80	9,180	Dubourg & Hamed, 2005
Robbery	0.67	8,298	Dubourg & Hamed, 2005
Public order or riot	7.76	1,671	Godfrey <i>et al.</i> , 2002
Sexual	0.40	35,825	Dubourg & Hamed, 2005
Sexual (child)	0.04	35,825	Dubourg & Hamed, 2005
Soliciting or prostitution	0.12	1,671	Godfrey <i>et al.</i> , 2002
Domestic burglary	1.94	3,724	Dubourg & Hamed, 2005
Other burglary	2.61	3,373	Brand & Price, 2000
Theft	25.45	722	Dubourg & Hamed, 2005
Handling	1.28	1,671	Godfrey <i>et al.</i> , 2002
Fraud and forgery	1.88	1,874	Brand & Price, 2000
Absconding or bail offences	10.22	1,671	Godfrey <i>et al.</i> , 2002
Taking and driving away and related offences	1.68	4,715	Dubourg & Hamed, 2005
Theft from vehicles	1.69	978	Dubourg & Hamed, 2005
Other motoring offences	16.00	1,840	Department of Transport, 2007
Drink driving	1.98	200	Assumption
Criminal or malicious damage	5.25	987	Dubourg & Hamed, 2005
Drugs import/export/production/supply	0.84	4,308	Godfrey <i>et al.</i> , 2002
Drugs possession/small scale supply	4.86	1,671	Godfrey <i>et al.</i> , 2002
Other	4.14	1,500	Assumption
TOTAL	100.00	2,706[†]	

¹ Source: Ministry of Justice, 2008a; [†]Total weighted cost (100.00)

the literature, and the weighted average cost per offence committed by adult re-offenders.

The average cost per offence committed by adult re-offenders was estimated at £2,706. Since this population commits 3.742 offences over 12 months (Ministry of Justice, 2008a), the 12-month cost associated with offending behaviour is £10,127 per adult re-offender.

Interventions for people with antisocial personality disorder

Time horizon of the analysis

The three studies included in the guideline meta-analysis of clinical data on Reasoning and Rehabilitation had time horizons ranging between 4 and 9 months. It is not known whether the beneficial effect of Reasoning and Rehabilitation lasts beyond 9 months. Therefore, for the base-case analysis, a 1-year time horizon was chosen; alternative time horizons up to 5 years were tested in sensitivity analysis, to explore the magnitude of potential savings that could be gained if the intervention has a longer lasting effect.

Discounting

Costs incurred beyond 12 months were discounted at an annual rate of 3.5%, as recommended by NICE (NICE, 2006a). Table 36 provides all input parameters utilised in the base-case analysis of the economic model of Reasoning and Rehabilitation for adults with offending behaviour.

Sensitivity analysis

One- and two-way sensitivity analyses were undertaken to explore the robustness of the results under the uncertainty characterising some model input parameters. The following scenarios were tested in sensitivity analysis:

- Use of the 95% CIs of the RR of re-offending of Reasoning and Rehabilitation versus control.
- Exclusion of data from ROSS1988, which introduced heterogeneity in the meta-analysis (resulting in a mean RR of re-offending of Reasoning and Rehabilitation versus control: 0.88 with 95% CIs 0.75 to 1.03).

Table 36: Input parameters utilised in the economic model assessing the net costs (or savings) resulting from provision of Reasoning and Rehabilitation to adults with offending behaviour

Input parameters	Value	Source of data - comments
RR (95% CIs) of Reasoning and Rehabilitation versus control	0.78 (0.55 to 1.03)	Guideline meta-analysis
Baseline re-offending rate of adult re-offenders (12 months)	39%	Ministry of Justice, 2008a
Intervention cost per adult	£637	Based on 38 sessions lasting 2 hours each, delivered to groups of 8 adults
Weighted average cost per offence committed by adult re-offenders	£2,706	See Table 35
Number of offences per adult re-offender (12 months)	3.742	Ministry of Justice, 2008a
Annual discount rate	0.035	NICE, 2006a

- Reduction in the baseline re-offending rate for adult offenders; an annual rate of 30% was tested.
- Extension of the time horizon of the analysis beyond 1 year; although currently there is no evidence to suggest that Reasoning and Rehabilitation programmes have a clinical effect lasting longer than 1 year, consecutive time horizons of 2 to 5 years were tested in sensitivity analysis to explore the magnitude of potential cost savings achieved by provision of the intervention to adult offenders, if the intervention has a longer lasting effect.
- Potential net savings accrued over 2 to 5 years were also estimated assuming that the effect of the intervention was reduced over time; in this scenario the RR of Reasoning and Rehabilitation versus control was multiplied by a factor of 1.15 for every year after the first year following initiation of the intervention, to capture this assumed decline in the clinical effect over time, until Reasoning and Rehabilitation had no beneficial effect over control.
- Combination of alternative time horizons between 1 and 5 years with the rest of the hypotheses described above.

In addition, threshold analyses identified the values of specific input parameters where the results of the analysis were reversed. The parameters tested were the relative effect of Reasoning and Rehabilitation versus control (expressed in RR), the average cost of offence committed by adult re-offenders, and the baseline re-offending rate of adults with offending behaviour over 12 months.

Results

Base-case analysis The reduction in the re-offending rates achieved by provision of Reasoning and Rehabilitation to adult offenders yielded cost savings equalling £869 per adult with offending behaviour over 1 year. Because the provision of Reasoning and Rehabilitation programmes costs £637 per adult offender, the intervention results in an overall net saving of £232 per adult with offending behaviour over 1 year. Full results of the base-case analysis are reported in Table 37.

Sensitivity analysis Results of the cost analysis were sensitive to the different scenarios tested in sensitivity analysis. The results of meta-analysis (both including and excluding ROSS1988) were not statistically significant at the 0.05 level and

Table 37: Results of economic analysis assessing the net costs (or savings) resulting from provision of Reasoning and Rehabilitation to adults with offending behaviour

Costs per adult (2007 prices)	R&R	Control	Difference
Reasoning and Rehabilitation cost	£637	0	£637
Cost of offending behaviour	£3,081	£3,950	– £869
Total cost	£3,718	£3,950	– £232

therefore using the upper 95% CI of the RR of the intervention versus control did not lead to any savings because offending behaviour was in these cases increased following provision of Reasoning and Rehabilitation to adult offenders. In all other scenarios Reasoning and Rehabilitation resulted in net savings within the first year. Although no long-term studies could demonstrate whether the beneficial effect of the programme in reducing offending behaviour lasts beyond 1 year, sensitivity analysis showed that, if such a longer effect exists, then the intervention could save on average £3,424 per adult offender over 5 years (or £1,578, when ROSS1988 was excluded from analysis).

Threshold analysis showed that the intervention became cost neutral over 1 year when the cost per offence committed by adult offenders fell at £1,980, when the baseline rate of re-offending was reduced at 29% over 12 months, and when the RR of the intervention versus control was a maximum of 0.84.

Full results of one- and two-way sensitivity analyses are presented in Table 38.

In addition, threshold analyses identified the values of specific input parameters where the results of the analysis were reversed. The parameters tested were the relative effect of Reasoning and Rehabilitation versus control (expressed in RR), the average cost of offence committed by adult re-offenders, and the baseline re-offending rate of adults with offending behaviour over 12 months.

Discussion – limitations of the analysis

The results of the economic analysis indicate that Reasoning and Rehabilitation programmes for adults with offending behaviour might be cost saving from a wide economic perspective in the UK. The substantial intervention costs, resulting from the high intensity of such programmes, could be offset by savings from a reduction

Table 38: Results of sensitivity cost analysis of providing Reasoning and Rehabilitation to adults with offending behaviour

Scenario tested	Net cost at different time horizons (2007 prices)				
	1 year	2 years	3 years	4 years	5 years
Meta-analysis of data from all Reasoning and Rehabilitation studies					
• Mean RR	-£232	-£1,072	-£1,883	-£2,667	-£3,424
• Lower 95% CI	-£1,141	-£2,858	-£4,517	-£6,120	-£7,669
• Upper 95% CI	£952	£1,258	£1,553	£1,838	£2,113
Meta-analysis excluding ROSS1988					
• Mean RR	£163	-£295	-£738	-£1,165	-£1,578
• Lower 95% CI	-£351	-£1,305	-£2,227	-£3,117	-£3,978
• Upper 95% CI	£755	£869	£980	£1,087	£1,190
Baseline adult re-offending rate of 30%	-£32	-£678	-£1,302	-£1,904	-£2,487
Increase in RR by 15% annually after 1 year	-£232	-£625	-£625	-£625	-£625

in the rates of re-offending in adults. However, economic results were characterised by uncertainty, as revealed in sensitivity analysis. This uncertainty was caused by the statistical insignificance characterising the clinical data utilised in the economic model.

Although adult offenders incur a wide variety of costs, such as health and social service costs and costs to the criminal justice system (Davidson *et al.*, 2008), the economic analysis considered only intervention costs and costs relating to offending behaviour, owing to lack of evidence for a difference in other costs between Reasoning and Rehabilitation and no treatment. Cost data on offending behaviour were derived from several published sources reporting UK data and included, in most cases, a wide range of costs, such as costs incurred in anticipation of offending behaviour, for example security expenditure, costs directly resulting from offending, such as costs of stolen or damaged property, emotional and physical impact on victims, costs of offering health and other services to victims, as well as costs to the criminal justice system. Although it is acknowledged that omission of other health and social care costs constitutes a limitation of the analysis, existing evidence indicates that costs of offending behaviour are probably the most significant costs incurred by adult offenders. Moreover, the intervention reduces offending behaviour and this can potentially lead to a reduction in other costs such as healthcare costs and social benefit payments. If this is the case, then the economic analysis has only underestimated the net savings gained from Reasoning and Rehabilitation programmes. Moreover, some cost data utilised in the economic analysis consisted exclusively of costs to the criminal justice system. Other costs, such as healthcare costs and emotional distress of victims, the financial and economic burden to the families of both victims and offenders, and the feelings of fear and insecurity at anticipation of crime were not considered in most documents reporting cost data on offending behaviour. Consideration of these factors might increase the reported figures on cost-savings resulting from reduction in offending behaviour achieved by offering Reasoning and Rehabilitation programmes to adult offenders.

Rates of re-offending are higher in adults with more severe offending behaviour, as expressed by the number of previous offences they committed in the past. Moreover, this population commits a higher numbers of offences per year (Ministry of Justice, 2008a). Therefore, providing Reasoning and Rehabilitation to adults with more serious history of offending behaviour is likely to lead to higher cost savings from reduction in offending behaviour.

Reasoning and Rehabilitation programmes are intensive interventions and are therefore characterised by high costs. It is possible that savings resulting from reduction in re-offending do not outweigh intervention costs. However, even if the intervention resulted in a modest net cost per person, considering the further potential benefits to participants and their families from implementation of the programme (such as increase in employment rates, reduction in drug and alcohol misuse and other healthcare costs), this cost may be justified.

The time horizon of the economic analysis was 1 year, as available evidence came from relatively short-term studies, with a maximum time horizon of 9 months. There is currently no evidence that Reasoning and Rehabilitation has a beneficial effect in

Interventions for people with antisocial personality disorder

reducing offending behaviour extending beyond this time. Nevertheless, in order to explore the potential magnitude of cost savings resulting from implementing the intervention, the economic analysis considered multiple consecutive time periods of 1 and up to 5 years to ascertain if the beneficial effect is retained in adult offenders. Further research is needed to explore whether the effect of the intervention lasts in the long term, as this would have substantial financial and emotional (positive) implications for society.

Conclusion

Group-based cognitive behavioural interventions delivered as Reasoning and Rehabilitation programmes are potentially cost effective in the UK setting. Besides the clinical benefits to adults with offending behaviour, they may produce net cost savings to society, resulting from reduction in offending behaviour.

7.2.17 Evidence to recommendations

There is relatively robust clinical evidence indicating that cognitive and behavioural interventions are moderately effective for offenders. The economic analysis showed that such interventions are potentially cost saving, as the intervention costs may be offset by savings associated with a reduction in re-offending; however, the results of economic analysis were characterised by great uncertainty. The finding of a reduction in re-offending is supported by evidence from cognitive and behavioural interventions for offenders with substance misuse problems, which also have a significant impact on reducing offending in a population with a high incidence of antisocial personality disorder.

The GDG judged that it would be reasonable to conclude that such interventions were likely to be effective for people with antisocial personality disorder. As was noted in the Section 7.2.1, these interventions were developed and provided almost exclusively within the criminal justice system. However, in addressing offending behaviour the interventions also attempt to focus on problems with impulsivity, aggression and rule-breaking. Such problems are also experienced by people with antisocial personality disorder without criminal records. In light of this the GDG felt it reasonable to extrapolate from this dataset of offenders and support the use of group-based cognitive and behavioural interventions for non-offending populations with antisocial personality disorder in the community.

In addition, the GDG considered that it would be possible to extrapolate these findings to people who meet criteria for DSPD and therefore concluded that cognitive and behavioural interventions would likely be moderately effective in this population. However, it was also felt that the intervention would need to be adapted in order to be beneficial for people with DSPD. The GDG also noted the recommendation in the borderline personality disorder guideline (NICE, 2009) supporting use of multi-modal treatments, for example the combination of individual and group treatments. Given that a proportion of people who meet criteria for DSPD may have comorbid personality disorders, including borderline personality disorder, the GDG considered this recommendation when formulating recommendations

for antisocial personality disorder. Such modifications would include extending the nature and duration of the intervention and providing close monitoring and supervision of staff.

7.2.18 Recommendations for offending behaviour in adults

- 7.2.18.1 For people with antisocial personality disorder, including those with substance misuse problems, in community and mental health services, consider offering group-based cognitive and behavioural interventions, in order to address problems such as impulsivity, interpersonal difficulties and antisocial behaviour.
- 7.2.18.2 For people with antisocial personality disorder with a history of offending behaviour who are in community and institutional care, consider offering group-based cognitive and behavioural interventions (for example, programmes such as ‘Reasoning and Rehabilitation’) focused on reducing offending and other antisocial behaviour.
- 7.2.18.3 When providing cognitive and behavioural interventions:
- assess the level of risk and adjust the duration and intensity of the programme accordingly (participants at all levels of risk may benefit from these interventions)
 - provide support and encouragement to help participants to attend and complete programmes, including people who are legally mandated to do so.
- 7.2.18.4 For people in community and institutional settings who meet criteria for psychopathy or DSPD, consider cognitive and behavioural interventions (for example, programmes such as ‘Reasoning and Rehabilitation’) focused on reducing offending and other antisocial behaviour. These interventions should be adapted for this group by extending the nature (for example, concurrent individual and group sessions) and duration of the intervention, and by providing booster sessions, continued follow-up and close monitoring.

7.2.19 Clinical evidence for the treatment of offending behaviour in young people

In addition to looking at adult offenders, the review also included young offenders up to the age of 17 years. Eleven trials on cognitive behavioural interventions met the inclusion criteria of the review where all but two trials were of interventions delivered in prison; OSTROM1971 and PULLLEN1996 were interventions delivered in a probation setting. Eight trials were of cognitive and behavioural interventions (GUERRA1990, LEEMAN1993, OSTROM1971, PULLEN1996, ROHDE2004, SCHLICHTER1981, SHIVRATTAN1988, SPENCE1981) and three were multi-component interventions (DEMBO2000, ELROD1992, GREENWOOD1993).

Summary study information and evidence from the included trials are shown in Table 39, Table 40 and Table 41. Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Table 39: Study information table for trials of interventions targeted at adolescents in the criminal justice system

	Cognitive behavioural skills interventions versus control	Multi-component intervention versus control
Total no. of trials (total no. of participants)	8 RCTs (N = 363)	3 RCTs (N = 426)
Study ID	GUERRA1990 LEEMAN1993 OSTROM1971 PULLEN1996 ROHDE2004 SCHLICHTER1981 SHIVRATTAN1988 SPENCE1981	DEMBO2000 ELROD1992 GREENWOOD1993
Population	Adolescents in the criminal justice system	Adolescents in the criminal justice system
Setting	Institution: GUERRA1990 LEEMAN1993 SHIVRATTAN1988 SPENCE1981 Probation: OSTROM1971 PULLEN1996	Institution and probation (included after-care component): GREENWOOD1993 Probation: DEMBO2000 ELROD1992
Treatment length	74 days	175 days
Length of follow-up	6–15 months	12–24 months
Age	Range: 10–18 years Mean (3 studies report mean age): 16 years	Range: 11–18 years Mean (2 studies report mean age): 16 years

Table 40: GRADE evidence summary for cognitive behavioural interventions for adolescents in the criminal justice system

Population: Adolescents in the criminal justice system			
Settings: Institution and probation			
Intervention: Cognitive and behavioural interventions			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect estimates
Re-offending [Completers]	269 (6)	⊕⊕○○ low ^{1,2,3}	RR 0.65 (0.45 to 0.95)
Re-offending [ITT]	177 (4)	⊕⊕⊕○ moderate ²	RR 0.62 (0.39 to 0.98)
Bad outcome [continuous]	94 (2)	⊕⊕⊕○ moderate ²	SMD -0.11 (-0.52 to 0.3)
¹ Completers analysis only			
² Wide confidence intervals			
³ Not all outcomes are reported in results section			

Table 41: GRADE evidence summary for multi-component interventions versus control for adolescent offenders

Population: Adolescent offenders			
Settings: Institution and/or probation			
Intervention: Multi-component interventions			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Relative effect (95% CI)
Re-offending	426 (3)	⊕⊕○○ low ^{1,2}	RR 0.87 (0.65 to 1.16)
¹ Population is not directly antisocial personality disorder			
² No explanation was provided			

The evidence suggests that cognitive behavioural interventions delivered primarily in groups in institutional settings are more effective than control for reducing offending for both intent to treat data (RR = 0.62; 0.39 to 0.98) and completer only data (RR = 0.65, 0.45 to 0.95). All studies included only males, except for GUERRA1990, which had both male and female participants.

Three trials on multi-component interventions for adolescent offenders were included in the review. Two (DEMBO2000; ELROD1992) tested the efficacy of interventions delivered in the community and one (GREENWOOD1993) examined interventions provided in prison, which included an aftercare component in the community. Multi-component interventions comprised family therapy, parenting skills and cognitive problem-solving skills training (DEMBO2000); group-based cognitive and behavioural interventions and parent training (ELROD1992); and group-based cognitive and behavioural interventions and family therapy (GREENWOOD1993). These studies found the intervention to have a modest but non-significant effect on re-offending (RR 0.87; 0.65 to 1.16). ELROD1992 and DEMBO2000 involved both male and female participants while GREENWOOD1993 included only male participants. ELROD1992 was the least effective trial—in addition to group-based cognitive and behavioural interventions and parent training, there was a wilderness experience programme.

7.2.20 Clinical evidence summary for the treatment of offending behaviour in young people

There appears to be modest but statistically significant evidence for the effectiveness of group-based cognitive and behavioural interventions delivered in institutional settings in reducing offending for adolescents involved in the criminal justice system.

Multi-component interventions were less effective than the more focused group-based cognitive and behavioural interventions. This is consistent with the evidence found for multisystemic therapy. There is evidence from studies of implementation of multisystemic therapy, and other complex multimodal interventions, that maintaining fidelity to the model is strongly associated with a positive outcome. It could be that the diminished effectiveness of the multi-component interventions for offending behaviour reflected a lack of overall fidelity to or integration of the intervention.

7.2.21 Health economic evidence for the treatment of offending behaviour in young people

Four US-based studies were identified in the systematic evidence search that presented economic evaluations of interventions for young offenders (Caldwell *et al.*, 2006; Robertson *et al.*, 2001; Myers *et al.*, 2000; Dembo *et al.*, 2000a). Details on the

characteristics and results reported in the studies are provided in the form of evidence tables in Appendix 14. Details on the methods used for the systematic review of the economic evidence are provided in Chapter 3.

Caldwell and colleagues (2006) compared an intensive juvenile corrective service treatment programme with usual juvenile corrective service treatment in a secured juvenile facility. The initial costs of the intensive programme were offset by improved treatment progress and lowered violent recidivism. The intensive treatment programme dominated usual treatment, resulting in lower net costs per offender and better outcomes in terms of a reduction in felony and violent offences.

Robertson and colleagues (2001) performed a cost-benefit analysis, examining local justice system expenditures associated with intensive supervision and monitoring or CBT in comparison with regular probation. They demonstrated that, relative to those on probation, the CBT programme resulted in a net saving in expenditure of \$1,435 per offender during the 18-month investigation. No significant difference in justice system expenditures were demonstrated by the intensive supervision and monitoring group.

The study by Myers and colleagues (2000) was a simple cost comparison study of a multi-component intervention programme for early-career juvenile offenders. The initial costs of the programme, total costs and differences in crime rates were compared with respective costs and outcomes of an untreated community control group. Over 12 months, the programme resulted in net savings of \$1,800 per young person due to lower crime rates compared with the untreated group.

Dembo and colleagues (2000a) compared the criminal justice costs of a family empowerment intervention programme versus an extended services intervention programme for juvenile offenders and their families. Over 2 years, the family empowerment intervention programme resulted in significant net savings mainly as a result of lower arrest rates.

7.2.22 From evidence to recommendations

There was consistent evidence that cognitive and behavioural interventions were effective for the treatment of offending behaviour in young people. In addition, these interventions may be cost effective, according to evidence derived from US settings. The use of such interventions for young people with offending behaviour is supported.

7.2.23 Recommendations

- 7.2.23.1 For young offenders aged 17 years or younger with a history of offending behaviour who are in institutional care, offer group-based cognitive and behavioural interventions aimed at young offenders and that are focused on reducing offending and other antisocial behaviour.

7.3 TREATMENT OF COMORBID DISORDERS IN PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER

7.3.1 Introduction

As highlighted in Chapter 2, people with antisocial personality disorder commonly present with comorbid mental disorders including significant drug and alcohol problems, other personality disorders and a range of common mental health problems, including depression and anxiety. The presence of these comorbidities will increase the burden of illness and may directly contribute to the exacerbation of the problems associated with the antisocial personality disorder. Unfortunately people with antisocial personality disorder often reject treatment (Tyrer *et al.*, 2003), and even where they seek treatment for their comorbid disorders may find themselves unable to assess treatment.

Current practice

The current treatment of comorbid mental health problems falls under three broad categories: that provided by general mental health services in primary and secondary care, that provided or funded by specialist mental health services in secondary and tertiary care, and that provided within the criminal justice system.

The extent of treatment for comorbid disorders for common mental health problems such as anxiety and depression in primary and secondary mental health services is not well known. It is likely, given what is known about the epidemiology of antisocial personality disorder (for example, Robins *et al.*, 1991; Swanson *et al.*, 1994) that a significant number of people do seek help but their comorbid problem may not be recognised, or if they are offered treatment they may be more likely to drop out of it or not adhere to it (ESMHCG, 2005). The position with regard to the treatment of drug and alcohol problems is somewhat different, with a significant proportion of people with drug or alcohol misuse disorders receiving treatment from specialist substance misuse services provided by or funded by the NHS. This is important because alcohol misuse is associated with increased violence in people with antisocial personality disorder (Yang & Coid, 2007). An important issue is whether sufficient adaptation of drug and alcohol treatment programmes is undertaken to engage and retain people with antisocial personality disorder.

Within specialist mental health services, a small but growing number of units offer treatment specifically for personality disorder (Crawford & Rutter, 2007). In principle these units have a remit to treat antisocial personality disorder (Department of Health, 2003), but in practice few do (Crawford *et al.*, 2007), with a much greater focus on the treatment of borderline personality disorder.

Tertiary or forensic mental health services do treat people with antisocial personality disorder and their associated comorbidities, but as noted in Chapter 4 the percentage of people with antisocial personality disorder in the care of forensic services is approximately 50% (Singleton *et al.*, 1998).

Within the criminal justice system, there is considerable treatment of comorbid mental disorders, primarily in prison settings, which comprises two aspects. First,

inmates' general mental health is managed through prison-based mental health teams (often linked to local mental health services). These services have seen significant investment in recent years in recognition of the historically poor mental healthcare of prisoners (ESMHCG, 2005), but it is likely that for many services the concentration is on psychosis and other severe mental disorders. The second major area of activity in addressing comorbid mental health problems in prison is the treatment of drug and alcohol misuse, with many prisons now having specialist drug treatment services (usually provided by the NHS or tertiary sector services).

Definition and aim of intervention

This review was limited to the following comorbid mental health problems:

- a) drug and alcohol misuse in people with antisocial personality disorder
- b) common mental disorders in people with antisocial personality disorder.

As there was limited evidence from individual trials or systematic reviews of reasonable quality for other personality disorders in people with antisocial personality disorder, this review makes no further comment on this. The review acknowledges that the presence of comorbid personality disorder in people with antisocial personality disorder may have an overall consequence on treatment and would need to be taken into consideration when formulating a treatment plan.

Psychotic disorders were excluded from the review in large part because where antisocial personality disorder and a psychotic disorder co-exist, the primary focus of treatment would be on the psychotic disorder.

Interventions were broadly defined to include all interventions for common mental health disorders covered by the current NICE guidelines for those disorders (for example, NCCMH, 2005a). For drug and alcohol misuse interventions NICE guidelines were also used (NCCMH, 2007a, 2007b) along with other authoritative guidance (for example, Department of Health, 2007b).

7.3.2 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 42.

7.3.3 Studies considered

The review team conducted a new systematic search that assessed the efficacy of the treatment of comorbid disorders for people with antisocial personality disorder.

Only one psychosocial trial reporting data relating to the treatment of comorbid substance misuse in antisocial personality disorder met the eligibility criteria set by the GDG, providing data on 108 participants with dependence on cocaine (Messina *et al.*, 2003). This trial compared contingency management, cognitive behavioural therapy with one another and treatment as usual. In addition, there were four RCTs that assessed in *post hoc* analyses the impact of antisocial personality disorder

Table 42: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library, C2-SPECTR, NCJRS, IBSS, FEDRIP
Date searched	Database inception to June 2008
Study design	RCT, systematic review
Patient population	People with antisocial personality disorder and comorbid disorders (including substance misuse, depression, anxiety and other personality disorders) People with personality disorder and comorbid disorders (as above)
Interventions	Psychological interventions
Outcomes	Comorbid symptoms, offending

(compared with absence of an antisocial personality disorder diagnosis) on the outcomes of psychosocial interventions. Two studies looked at these effects on participants with drug misuse disorders (Woody, 1983; McKay *et al.*, 2000) and a further two trials on alcohol dependence (Wölwer *et al.*, 2001; Hesselbrock, 1991). Five studies were excluded from the analysis. The most common reason for exclusion was either treatment or control group did not have antisocial personality disorder.

7.3.4 Clinical evidence for psychological interventions for the treatment of comorbid substance misuse

Messina and colleagues (2003) reported on a subgroup analysis of people with antisocial personality disorder receiving either contingency management, CBT, a combination of CBT and contingency management, or control. In addition, all participants were receiving methadone maintenance treatment. Contingency management was particularly effective for the treatment of drug misuse (RR 4.40; 1.20 to 16.17) in the antisocial personality disorder population. These results were largely consistent with those found in a systematic review on psychosocial interventions for drug misuse (see NCCMH, 2007a).

Bronner and colleagues (1998) compared contingency management with control in opioid dependent people with antisocial personality disorder. Contingency management included contingent increases in methadone dose, scheduling of methadone, therapy sessions that were more convenient for the participant, and so on. There appeared to be a reduction in drug use for the treatment group compared with control but this was not statistically significant. This study had a number of limitations: first, urinalysis data were reported in a manner that could not rule out double counting of individuals therefore it was difficult to interpret the results; second, this study used a very different method of reinforcement (vouchers which could be

exchanged for goods and services) in comparison with Messina and colleagues (2003), which may have contributed to the lack of positive effect.

Woody (1983) compared supportive-expressive psychotherapy with cognitive behavioural psychotherapy for the treatment of opioid dependence. Woody reported that participants with antisocial personality disorder had worse outcomes, whereas participants with depression and no antisocial personality disorder generally showed better outcomes. Participants with antisocial personality disorder and depression generally fell in between the two groups on a broad range of drug misuse outcomes. McKay and colleagues (2000) compared group therapy with individualised relapse prevention for cocaine dependence and found no significant differences between cocaine users with and without antisocial personality disorder for any substance misuse outcome (including cocaine and alcohol).

Wölwer and colleagues (2001) compared CBT with coping skills training and treatment as usual for alcohol dependence and found no significant differences between subgroups of patients with or without antisocial personality disorder, as measured by abstinence at 3 or 6 months after detoxification. In contrast, Hesselbrock (1991) in a study of inpatient alcoholism treatment reported worse outcomes (as measured by mean daily alcohol consumption and alcohol-related problems at 1 year) for participants with antisocial personality disorder.

7.3.5 Clinical evidence summary for psychological interventions for the treatment of comorbid substance misuse

The evidence on psychological interventions for drug misuse indicates that people with antisocial personality disorder can benefit from treatment. There was a particularly large effect found when using contingency management to treat drug misuse in people with antisocial personality disorder. Although there was some inconsistency, in that another trial did not show such positive effects, this appears to be partly explained by the method of contingency management used in the latter trial and is consistent with a review of the drug misuse literature that suggests that contingency management has the strongest evidence for effectiveness (see NCCMH, 2007a, 2007b). While the other studies reviewed above do not report such positive effects, the picture of generally poor outcomes for people with antisocial personality disorder, which is commonly assumed to be the case, was not confirmed. People with antisocial personality disorder may be able to benefit as much from these interventions as people without antisocial personality disorder.

7.3.6 Health economic evidence on the treatment of comorbid substance misuse and alcohol dependence

No evidence on the cost effectiveness of treatments of comorbid substance misuse and alcohol dependence was identified by the systematic search of the literature. Details on the systematic search of the economic literature are provided in Chapter 3.

7.3.7 From evidence to recommendations

The limited evidence reviewed above suggests that people with antisocial personality disorder can benefit from treatments for drug and alcohol misuse and that this benefit could be of the same order as those without a personality disorder. The encouraging results for contingency management are in line with the expectation that people with antisocial personality disorder may respond well to positive reinforcement. It was also the judgement of the GDG that such findings could generalise to people who meet criteria for DSPD.

7.3.8 Recommendations

- 7.3.8.1 For people with antisocial personality disorder who misuse drugs, in particular opioids or stimulants, offer psychological interventions (in particular, contingency management programmes) in line with recommendations in the relevant NICE clinical guideline [NICE, 2007].
- 7.3.8.2 For people with antisocial personality disorder who misuse or are dependent on alcohol, offer psychological and pharmacological interventions in line with existing national guidance for the treatment and management of alcohol disorders.
- 7.3.8.3 For people who meet criteria for psychopathy or DSPD, offer treatment for any comorbid disorders in line with existing NICE guidance. This should happen regardless of whether the person is receiving treatment for psychopathy or DSPD because effective treatment of comorbid disorders may reduce the risk associated with psychopathy or DSPD.

7.3.9 The psychological treatment of comorbid depression and anxiety disorders

There is considerable evidence that a personality disorder may have a negative impact on the course of a common mental disorder (for example, Massion *et al.*, 2002) and that a common mental disorder may be associated with a poorer outcome in personality disorder (for example, Yang & Coid, 2007). It is also the case that adults with antisocial personality disorder often have multiple comorbidities. For example, those with comorbid anxiety and antisocial personality disorder also had significantly higher levels of comorbid depression, alcohol dependence and substance dependence and higher rates of suicide attempts compared with adults with antisocial personality disorder or anxiety disorders alone (Goodwin & Hamilton, 2003). This suggests that effective treatment for common mental disorders in antisocial personality disorder may be challenging but potentially important.

A systematic search identified no high-quality trials focused on the treatment of depression or anxiety disorders comorbid with antisocial personality disorder. Therefore the GDG and review team searched for high-quality systematic reviews that

addressed the question of the treatment of comorbid depression and anxiety disorders. The GDG took the view that as the initial search for systematic reviews had failed to identify a significant numbers of reviews focused solely on the issue of comorbidity with antisocial personality disorder that they should consider (1) reviews of a broad range of personality disorders and their impact on the treatment of depression and anxiety and, (2) reviews of personality variables (such as trait anxiety, impulsivity and aggression) that might have an impact on treatment outcomes. The GDG also agreed to review the existing NICE guidelines for common mental disorders to determine if any recommendations had been made about comorbid common mental health problems and antisocial personality disorder or indeed any other personality disorder.

A number of systematic reviews were identified and quality assessed. The following reviews were considered (Dreessen & Arntz, 1998; Mulder *et al.*, 2003; Newton-Howes *et al.*, 2006). In addition, the following NICE guidelines were also reviewed (NCCMH, 2005a, 2005b, 2006, 2009a).

From these reviews a number of common themes emerged. First, there is no consistent evidence that demonstrates people with antisocial personality disorder do not benefit from evidence-based psychological interventions for common mental health problems or that they may be harmed by such interventions (see for example the reviews by Mulder and colleagues [2003] on personality disorder and depression). (It should be noted there is some evidence to suggest that brief interventions may have little benefit for borderline personality disorder; NCCMH, 2009b.) Second, there is evidence from *post hoc* analyses of individual trials that the presence of a personality disorder, or developmental or social factors that are commonly associated with a personality disorder, may lead to a diminution of effectiveness. This was commonly addressed in the treatment trials by extending the duration of treatment (for example, Fournier *et al.*, 2008). There was also some evidence that more experienced therapists were better able to deal with Axis II comorbidity (Hollon, personal communication, 2008). Nemeroff and colleagues (2003), in a *post hoc* analysis of the Keller and colleagues' (2000) trial of nefazodone and a cognitive behavioural-analysis system of psychotherapy for chronic depression, found that patients with a significant history of childhood trauma obtained better outcomes with psychological treatment, while those with no history of abuse obtained better outcomes with pharmacological treatments.

7.3.10 Clinical evidence summary for the psychological treatment of comorbid depression and anxiety disorders

People with antisocial personality disorder have high levels of comorbid common mental health problems, which are associated with poorer long-term outcomes. Evidence from clinical trials relating directly to this issue is lacking, but *post hoc* analysis of data drawn from individual trials and from systematic reviews across a range of personality disorders suggest that effective treatment of common mental health disorders is possible, but may require the extension of the duration of the treatment and/or high levels of clinical skill and experience.

7.3.11 Health economic evidence on the treatment of comorbid depression and anxiety disorders

No evidence on the cost effectiveness of treatments of comorbid depression and anxiety disorders was identified by the systematic search of the literature. Details on the methods adopted in the systematic search of the economic literature are provided in Chapter 3.

7.3.12 From evidence to recommendations

The evidence reviewed suggested that the treatment of common mental disorders in antisocial personality disorder is possible, but that caution is required in developing any recommendations because the evidence base is drawn from trials involving a wider range of personality disorders than just antisocial personality disorder. There is a clear indication in the evidence reviewed that consideration should be given to extending the duration of treatment. In addition, staff should be mindful of the need to take steps to address the increased likelihood that people with antisocial personality disorder will drop out of treatment.

7.3.13 Recommendations

- 7.3.13.1 People with antisocial personality disorder should be offered treatment for any comorbid disorders in line with recommendations in the relevant NICE clinical guideline, where available. This should happen regardless of whether the person is receiving treatment for antisocial personality disorder.
- 7.3.13.2 When providing psychological interventions for comorbid disorders to people with antisocial personality disorder, consider lengthening their duration or increasing their intensity.

7.4 THERAPEUTIC COMMUNITY INTERVENTIONS FOR PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER AND ASSOCIATED SYMPTOMS AND BEHAVIOURS

7.4.1 Introduction

In the history of psychological treatments for personality disorder the therapeutic community has played an important role (Rapoport, 1960). The therapeutic community movement had a significant impact on mental healthcare in the mid to late 20th century (Lees *et al.*, 2003) with developments in the prison service (Snell, 1962), drug services and for other personality disorders (Lees *et al.*, 2003). However, in healthcare

there has been a recent move away from therapeutic communities, in part influenced by high costs in the absence of convincing evidence for efficacy (Lees *et al.*, 2003).

Therapeutic communities differ from other treatment approaches in the use of the residential ‘community’ as the key agent for change. Peer influence is used to help individuals acquire social skills and learn social norms, and so take on an increased level of personal and social responsibility within the unit (Smith *et al.*, 2006). In addition to therapeutic communities based on social learning theory, there are rehabilitation centres that emphasise more behavioural, hierarchical principles that positively and negatively reinforce a range of behaviours. Residential therapeutic communities involve therapeutic group work, one-to-one keyworking, the development of practical skills and interests, education and training. The intensive nature of their approach means that such programmes tend to be longer in duration (6 to 12 months) (Greenwood *et al.*, 2001). In the UK, the Community of Communities project (Keenan & Paget, 2006) has developed standards of good practice for therapeutic communities.

Current practice

Therapeutic communities are found within health, education and social care and prison settings in the UK and often work with people with symptoms and behaviours associated with the antisocial personality disorder construct.

There are a number of therapeutic communities specialising in the treatment of substance misuse, with over half of residential services in the National Treatment Agency for Substance Misuse online directory¹² describing themselves as therapeutic communities. In addition, of the 56 therapeutic communities surveyed by the Community of Communities, 15 were in prison settings (Royal College of Psychiatrists, 2008b).

7.4.2 Definition and aim of review

The review assessed therapeutic communities for people with antisocial personality disorder, people with symptoms and behaviours associated with this diagnostic construct, and people with comorbid substance misuse.

7.4.3 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 43.

¹²See http://www.nta.nhs.uk/about_treatment/treatment_directories/residential/resdirectory_f.aspx

Table 43: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library, C2-SPECTR, NCJRS, IBSS, FEDRIP
Date searched	Database inception to June 2008
Study design	RCT, non-RCT
Patient population	People with antisocial personality disorder, people with symptoms and behaviours associated with antisocial personality disorder
Interventions	Therapeutic communities
Outcomes	Offending

7.4.4 Studies considered¹³

The review team conducted a new systematic search for RCTs that assessed the efficacy of therapeutic communities for people with antisocial personality disorder or symptoms and behaviours associated with antisocial personality disorder. A systematic search for non-RCTs that assessed the efficacy of therapeutic communities for offenders was also conducted.

There were no trials of therapeutic communities for people with antisocial personality disorder that met the eligibility criteria of the GDG. However, three trials that assessed therapeutic communities for offenders who misused drugs (NIELSEN1996; SACKS2004; WEXLER1999) met the eligibility criteria set by the GDG, providing data on 1,682 participants. All were published in peer-reviewed journals.

As there was only one RCT for therapeutic communities for offenders without substance misuse problems (Lamb & Goentzel, 1974), the review team conducted a systematic search for non-RCTs that assessed the efficacy of therapeutic communities in this population; two non-RCTs (Marshall, 1997; Robertson & Gunn, 1987) were identified.

In addition, seven studies were excluded from the analysis. The most common reason for exclusion was the lack of relevant outcomes (further information about both included and excluded studies can be found in Appendix 15).

¹³Here and elsewhere in the guideline, each study considered for review is referred to by a study ID in capital letters (primary author and date of study publication, except where a study is in press or only submitted for publication, then a date is not used). The references for studies can be found in Appendix 15.

7.4.5 Clinical evidence on therapeutic communities for offenders with substance misuse problems

Three RCTs have been conducted in institutional settings evaluating the evidence for therapeutic communities in substance misuse offenders. In two trials the intervention included treatment within prison followed by release to a residential community of 6 months' duration (SACKS2004; WEXLER1999). The third trial (NIELSEN1996) assessed a work-release therapeutic community programme.

Summary study information and evidence from the included trials are shown in Table 44 and Table 45. Full evidence profiles and forest plots can be found in Appendices 15 and 16.

Therapeutic community prison and aftercare programmes for offenders who misused drugs (many of whom had antisocial personality disorder) were associated with relatively large reductions in offending (RR = 0.62; 0.49 to 0.78). At 5-year follow-up the difference was still statistically significant (RR = 0.93; 0.87 to 0.99).

Table 44: Study information table for trials of therapeutic communities for offenders with substance misuse problems

	Therapeutic community + aftercare versus control for substance misuse offenders
Total no. of trials (total no. of participants)	3 RCTs (N = 1682)
Study ID	NIELSEN1996 SACKS2004 WEXLER1999
Diagnosis	Psychiatric: 70% Axis I, 39% antisocial personality disorder (SACKS2004), 51.5% antisocial personality disorder (WEXLER2004) Drug: 100% illicit drug use (NIELSEN1996, SACKS2004, WEXLER2004)
Treatment length	1 year prison therapeutic community and 1 year community-based aftercare: WEXLER1999 6 months' prison therapeutic community NIELSEN1996 1 year prison therapeutic community and 6 months' community-based aftercare: WEXLER2004
Length of follow-up	1 to 5 years

Table 45: GRADE evidence summary for therapeutic communities for offenders with substance misuse problems

Population: Antisocial personality disorder Settings: Criminal justice system Intervention: Prison therapeutic community Comparison: Prison control			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Offending (12-month follow up)	1682 (3)	⊕⊕⊕○ moderate ¹	RR 0.62 (0.49 to 0.78)
¹ I-squared >50%			

7.4.6 Health economic evidence on therapeutic communities for offenders with substance misuse problems

Four US-based studies that reported on the cost-effectiveness of therapeutic communities for offenders with substance abuse problems were identified by the systematic search of economic literature (McCollister *et al.*, 2003, 2003a and 2004; Griffith *et al.*, 1999). One study by McCollister and colleagues (2003, 2004) evaluated the short and long-term cost-effectiveness (12 months and 5 years respectively) of a Californian in-prison therapeutic community and aftercare programme for male prisoners with history of substance misuse. Cost data included in-prison and aftercare treatments, hospital inpatient and outpatient episodes, methadone treatments and other self-help programmes. The measure of effectiveness was the number of incarceration days avoided during follow-up. In the comparison with no treatment, the ICER was \$80 per avoided incarceration day after 12 months, which came down to \$65 after 5 years. A similar study based in Delaware evaluated a work-release therapeutic community and aftercare programme for male prisoners with history of substance misuse (McCollister *et al.*, 2003a). Only costs of the in-prison and aftercare treatment programmes were included and follow-up was 18 months. The ICER versus no treatment was \$65 per incarceration day avoided.

Another study evaluated the cost effectiveness of in-prison therapeutic community treatment for male offenders with a history of substance misuse in Texas (Griffith *et al.*, 1999). A retrospective analysis was undertaken over 3 years, comparing treated offenders' parole and aftercare costs, as well as re-incarceration rates, with respective costs and outcomes in an untreated comparison group. Separate analyses were conducted for low-risk and high-risk offenders. For the low-risk group analysis, the ICER was \$494 per 1% reduction in re-incarceration; for the high-risk group analysis, the ICER fell to \$165. This was largely explained by the higher re-incarceration

rates experienced by the high-risk untreated group compared with the treated group, while for the low-risk group analysis, re-incarceration rates were similar in the two cohorts (treated and untreated).

Details on the study characteristics and results are provided in the form of evidence tables in Appendix 14. The methods adopted for the systematic review of economic literature are discussed in Chapter 3.

7.4.7 Clinical evidence on therapeutic communities for adult offenders

There were three trials that investigated the efficacy of therapeutic communities for general offenders in institutional and community settings. Of these, one was an RCT (Lamb & Goentzel, 1974) and two were non-RCTs (Marshall, 1997; Robertson & Gunn, 1987). The RCT investigated a community alternative to prison in the US and the two non-RCTs investigated the effects of therapeutic communities for prisoners treated in HMP Grendon in the UK. For general offenders a meta-analysis was not conducted as these studies differed in study design; instead these studies were narratively reviewed.

Lamb & Goentzel (1974) randomised participants to regular prison services or to a therapeutic community as an alternative to prison in a community setting. The therapeutic community comprised three phases. In phases one and two, the participants were given more responsibility and privileges within each phase. Phase three continued while the participant was on probation. The participant returned to the therapeutic community to visit their assigned probation officer and to participate in social activities. The study found the therapeutic community to have a harmful effect on re-offending at 1-year follow-up for 31 participants in the treatment group in comparison with 31 participants in the control group (RR 1.22; 0.59, 2.53).

Robertson & Gunn (1987) conducted a 10-year prospective cohort study of participants released from HMP Grendon in comparison with a matched control; there were some differences between the two groups, such as the treated group having more desire for psychiatric help compared with the control group. The study found no significant differences between participants treated in a therapeutic community compared with regular prison services (93% and 85% respectively, $\chi^2 = 1.37$, d.f. 1, NS).

Marshall (1997) conducted a retrospective cohort study of participants who stayed in HMP Grendon (N = 702) from 1984 to 1989. These participants were compared with participants who were selected for Grendon in the same period but who did not actually go there (N = 142). The retrospective study found no effect on the therapeutic community for participants who attended Grendon versus the comparison group who did not (RR 0.92; 0.82 – 1.03).

7.4.8 Health economic evidence on therapeutic communities for adult offenders

No economic evidence on therapeutic communities for adult offenders was identified in the literature.

7.4.9 Clinical evidence summary on therapeutic communities

The majority of RCT evidence available on therapeutic communities was on people who misuse drugs in the criminal justice system. These samples had a fair proportion of people diagnosed with antisocial personality disorder (between 39 and 51%) in addition to all participants reporting behaviour or symptoms associated with the antisocial personality disorder diagnostic construct. There was found to be a relatively large reduction in offending. The economic evidence suggests that in-prison therapeutic communities for offenders with history of substance abuse may be cost effective in terms of reducing future re-offending.

In contrast the evidence for therapeutic communities for general offenders is limited and based on weaker study design. There is no evidence to suggest that therapeutic communities are effective for general offenders.

7.4.10 From evidence to recommendations

The GDG concluded that therapeutic communities appeared to be effective for people in prison or on probation who misuse drugs, many of whom were diagnosed with antisocial personality disorder. Therefore their judgement was that therapeutic communities targeted specifically at drug misuse are likely to be effective in people with antisocial personality disorder who misuse drugs. However, the GDG concluded there was insufficient evidence to apply these findings to therapeutic communities targeting general offenders.

7.4.11 Recommendations

- 7.4.11.1 For people with antisocial personality disorder who are in institutional care and who misuse or are dependent on drugs or alcohol, consider referral to a specialist therapeutic community focused on the treatment of drug and alcohol problems.

7.5 PHARMACOLOGICAL INTERVENTIONS FOR ANTISOCIAL PERSONALITY DISORDER

7.5.1 Introduction

A rationale for pharmacological approaches in antisocial personality disorder is that many of the behavioural traits of personality disorder may have a biological basis and are associated with neurochemical abnormalities of the central nervous system (Coccaro *et al.*, 1996a, 1996b; Hollander *et al.*, 1994). However, a major problem in studying the effects of medication is that it is difficult to map drug action on the personality disorders as they are listed in DSM. The reason for this is that they are

so heterogeneous that it may be more fruitful to focus on behavioural clusters (Markovitz, 2001). Soloff (1998) has been influential by introducing a symptom-orientated approach. Ignoring the specific DSM Axis II disorders, he grouped personality psychopathology into the following symptom domains: cognitive-perceptual, affective, impulse-behavioural and anxious-fearful. Affective symptoms in turn were subdivided into dysregulation of (a) mood and (b) anxiety. He suggested that since these domains were mediated by the same neurotransmitter systems as Axis I disorders, albeit in an attenuated form, this approach could lead to more rational prescribing.

Applying this approach, Soloff found evidence that conventional antipsychotic drugs in low doses were effective in reducing the cognitive perceptual abnormalities (Soloff *et al.*, 1986a; Goldberg *et al.*, 1986). For dysregulation of mood, there was some evidence for the use of SSRIs (Cornelius *et al.*, 1990; Markovitz *et al.*, 1991), tricyclic antidepressants (Soloff *et al.*, 1986b), venlafaxine (Markovitz & Wagner, 1995) and monoamine oxidase inhibitors (MAOIs) (Parsons *et al.*, 1989). For impulsive behavioural dyscontrol, most attention had been focused on the SSRIs (Cornelius *et al.*, 1990; Kavoussi *et al.*, 1994), but lithium (Tupin *et al.*, 1973; Links, 1990) and anticonvulsants such as carbamazepine (Cowdry & Gardner, 1989), valproate (Stein *et al.*, 1995) and divalproex sodium (Wilcox, 1995) had also shown some positive outcomes.

Various features of antisocial personality disorder might be targets for a pharmacological intervention. Paranoia, for instance, emerges from factor analysis and hence might be a target of low-dose antipsychotic medication. Similarly, impulsive dyscontrol and aggressive behaviour are important features of antisocial personality disorder and might usefully be targeted with SSRIs or mood stabilisers. This section therefore reviews the evidence on the use of drugs for those with antisocial personality disorder.

As with assessing the effectiveness of psychological interventions, there are three difficulties that need to be considered. First, antisocial personality disorder is often comorbid with Axis I conditions and, as it may often be the presence of the latter that causes the individual to present for treatment, it is not always clear whether it is the Axis I or Axis II condition that is being targeted when medication is used. Second, use of alcohol and other illicit substances, which is common in people with antisocial personality disorder, may diminish response rates to pharmacotherapy (Markovitz, 2001). Third, with complex conditions such as antisocial personality disorder, it is likely that multiple neurotransmitter systems are at play in producing, for example, the affective dysregulation (Soloff, 1998). This again makes drug selection difficult.

Current practice

The state of current practice in relation to the use of pharmacological interventions to treat antisocial personality disorder is unclear, but it is likely that pharmacological interventions are used in this population to treat symptoms rather than as an intervention for the disorder itself. The reported level of prescription in the prison population does not suggest that pharmacological interventions are used at a generally high level in offender populations (Christina Rowlands, presentation to the GDG, December 2007).

7.5.2 Databases searched and inclusion/exclusion criteria

Information about the databases searched and the inclusion/exclusion criteria used for this section of the guideline can be found in Table 46.

7.5.3 Studies considered¹⁴

Ten trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 749 participants (BARRATT1997, COCCARO1997A, GOTTSCHALK1973, HOLLANDER2003, LEAL1994, MATTES2005, MATTES2008, NICKEL2005B, POWELL1995, SHEARD1976, STANFORD2005). Of these, all were published in peer-reviewed journals between 1973 and 2008. In addition, 16 studies were excluded from the analysis. The most common reasons for exclusion were non-random allocation of participants to treatment and control and populations that would not meet the GDG's inclusion criteria, for example, participants with schizophrenia (further information about both included and excluded studies can be found in Appendix 15).

There was one trial providing evidence for pharmacological interventions for antisocial personality disorder (BARRATT 1997). The purpose of the study was to look at the effects of anticonvulsants on aggression among offenders in prison, however all participants at baseline met DSM-III-R criteria for antisocial personality disorder.

Table 46: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library, C2-SPECTR, NCJRS, IBSS, FEDRIP
Date searched	Database inception to June 2008
Study design	RCT
Patient population	People with antisocial personality disorder; people with antisocial personality disorder and comorbid disorders; people with symptoms and behaviours associated with antisocial personality disorder
Interventions	Pharmacological interventions
Outcomes	Reduction in symptoms or behaviours associated with the antisocial personality disorder construct

¹⁴Here and elsewhere in the guideline, each study considered for review is referred to by a study ID in capital letters (primary author and date of study population, except where a study is in press or only submitted for publication, then a date is not used). The references for studies can be found in Appendix 15.

Two trials were found that investigated pharmacological interventions for a sub-population of antisocial personality disorder with comorbid substance misuse. (LEAL1994, POWELL1995) One trial compared amantadine and desipramine with placebo for participants with cocaine dependence (LEAL1994) and one trial compared nortriptyline and bromocriptine with placebo for participants with alcohol dependence (POWELL1995).

For the review of pharmacological evidence for antisocial personality disorder and associated symptoms or behaviour, eight trials were included (COCCARO1997A, GOTTSCHALK1973, HOLLANDER2003, MATTES2005, MATTES2008, NICKEL2005, SHEARD1976, STANFORD2005). Six trials compared anticonvulsants with placebo (GOTTSCHALK1973, HOLLANDER2003, MATTES2005, MATTES2008, NICKEL2005, STANFORD2005), one compared antidepressants with placebo (COCCARO1997A) and one compared lithium with placebo (SHEARD1976). The population in all the trials had an elevated level of impulsive aggression and/or anger while two trials looked specifically at offenders (SHEARD1976, GOTTSCHALK1993). The age range for the trials were 19 to 67 years.

7.5.4 Clinical evidence for antisocial personality disorder

There was one trial (see Table 47 and Table 48) that looked at the effects of anticonvulsants on aggression among prison inmates who all met DSM-III-R criteria for antisocial personality disorder (BARRATT1997). Using the modification of the Overt Aggression Scale (OAS), the study found the anticonvulsant phenytoin to have a small but non-significant effect on aggression compared with placebo (SMD -0.26 ; -0.61 , 0.09). Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Table 47: Study information on pharmacological interventions for antisocial personality disorder

Anticonvulsant versus placebo	
Total no. of trials (total no. of participants)	1 RCT (N = 126)
Study ID	BARRATT1997
Diagnosis	Antisocial personality disorder
Setting	Prison
Treatment length	Mean: 42 days
Length of follow-up	Not relevant
Age	Not reported

Table 48: GRADE evidence summary table on pharmacological interventions for antisocial personality disorder

Population: Antisocial personality disorder Settings: Prison Intervention: Anticonvulsants Comparison: Placebo			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size
OAS-M (aggression intensity) change score	126 (1)	⊕⊕○○ low ^{1,2}	SMD -0.26 (-0.61 to 0.09)
¹ Only one trial ² Confidence intervals cross the line of no effect			

7.5.5 Clinical evidence for antisocial personality disorder and comorbid substance misuse

Two trials (LEAL1994, POWELL1995) studied the effects of antidepressants in people with antisocial personality disorder and comorbid substance misuse compared with placebo (see Table 49). It was not possible to meta-analyse the data so there is no GRADE evidence summary table. Summary study information and evidence from the included trials are shown in Table 43 and Table 44. Full study characteristics can be found in Appendix 15.

For antidepressants versus placebo there was a small effect for leaving the study early (RR 0.90; 0.52, 1.55) for participants with cocaine dependence (LEAL1994) and alcohol dependence (POWELL1995), and a moderate effect on abstinence (RR 0.72; 0.53–0.97) for participants with alcohol dependence. However, the effect on abstinence was small and based on only one study (POWELL1995).

The two trials also looked at the effects of dopaminergic drugs versus placebo (LEAL1994, POWELL1995). No significant differences were found between drop out for both treatment and placebo groups (RR 1.18; 0.72, 1.94) and a small but non-significant difference was found in abstinence for participants with alcohol dependence (RR 0.91; 0.75, 1.10). This effect was small and based on sparse data.

7.5.6 Clinical evidence for antisocial personality disorder and associated symptoms or behaviour

Table 50 summarises the study information for trials concerned with pharmacological interventions for aggression in people with antisocial personality disorder. The GRADE evidence summaries can be found in Table 51.

Table 49: Study information for pharmacological interventions for antisocial personality disorder with comorbid substance misuse

	Antidepressants versus placebo	Dopaminergic versus placebo
Total no. of trials (total no. of participants)	2 RCTs (N = 83)	2 RCTs (N = 83)
Study ID	LEAL1994 POWELL1995	LEAL1994 POWELL1995
Diagnosis	Cocaine dependence: LEAL1994 Alcohol dependence: POWELL1995	Cocaine dependence: LEAL1994 Alcohol dependence: POWELL1995
Setting	Outpatient: LEAL1994 Inpatient and outpatient: POWELL1995	Outpatient: LEAL1994 Inpatient and outpatient: POWELL1995
Treatment length	Mean: 135 days	Mean: 135 days
Length of follow-up	Not relevant	Not relevant
Age	Mean: 36.5 years	Mean: 36.5 years

Full study characteristics and forest plots can be found in Appendices 15 and 16 respectively.

Anticonvulsants versus placebo

Six trials investigated the effects of a number of anticonvulsants on impulsive aggression and found a small and non-significant effect on aggression at end of treatment (SMD -0.13 ; -0.35 to 0.09). The quality of evidence was very low with high heterogeneity ($I^2 = 74.4\%$).

SSRIs versus placebo

One trial compared the SSRI fluoxetine with placebo for reducing aggression in a population with elevated aggression and found the effects of treatment to be medium to large (SMD -0.73 ; -1.41 to -0.04). However, this is based on one study of low quality.

Lithium versus placebo

There was only one trial that investigated lithium versus placebo in a population with elevated levels of the antisocial personality disorder construct aggression that met the

Table 50: Study information for the trials of pharmacological interventions for aggression

	Anticonvulsants versus placebo	Antidepressants versus placebo	Lithium versus placebo
Total no. of trials (total no. of participants)	6 RCTS (N = 433)	1 RCT (N = 40)	1 RCT (N = 66)
Study ID	GOTTSCHALK1973 HOLLANDER2003 MATTES2005 MATTES2008 NICKEL2005B STANFORD2005	COCCARO1997A	SHEARD1976
Diagnosis	Offenders: GOTTSCHALK1973 Antisocial personality disorder construct - impulsive aggressive: HOLLANDER2003 MATTES2005 MATTES2008 Antisocial personality disorder construct - anger problems: NICKEL2005B	Personality disorder and antisocial personality disorder construct – impulsive aggressive	Offenders
Setting	Institution (Prison): GOTTSCHALK1973 Outpatient: HOLLANDER2003 MATTES2005 MATTES2008 NICKEL2005B STANFORD2005	Outpatient	Institution (prison)
Average treatment length	83 days	84 days	90 days
Length of follow-up	None	None	None
Age	Range: 19–67 years	Mean: 38 years	Mean: 66 years

Table 51: GRADE evidence summary for pharmacological interventions for aggression

Anticonvulsants versus placebo for aggression			
Patient or population: Antisocial personality disorder diagnostic construct – aggression Intervention: Anticonvulsant Comparison: Placebo			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Comments
Aggression (end of treatment)	332 (4)	⊕○○○ very low ^{1,2,3}	SMD –0.13 (–0.35 to 0.09)
Leaving the study early due to adverse events	354 (4)	⊕○○○ very low ^{1,2,3}	RR 3.94 (1.92 to 8.11)
Aggression change score (end of treatment)	84 (2)	⊕⊕○○ low ^{1,2}	SMD –0.13 (–0.56 to 0.3)
¹ I squared >50% ² Population does not include antisocial personality disorder ³ Wide confidence intervals			
SSRI antidepressants versus placebo for aggression			
Patient or population: Antisocial personality disorder diagnostic construct – aggression Intervention: SSRI antidepressant Comparison: Placebo			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size
Aggression (end of treatment)	40 (1)	⊕○○○ very low ^{1,2}	SMD –0.73 (–1.41 to –0.04)
Leaving the study early due to adverse events	40 (1)	⊕⊕○○ low ^{1,2}	RR 1.53 (0.06 to 40.09)
¹ 10% of population has antisocial personality disorder ² Few participants			
Lithium versus placebo for aggression			
Patient or population: Antisocial personality disorder diagnostic construct – aggression Intervention: Lithium Comparison: Placebo			
Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Comments
Aggression (end of treatment)	41 (1)	⊕⊕○○ low ¹	SMD –0.6 (–1.23 to 0.03)
Leaving the study early	66 (1)	⊕⊕○○ low ^{1,2}	RR 1.2 (0.64 to 2.24)
¹ Population does not include antisocial personality disorder ² Few participants resulting in wide confidence intervals			

eligibility criteria. The trial showed a medium effect for treatment, which was, however, non-significant and of low quality (SMD -0.60 ; -1.23 , 0.03).

7.5.7 Clinical evidence summary for antisocial personality disorder and associated symptoms or behaviour

There was no consistent evidence, including from uncontrolled studies, that supported the use of any pharmacological intervention to treat antisocial personality disorder or to treat the behaviour and symptoms that underline the specific diagnostic criteria for antisocial personality disorder.

7.5.8 Health economic evidence on pharmacological interventions for antisocial personality disorder

No evidence on the cost effectiveness of pharmacological interventions for antisocial personality disorder with or without comorbid substance misuse and associated symptoms of behaviour was identified by the systematic search of the literature. Details on the methods adopted for the systematic review of economic literature are provided in Chapter 3.

7.5.9 From evidence to recommendations

The evidence did not support the generation of recommendations for the routine use of pharmacological interventions for the treatment of people with antisocial personality disorder.

7.5.10 Recommendations for pharmacological interventions

7.5.10.1 Pharmacological interventions should not be routinely used for the treatment of antisocial personality disorder or associated behaviours of aggression, anger and impulsivity.

7.5.10.2 Pharmacological interventions for comorbid mental disorders, in particular depression and anxiety, should be in line with recommendations in the relevant NICE clinical guideline. When starting and reviewing medication for comorbid mental disorders, pay particular attention to issues of adherence and the risks of misuse or overdose.

7.5.11 Recommendations on general issues in the treatment of adults with antisocial personality disorder

7.5.11.1 When providing psychological or pharmacological interventions for antisocial personality disorder, offending behaviour or comorbid disorders to

people with antisocial personality disorder, be aware of the potential for and possible impact of:

- poor concordance
- high attrition
- misuse of prescribed medication
- drug interactions (including with alcohol and illicit drugs).

7.6 RESEARCH RECOMMENDATIONS

Through identifying research limitations from the evidence based reviews, the guideline development group has formulated the following research recommendations.

7.6.1.1 Severity as a potential moderator of effect in group-based cognitive and behavioural interventions

Does the pre-treatment level of the severity of disorder/problem have an impact on the outcome of group-based cognitive and behavioural interventions for offending behaviour? A meta-analysis of individual participant data should be conducted to determine whether the level of severity assessed at the beginning of the intervention moderates the effect of the intervention. The study (for which there are large data sets that include over 10,000 participants) could inform the design of a large-scale RCT (including potential modifications of cognitive and behavioural interventions) to test the impact of severity on the outcome of cognitive and behavioural interventions.

Why this is important

Research has established the efficacy of cognitive and behavioural interventions in reducing re-offending. However, the effects of these interventions in a range of offending populations are modest. The impact of severity on the outcome of these interventions has not been systematically investigated, and *post hoc* analyses and meta-regression of risk as a moderating factor have been inconclusive. Expert opinion suggests that severe or high-risk individuals may not benefit from cognitive and behavioural interventions, but if they were to be of benefit then the cost savings could be considerable.

7.6.1.2 Group-based cognitive and behavioural interventions for populations outside criminal justice settings

Are group-based cognitive and behavioural interventions effective in reducing the behaviours associated with antisocial personality disorder (such as impulsivity, rule-breaking, deceitfulness, irritability, aggressiveness and disregard for the safety of self or others)? This should be tested in an RCT that examines medium-term outcomes (including cost effectiveness) over a period of at least 18 months. It should pay particular attention to the modification and development of the interventions to ensure the focus is not just on offending behaviour, but on all aspects of the challenging behaviours associated with antisocial personality disorder.

Interventions for people with antisocial personality disorder

Why this is important

Not all people with antisocial personality disorder are offenders but they exhibit a wide range of antisocial behaviours. However, the evidence for the treatment of these behaviours outside the criminal justice system is extremely limited. Following publication of the Department of Health's policy guidance, *Personality Disorder: No Longer a Diagnosis of Exclusion* (2003), it is likely that there will be an increased requirement in the NHS to offer treatments for antisocial personality disorder.

7.6.1.3 Treatment of comorbid anxiety disorders in antisocial personality disorder

Does the effective treatment of anxiety disorders in antisocial personality disorder improve the long-term outcome for antisocial personality disorder? An RCT of people with antisocial personality disorder and comorbid anxiety disorders that compares a sequenced treatment programme for the anxiety disorder with usual care should be conducted. It should examine, over a period of at least 18 months, the medium-term outcomes for key symptoms and behaviours associated with antisocial personality disorder (including offending behaviour, deceitfulness, irritability and aggressiveness, and disregard for the safety of self or others), as well as drug and alcohol misuse, and anxiety. The study should also be designed to explore the moderators and mediators of treatment effect which could help determine the role of anxiety in the course of antisocial personality disorder.

Why this is important

Comorbidity with Axis I disorders is common in antisocial personality disorder, and chronic anxiety has been identified as a particular disorder that may exacerbate the problems associated with antisocial personality disorder. There are effective treatments (psychological and pharmacological) for anxiety disorders but they are often not offered to people with antisocial personality disorder. Current treatment guidelines set out clear pathways for the stepped or sequenced care of people with anxiety disorders. An RCT to test the benefit of this approach in the treatment of anxiety would potentially lead to a significant reduction in illness burden but a reduction in antisocial behaviour would have wider societal benefits. The study should provide important information on the challenges of delivering these interventions for a population that has typically both rejected and been refused treatment.

7.6.1.4 Using selective serotonin reuptake inhibitors to increase cooperative behaviour in people with antisocial personality disorder in a prison setting

Although there is evidence that selective serotonin reuptake inhibitors (SSRIs), such as paroxetine, increase cooperative behaviour in normal people and do so independently of the level of sub-syndromal depression, this has yet to be tested in other settings. Given that people with antisocial personality disorder are likely to have difficulties cooperating with one another (because of a host of personality traits that include persistent rule-breaking for personal advantage, suspiciousness, grandiosity,

and so on), an RCT should be conducted to find out whether these reported changes of behaviour with an SSRI in normal people generalises to clinical populations in different settings.

Why this is important

There is little evidence in the literature on the pharmacotherapy of antisocial personality disorder to justify the use of any particular medication. However, multiple drugs in various combinations are used in this group either to control aberrant behaviour or in the hope that something might work. Current interventions lack a clear rationale. This recommendation has the potential to advance the field in that (a) it is linked to a clear hypothesis (that cooperative behaviour is linked to a dysregulation of the serotonin receptors – for which there is substantial evidence) and (b) that it is feasible to obtain an answer to this question, given that there are a large number of individuals detained in prison settings who would meet antisocial personality disorder criteria. Constructing an experimental task that requires cooperative activity would not be difficult in such a setting, since all of those who might be willing to participate are already detained. The successful execution of this research would be important in that it (a) would establish the feasibility of conducting such a trial in a prison setting with this group, and (b) provide a clear and sensible outcome measure of antisocial behaviour that might be generalised to other settings.

7.6.1.5 A therapeutic community approach for antisocial personality disorder in a prison setting

Is a therapeutic community approach in a prison setting more clinically and cost effective in the treatment and management of antisocial personality disorder than routine prison care? There should be a large-scale RCT comparing the clinical and cost effectiveness of the therapeutic community approach for adults with antisocial personality disorder with routine care. It should examine the medium-term outcomes (for example, offending behaviour, mental state and vocational outcomes) over a period of at least 18 months following release from prison. The study should also be designed to explore the moderators and mediators of treatment effect, which could help to determine the factors associated with benefits or harms of the therapeutic community approach.

Why this is important

There is evidence from RCTs that the therapeutic community approach is of value with drug and alcohol misusers in a prison setting at reducing the incidence of offending behaviour on release. However, there are no equivalent studies of a programme in the prison system on antisocial personality disorder populations that do not have significant drug or alcohol problems. Data that do exist are from non-UK settings. Answering this question is of importance because outcomes for adults with antisocial personality disorder are poor and there are already considerable resources devoted to a therapeutic community approach in the UK prison system (for example, HMP Grendon Underwood). The study could inform policy and resources decisions about the management of antisocial personality disorder in the criminal justice system.

8 SUMMARY OF RECOMMENDATIONS

GUIDANCE

8.1 GENERAL PRINCIPLES FOR WORKING WITH PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER

8.1.1 Access and assessment

- 8.1.1.1 People with antisocial personality disorder should not be excluded from any health or social care service because of their diagnosis or history of antisocial or offending behaviour.
- 8.1.1.2 Seek to minimise any disruption to therapeutic interventions for people with antisocial personality disorder by:
- ensuring that in the initial planning and delivery of treatment, transfers from institutional to community settings take into account the need to continue treatment
 - avoiding unnecessary transfer of care between institutions whenever possible during an intervention, to prevent disruption to the agreed treatment plan. This should be considered at initial planning of treatment.
- 8.1.1.3 Ensure that people with antisocial personality disorder from black and minority ethnic groups have equal access to culturally appropriate services based on clinical need.
- 8.1.1.4 When language or literacy is a barrier to accessing or engaging with services for people with antisocial personality disorder, provide:
- information in their preferred language and in an accessible format
 - psychological or other interventions in their preferred language
 - independent interpreters.
- 8.1.1.5 When a diagnosis of antisocial personality disorder is made, discuss the implications of it with the person, the family or carers where appropriate, and relevant staff, and:
- acknowledge the issues around stigma and exclusion that have characterised care for people with antisocial personality disorder
 - emphasise that the diagnosis does not limit access to a range of appropriate treatments for comorbid mental health disorders
 - provide information on and clarify the respective roles of the health-care, social care and criminal justice services.
- 8.1.1.6 When working with women with antisocial personality disorder take into account the higher incidences of common comorbid mental health problems

and other personality disorders in such women, and:

- adapt interventions in light of this (for example, extend their duration)
- ensure that in inpatient and residential settings the increased vulnerability of these women is taken into account.

8.1.1.7 Staff, in particular key workers, working with people with antisocial personality disorder should establish regular one-to-one meetings to review progress, even when the primary mode of treatment is group based.

8.1.2 People with disabilities and acquired cognitive impairments

8.1.2.1 When a person with learning or physical disabilities or acquired cognitive impairments presents with symptoms and behaviour that suggest antisocial personality disorder, staff involved in assessment and diagnosis should consider consulting with a relevant specialist.

8.1.2.2 Staff providing interventions for people with antisocial personality disorder with learning or physical disabilities or acquired cognitive impairments should, where possible, provide the same interventions as for other people with antisocial personality disorder. Staff might need to adjust the method of delivery or duration of the intervention to take account of the disability or impairment.

8.1.3 Autonomy and choice

8.1.3.1 Work in partnership with people with antisocial personality disorder to develop their autonomy and promote choice by:

- ensuring that they remain actively involved in finding solutions to their problems, including during crises
- encouraging them to consider the different treatment options and life choices available to them, and the consequences of the choices they make.

8.1.4 Developing and optimistic and trusting relationship

8.1.4.1 Staff working with people with antisocial personality disorder should recognise that a positive and rewarding approach is more likely to be successful than a punitive approach in engaging and retaining people in treatment. Staff should:

- explore treatment options in an atmosphere of hope and optimism, explaining that recovery is possible and attainable

Summary of recommendations

- build a trusting relationship, work in an open, engaging and non-judgemental manner, and be consistent and reliable.

8.1.5 Engagement and motivation

8.1.5.1 When providing interventions for people with antisocial personality disorder, particularly in residential and institutional settings, pay attention to motivating them to attend and engage with treatment. This should happen at initial assessment and be an integral and continuing part of any intervention, as people with antisocial personality disorder are vulnerable to premature withdrawal from treatment and supportive interventions.

8.1.6 Involving families and carers

8.1.6.1 Ask directly whether the person with antisocial personality disorder wants their family or carers to be involved in their care, and, subject to the person's consent and rights to confidentiality:

- encourage families or carers to be involved
- ensure that the involvement of families or carers does not lead to a withdrawal of, or lack of access to, services
- inform families or carers about local support groups for families or carers.

8.1.6.2 Consider the needs of families and carers of people with antisocial personality disorder and pay particular attention to the:

- impact of antisocial and offending behaviours on the family
- consequences of significant drug or alcohol misuse
- needs of and risks to any children in the family and the safeguarding of their interests.

8.2 PREVENTION OF ANTISOCIAL PERSONALITY DISORDER – WORKING WITH CHILDREN AND YOUNG PEOPLE AND THEIR FAMILIES

8.2.1 General principles

8.2.1.1 Child and adolescent mental health service (CAMHS) professionals working with young people should:

- balance the developing autonomy and capacity of the young person with the responsibilities of parents and carers
- be familiar with the legal framework that applies to young people, including the Mental Capacity Act, the Children Acts and the Mental Health Act.

8.2.2 Identifying children at risk of developing conduct problems

8.2.2.1 Services should establish robust methods to identify children at risk of developing conduct problems, integrated when possible with the established local assessment system. These should focus on identifying vulnerable parents, where appropriate antenatally, including:

- parents with other mental health problems, or with significant drug or alcohol problems.
- mothers younger than 18 years, particularly those with a history of maltreatment in childhood
- parents with a history of residential care
- parents with significant previous or current contact with the criminal justice system.

8.2.2.2 When identifying vulnerable parents, take care not to intensify any stigma associated with the intervention or increase the child's problems by labelling them as antisocial or problematic.

8.2.3 Early interventions for preschool children at risk of developing conduct problems and potentially subsequent antisocial personality disorder

8.2.3.1 This recommendation has been deleted.

8.2.3.2 This recommendation has been deleted.

8.2.4 Interventions for children with conduct problems younger than 12 years and their families

8.2.4.1 This recommendation has been deleted.¹⁵

¹⁵ This footnote has been deleted.

Summary of recommendations

8.2.4.2 This recommendation has been deleted.¹⁶

8.2.4.3 Additional interventions targeted specifically at the parents of children with conduct problems (such as interventions for parental, marital or inter-personal problems) should not be provided routinely alongside parent-training programmes, as they are unlikely to have an impact on the child's conduct problems.

8.2.4.4 This recommendation has been deleted.¹⁷

8.2.4.5 This recommendation has been deleted.

8.2.5 How to deliver interventions for children with conduct problems aged younger than 12 years and their families

8.2.5.1 This recommendation has been deleted.

8.2.5.2 This recommendation has been deleted.¹⁸

8.2.5.3 This recommendation has been deleted.¹⁹

¹⁶ This footnote has been deleted,

¹⁷ This footnote has been deleted.

¹⁸ This footnote has been deleted.

¹⁹ This footnote has been deleted.

8.2.6 Cognitive behavioural interventions for children aged 8 years and older with conduct problems

8.2.6.1 This recommendation has been deleted.

8.2.6.2 This recommendation has been deleted.

8.2.7 How to deliver interventions for children aged 8 years and older with conduct problems

8.2.7.1 This recommendation has been deleted.

8.2.7.2 This recommendation has been deleted.

8.2.7.3 This recommendation has been deleted.

Summary of recommendations

8.2.8 Interventions for young people with conduct problems aged between 12 and 17 years and their families

- 8.2.8.1 This recommendation has been deleted.
- 8.2.8.2 This recommendation has been deleted.
- 8.2.8.3 This recommendation has been deleted.
- 8.2.8.4 This recommendation has been deleted.

8.2.9 How to deliver interventions for young people with conduct problems aged between 12 and 17 years and their families

- 8.2.9.1 This recommendation has been deleted.
- 8.2.9.2 This recommendation has been deleted.
- 8.2.9.3 This recommendation has been deleted.
- 8.2.9.4 This recommendation has been deleted.

8.2.10 Transition from child and adolescent services to adult services

- 8.2.10.1 Health and social care services should consider referring vulnerable young people with a history of conduct disorder or contact with youth offending schemes, or those who have been receiving interventions for conduct and related disorders, to appropriate adult services for continuing assessment and/or treatment.

8.3 ASSESSMENT AND RISK MANAGEMENT OF ANTISOCIAL PERSONALITY DISORDER

8.3.1 Assessment

8.3.1.1 When assessing a person with possible antisocial personality disorder, healthcare professionals in secondary and forensic mental health services should conduct a full assessment of:

- antisocial behaviours
- personality functioning, coping strategies, strengths and vulnerabilities
- comorbid mental disorders (including depression and anxiety, drug or alcohol misuse, post-traumatic stress disorder and other personality disorders)
- the need for psychological treatment, social care and support, and occupational rehabilitation or development
- domestic violence and abuse.

8.3.1.2 Staff involved in the assessment of antisocial personality disorder in secondary and specialist services should use structured assessment methods whenever possible to increase the validity of the assessment. For forensic services, the use of measures such as PCL-R or PCL-SV to assess the severity of antisocial personality disorder should be part of the routine assessment process.

8.3.1.3 Staff working in primary and secondary care services (for example, drug and alcohol services) and community services (for example, the probation service) that include a high proportion of people with antisocial personality disorder should be alert to the possibility of antisocial personality disorder in service users. Where antisocial personality disorder is suspected and the person is seeking help, consider offering a referral to an appropriate forensic mental health service depending on the nature of the presenting complaint. For example, for depression and anxiety this may be to general mental health services; for problems directly relating to the personality disorder it may be to a specialist personality disorder or forensic service.

Summary of recommendations

8.3.2 Risk assessment and management

Primary care services

- 8.3.2.1 Assessing risk of violence is not routine in primary care, but if such assessment is required consider:
- current or previous violence, including severity, circumstances, precipitants and victims
 - the presence of comorbid mental disorders and/or substance misuse
 - current life stressors, relationships and life events
 - additional information from written records or families and carers (subject to the person's consent and right to confidentiality), because the person with antisocial personality disorder might not always be a reliable source of information.
- 8.3.2.2 Healthcare professionals in primary care should consider contact with and/or referral to secondary or forensic services where there is current violence or threats that suggest significant risk and/or a history of serious violence, including predatory offending or targeting of children or other vulnerable people.

Secondary care services

- 8.3.2.3 When assessing the risk of violence in secondary care mental health services, take a detailed history of violence and consider and record:
- current or previous violence, including severity, circumstances, precipitants and victims
 - contact with the criminal justice system, including convictions and periods of imprisonment
 - the presence of comorbid mental disorder and/or substance misuse
 - current life stressors, relationships and life events
 - additional information from written records or families and carers (subject to the person's consent and right to confidentiality), as the person with antisocial personality disorder might not always be a reliable source of information.
- 8.3.2.4 The initial risk management should be directed at crisis resolution and ameliorating any acute aggravating factors. The history of previous violence should be an important guide in the development of any future violence risk management plan.
- 8.3.2.5 Staff in secondary care mental health services should consider a referral to forensic services where there is:
- current violence or threat that suggests immediate risk or disruption to the operation of the service
 - a history of serious violence, including predatory offending or targeting of children or other vulnerable people.

Specialist personality disorder or forensic services

8.3.2.6 When assessing the risk of violence in forensic, specialist personality disorder or tertiary mental health services, take a detailed history of violence, and consider and record:

- current and previous violence, including severity, circumstances, precipitants and victims
- contact with the criminal justice system, including convictions and periods of imprisonment
- the presence of comorbid mental disorder and/or substance misuse
- current life stressors, relationships and life events
- additional information from written records or families and carers (subject to the person's consent and right to confidentiality), as the person with antisocial personality disorder might not always be a reliable source of information.

8.3.2.7 Healthcare professionals in forensic or specialist personality disorder services should consider, as part of a structured clinical assessment, routinely using:

- a standardised measure of the severity of antisocial personality disorder (for example, PCL-R or PCL-SV)
- a formal assessment tool such as HCR-20 to develop a risk management strategy.

8.3.3 Risk management

8.3.3.1 Services should develop a comprehensive risk management plan for people with antisocial personality disorder who are considered to be of high risk. The plan should involve other agencies in health and social care services and the criminal justice system. Probation services should take the lead role when the person is on a community sentence or is on licence from prison with mental health and social care services providing support and liaison. Such cases should routinely be referred to the local Multi-Agency Public Protection Panel.

8.4 TREATMENT AND MANAGEMENT OF ANTISOCIAL PERSONALITY DISORDER AND RELATED AND COMORBID DISORDERS

8.4.1 General principles

8.4.1.1 People with antisocial personality disorder should be offered treatment for any comorbid disorders in line with recommendations in the relevant NICE clinical guideline, where available. This should happen regardless of whether the person is receiving treatment for antisocial personality disorder.

8.4.1.2 When providing psychological or pharmacological interventions for antisocial personality disorder, offending behaviour or comorbid disorders to people with antisocial personality disorder, be aware of the potential for and possible impact of:

- poor concordance
- high attrition
- misuse of prescribed medication
- drug interactions (including with alcohol and illicit drugs).

8.4.1.3 When providing psychological interventions for comorbid disorders to people with antisocial personality disorder, consider lengthening their duration or increasing their intensity.

8.4.2 The role of psychological interventions

8.4.2.1 For people with antisocial personality disorder, including those with substance misuse problems, in community and mental health services, consider offering group-based cognitive and behavioural interventions, in order to address problems such as impulsivity, interpersonal difficulties and antisocial behaviour.

8.4.2.2 For people with antisocial personality disorder with a history of offending behaviour who are in community and institutional care, consider offering group-based cognitive and behavioural interventions (for example, programmes such as 'Reasoning and Rehabilitation') focused on reducing offending and other antisocial behaviour.

8.4.2.3 For young offenders aged 17 years or younger with a history of offending behaviour who are in institutional care, offer group-based cognitive and behavioural interventions aimed at young offenders and that are focused on reducing offending and other antisocial behaviour.

8.4.2.4 When providing cognitive and behavioural interventions:

- assess the level of risk and adjust the duration and intensity of the programme accordingly (participants at all levels of risk may benefit from these interventions)
- provide support and encouragement to help participants to attend and complete programmes, including people who are legally mandated to

do so.

8.4.3 The role of pharmacological interventions

- 8.4.3.1 Pharmacological interventions should not be routinely used for the treatment of antisocial personality disorder or associated behaviours of aggression, anger and impulsivity.
- 8.4.3.2 Pharmacological interventions for comorbid mental disorders, in particular depression and anxiety, should be in line with recommendations in the relevant NICE clinical guideline. When starting and reviewing medication for comorbid mental disorders, pay particular attention to issues of adherence and the risks of misuse or overdose.

8.4.4 Drug and alcohol misuse

- 8.4.4.1 For people with antisocial personality disorder who misuse drugs, in particular opioids or stimulants, offer psychological interventions (in particular, contingency management programmes) in line with recommendations in the relevant NICE clinical guideline.
- 8.4.4.2 For people with antisocial personality disorder who misuse or are dependent on alcohol, offer psychological and pharmacological interventions in line with existing national guidance for the treatment and management of alcohol disorders.
- 8.4.4.3 For people with antisocial personality disorder who are in institutional care and who misuse or are dependent on drugs or alcohol, consider referral to a specialist therapeutic community focused on the treatment of drug and alcohol problems.

8.5 PSYCHOPATHY AND DANGEROUS AND SEVERE PERSONALITY DISORDER

8.5.1 Adapting interventions for people who meet criteria for psychopathy or DSPD

- 8.5.1.1 For people in community and institutional settings who meet criteria for psychopathy or DSPD, consider cognitive and behavioural interventions (for example, programmes such as ‘Reasoning and Rehabilitation’) focused on reducing offending and other antisocial behaviour. These interventions should be adapted for this group by extending the nature (for example, concurrent individual and group sessions) and duration of the intervention, and by providing booster sessions, continued follow-up and close monitoring.

Summary of recommendations

- 8.5.1.2 For people who meet criteria for psychopathy or DSPD, offer treatment for any comorbid disorders in line with existing NICE guidance. This should happen regardless of whether the person is receiving treatment for psychopathy or DSPD because effective treatment of comorbid disorders may reduce the risk associated with psychopathy or DSPD.

8.5.2 Intensive staff support

- 8.5.2.1 Staff providing interventions for people who meet criteria for psychopathy or DSPD should receive high levels of support and close supervision, due to increased risk of harm. This may be provided by staff outside the unit.

8.6 ORGANISATION AND PLANNING OF SERVICES

8.6.1 Multi-agency care

- 8.6.1.1 Provision of services for people with antisocial personality disorder often involves significant inter-agency working. Therefore, services should ensure that there are clear pathways for people with antisocial personality disorder so that the most effective multi-agency care is provided. These pathways should:

- specify the various interventions that are available at each point
- enable effective communication among clinicians and organisations at all points and provide the means to resolve differences and disagreements.

Clearly agreed local criteria should also be established to facilitate the transfer of people with antisocial personality disorder between services. As far as is possible, shared objective criteria should be developed relating to comprehensive assessment of need and risk.

- 8.6.1.2 Services should consider establishing antisocial personality disorder networks, where possible linked to other personality disorder networks. (They may be organised at the level of primary care trusts, local authorities, strategic health authorities or government offices.) These networks should be multi-agency, should actively involve people with antisocial personality disorder and should:

- take a significant role in training staff, including those in primary care, general, secondary and forensic mental health services, and in the criminal justice system
- have resources to provide specialist support and supervision for staff
- take a central role in the development of standards for and the coordination of clinical pathways
- monitor the effective operation of clinical pathways.

8.6.2 Inpatient services

- 8.6.2.1 Healthcare professionals should normally only consider admitting people with antisocial personality disorder to inpatient services for crisis management or for the treatment of comorbid disorders. Admission should be brief, where possible set out in a previously agreed crisis plan and have a defined purpose and end point.
- 8.6.2.2 Admission to inpatient services solely for the treatment of antisocial personality disorder or its associated risks is likely to be a lengthy process and should:
- be under the care of forensic/specialist personality disorder services
 - not usually be under a hospital order under a section of the Mental Health Act (in the rare instance that this is done, seek advice from a forensic/specialist personality service).

8.6.3 Staff training, supervision, support

Staff competencies

- 8.6.3.1 All staff working with people with antisocial personality disorder should be familiar with the ‘Ten essential shared capabilities: a framework for the whole of the mental health practice’²⁰ and have a knowledge and awareness of antisocial personality disorder that facilitates effective working with service users, families or carers, and colleagues.
- 8.6.3.2 All staff working with people with antisocial personality disorder should have skills appropriate to the nature and level of contact with service users. These skills include:
- for all frontline staff, knowledge about antisocial personality disorder and understanding behaviours in context, including awareness of the potential for therapeutic boundary violations (for example, inappropriate relations with service users)
 - for staff with regular and sustained contact with people with antisocial personality disorder, the ability to respond effectively to the needs of service users
 - for staff with direct therapeutic or management roles, competence in the specific treatment interventions and management strategies used in the service.

²⁰Available from www.eftacim.org/doc_pdf/10ESC.pdf

Summary of recommendations

- 8.6.3.3 Services should ensure that all staff providing psychosocial or pharmacological interventions for the treatment or prevention of antisocial personality disorder are competent and properly qualified and supervised, and that they adhere closely to the structure and duration of the interventions as set out in the relevant treatment manuals. This should be achieved through:
- use of competence frameworks based on relevant treatment manuals
 - routine use of sessional outcome measures
 - routine direct monitoring and evaluation of staff adherence, for example through the use of video and audio tapes and external audit and scrutiny where appropriate.

Supervision and support

- 8.6.3.4 Services should ensure that staff supervision is built into the routine working of the service, is properly resourced within local systems and is monitored. Supervision, which may be provided by staff external to the service, should:
- make use of direct observation (for example, recordings of sessions) and routine outcome measures
 - support adherence to the specific intervention
 - promote general therapeutic consistency and reliability
 - counter negative attitudes among staff.
- 8.6.3.5 Forensic services should ensure that systems for all staff working with people with antisocial personality disorder are in place that provide:
- comprehensive induction programmes in which the purpose of the service is made clear
 - a supportive and open environment that encourages reflective practice and honesty about individual difficulties such as the potential for therapeutic boundary violations (such as inappropriate relations with service users)
 - continuing staff support to review and explore the ethical and clinical challenges involved in working in high-intensity environments, thereby building staff capacity and resilience.

RESEARCH RECOMMENDATIONS

8.7 SEVERITY AS A POTENTIAL MODERATOR OF EFFECT IN GROUP-BASED COGNITIVE AND BEHAVIOURAL INTERVENTIONS

Does the pre-treatment level of the severity of disorder/problem have an impact on the outcome of group-based cognitive and behavioural interventions for offending behaviour? A meta-analysis of individual participant data should be conducted to determine whether the level of severity assessed at the beginning of the intervention moderates the effect of the intervention. The study (for which there are large data sets that

include over 10,000 participants) could inform the design of a large-scale RCT (including potential modifications of cognitive and behavioural interventions) to test the impact of severity on the outcome of cognitive and behavioural interventions.

Why this is important

Research has established the efficacy of cognitive and behavioural interventions in reducing re-offending. However, the effects of these interventions in a range of offending populations are modest. The impact of severity on the outcome of these interventions has not been systematically investigated, and *post hoc* analyses and meta-regression of risk as a moderating factor have been inconclusive. Expert opinion suggests that severe or high-risk individuals may not benefit from cognitive and behavioural interventions, but if they were to be of benefit then the cost savings could be considerable.

8.8 GROUP-BASED COGNITIVE AND BEHAVIOURAL INTERVENTIONS FOR POPULATIONS OUTSIDE CRIMINAL JUSTICE SETTINGS

Are group-based cognitive and behavioural interventions effective in reducing the behaviours associated with antisocial personality disorder (such as impulsivity, rule-breaking, deceitfulness, irritability, aggressiveness and disregard for the safety of self or others)? This should be tested in an RCT that examines medium-term outcomes (including cost effectiveness) over a period of at least 18 months. It should pay particular attention to the modification and development of the interventions to ensure the focus is not just on offending behaviour, but on all aspects of the challenging behaviours associated with antisocial personality disorder.

Why this is important

Not all people with antisocial personality disorder are offenders but they exhibit a wide range of antisocial behaviours. However, the evidence for the treatment of these behaviours outside the criminal justice system is extremely limited. Following publication of the Department of Health's policy guidance, 'Personality disorder: no longer a diagnosis of exclusion' (2003), it is likely that there will be an increased requirement in the NHS to offer treatments for antisocial personality disorder.

8.9 EFFECTIVENESS OF MULTISYSTEMIC THERAPY VERSUS FUNCTIONAL FAMILY THERAPY

Is multisystemic therapy or functional family therapy more clinically and cost effective in the treatment of adolescents with conduct disorders? A large-scale RCT comparing the clinical and cost effectiveness of multisystemic therapy and functional family therapy for adolescents with conduct disorders should be conducted. It should examine the medium-term outcomes (for example, offending behaviour, mental state, educational and vocational outcomes and family functioning) over a period of at least

Summary of recommendations

18 months. The study should also be designed to explore the moderators and mediators of treatment effect, which could help to determine the factors associated with benefits or harms of either multisystemic therapy or functional family therapy.

Why this is important

Multisystemic therapy and functional family therapy are two interventions with a relatively strong evidence base in the treatment of adolescents with conduct disorders, but there have been no studies directly comparing their clinical and cost effectiveness. Their use in health and social care services in the UK is increasing. Both interventions target the same population, but although they share some common elements (that is, work with the family), multisystemic therapy is focused on both the family and the wider resources of the school, community and criminal justice systems, and through intensive individual case work seeks to change the pattern of antisocial behaviour. In contrast, functional family therapy focuses more on the immediate family environment and uses the resources of the family to change the pattern of antisocial behaviour. The study should be designed to facilitate the identification of subgroups within the conduct disorder population who may benefit from either multisystemic therapy or functional family therapy.

8.10 INTERVENTIONS FOR INFANTS AT HIGH RISK OF DEVELOPING CONDUCT DISORDERS

Do specially designed parent-training programmes focused on sensitivity enhancement (a set of techniques designed to improve secure attachment behaviour between parents and children) reduce the risk of behavioural disorders, including conduct problems and delinquency, in infants at high risk of developing these problems? An RCT comparing parent-training programmes focused on sensitivity enhancement with usual care should be undertaken. It should examine the long-term outcomes over a period of at least 5 years, but with consideration given to the possibility of a further 10-year follow-up. The study should also be designed to explore the moderators and mediators of treatment effect that could help determine the factors associated with benefits or harms of the intervention.

Why this is important

There is limited evidence from non-UK studies that interventions focused on developing better parent-child attachment can have benefits for infants at risk of developing conduct disorder. Determining the criteria and then identifying children at high risk (usually via parental risk factors) is difficult and challenging. Even when these factors are agreed, engaging parents in treatment can be difficult. It is important that a range of effective interventions is developed to increase the treatment choice and opportunities for high-risk groups. Several interventions, such as Nurse-Family Practitioners, are being developed and trialled in the UK. It is important for this group of children to have an alternative, effective intervention.

8.11 TREATMENT OF COMORBID ANXIETY DISORDERS IN ANTISOCIAL PERSONALITY DISORDER

Does the effective treatment of anxiety disorders in antisocial personality disorder improve the long-term outcome for antisocial personality disorder? An RCT of people with antisocial personality disorder and comorbid anxiety disorders that compares a sequenced treatment programme for the anxiety disorder with usual care should be conducted. It should examine, over a period of at least 18 months, the medium-term outcomes for key symptoms and behaviours associated with antisocial personality disorder (including offending behaviour, deceitfulness, irritability and aggressiveness, and disregard for the safety of self or others), as well as drug and alcohol misuse, and anxiety. The study should also be designed to explore the moderators and mediators of treatment effect which could help determine the role of anxiety in the course of antisocial personality disorder.

Why this is important

Comorbidity with Axis I disorders is common in antisocial personality disorder, and chronic anxiety has been identified as a particular disorder that may exacerbate the problems associated with antisocial personality disorder. There are effective treatments (psychological and pharmacological) for anxiety disorders but they are often not offered to people with antisocial personality disorder. Current treatment guidelines set out clear pathways for the stepped or sequenced care of people with anxiety disorders. An RCT to test the benefit of this approach in the treatment of anxiety would potentially lead to a significant reduction in illness burden but a reduction in antisocial behaviour would have wider societal benefits. The study should provide important information on the challenges of delivering these interventions for a population that has typically both rejected and been refused treatment.

8.12 USING SELECTIVE SEROTONIN REUPTAKE INHIBITORS TO INCREASE COOPERATIVE BEHAVIOUR IN PEOPLE WITH ANTISOCIAL PERSONALITY DISORDER IN A PRISON SETTING

Although there is evidence that selective serotonin reuptake inhibitors (SSRIs), such as paroxetine, increase cooperative behaviour in normal people and do so independently of the level of sub-syndromal depression, this has yet to be tested in other settings. Given that people with antisocial personality disorder are likely to have difficulties cooperating with one another (because of a host of personality traits that include persistent rule-breaking for personal advantage, suspiciousness, grandiosity, etc.), an RCT should be conducted to find out whether these reported changes of behaviour with an SSRI in normal people generalises to clinical populations in different settings.

Summary of recommendations

Why this is important

There is little evidence in the literature on the pharmacotherapy of antisocial personality disorder to justify the use of any particular medication. However, multiple drugs in various combinations are used in this group either to control aberrant behaviour or in the hope that something might work. Current interventions lack a clear rationale. This recommendation has the potential to advance the field in that (a) it is linked to a clear hypothesis (that cooperative behaviour is linked to a dysregulation of the serotonin receptors – for which there is substantial evidence) and (b) that it is feasible to obtain an answer to this question, given that there are a large number of individuals detained in prison settings who would meet ASPD criteria. Constructing an experimental task that requires cooperative activity would not be difficult in such a setting, since all of those who might be willing to participate are already detained. The successful execution of this research would be important in that it (a) would establish the feasibility of conducting such a trial in a prison setting with this group, and (b) provide a clear and sensible outcome measure of antisocial behaviour that might be generalised to other settings.

8.13 A THERAPEUTIC COMMUNITY APPROACH FOR ANTISOCIAL PERSONALITY DISORDER IN A PRISON SETTING

Is a therapeutic community approach in a prison setting more clinically and cost effective in the treatment and management of antisocial personality disorder than routine prison care? There should be a large-scale RCT comparing the clinical and cost effectiveness of the therapeutic community approach for adults with antisocial personality disorder with routine care. It should examine the medium-term outcomes (for example, offending behaviour, mental state and vocational outcomes) over a period of at least 18 months following release from prison. The study should also be designed to explore the moderators and mediators of treatment effect, which could help to determine the factors associated with benefits or harms of the therapeutic community approach.

Why this is important

There is evidence from RCTs that the therapeutic community approach is of value with drug and alcohol misusers in a prison setting at reducing the incidence of offending behaviour on release. However, there are no equivalent studies of a programme in the prison system on antisocial personality disorder populations that do not have significant drug or alcohol problems. Data that do exist are from non-UK settings. Answering this question is of importance because outcomes for adults with antisocial personality disorder are poor and there are already considerable resources devoted to a therapeutic community approach in the UK prison system (for example, HMP Grendon Underwood). The study could inform policy and resources decisions about the management of antisocial personality disorder in the criminal justice system.

9. APPENDICES

Appendix 1: Scope for the development of the clinical guideline	240
Appendix 2: Declarations of interests by GDG members	249
Appendix 3: Special advisers to the Guideline Development Group	261
Appendix 4: Stakeholders who responded to early requests for evidence	262
Appendix 5: Stakeholders and experts who submitted comments in response to the consultation draft of the guideline	263
Appendix 6: Researchers contacted to request information about unpublished or soon-to-be published studies	264
Appendix 7: Analytic framework and clinical questions	265
Appendix 8: Search strategies for the identification of clinical studies	281
Appendix 9: Clinical study data extraction form	284
Appendix 10: Quality checklists for clinical studies and reviews	285
Appendix 11: Search strategies for the identification of health economics evidence	299
Appendix 12: Quality checklists for economic studies	301
Appendix 13: Data extraction form for economic studies	304
Appendix 14: Evidence tables for economic studies	307
Appendix 15: Characteristics of reviewed studies	On CD
Appendix 16: Clinical evidence forest plots	On CD
Appendix 17: Characteristics of studies on risk factors for developing antisocial personality disorder	On CD

APPENDIX 1: SCOPE FOR THE DEVELOPMENT OF THE CLINICAL GUIDELINE

Final version

14 March 2007

GUIDELINE TITLE

Antisocial personality disorder: treatment, management and prevention

Short title

Antisocial personality disorder (ASPD)²¹

BACKGROUND

The National Institute for Health and Clinical Excellence ('NICE' or 'the Institute') has commissioned the National Collaborating Centre for Mental Health to develop a clinical guideline on antisocial personality disorder for use in the NHS in England and Wales. This follows referral of the topic by the Department of Health (see Appendix [to the Scope]). The guideline will provide recommendations for good practice that are based on the best available evidence of clinical and cost effectiveness.

The Institute's clinical guidelines will support the implementation of National Service Frameworks (NSFs) in those aspects of care where a Framework has been published. The statements in each NSF reflect the evidence that was used at the time the Framework was prepared. The clinical guidelines and technology appraisals published by the Institute after an NSF has been issued will have the effect of updating the Framework.

NICE clinical guidelines support the role of healthcare professionals in providing care in partnership with patients, taking account of their individual needs and preferences, and ensuring that patients (and their carers and families, where appropriate) can make informed decisions about their care and treatment.

²¹There were minor changes to the short title in the development period to 'Antisocial personality disorder'.

CLINICAL NEED FOR THE GUIDELINE

Personality disorders are long-standing and maladaptive patterns of perceiving and responding to other people and to stressful circumstances. Antisocial personality disorder is characterised by a gross disparity between behaviour and the prevailing social norms and a pervasive pattern of disregard for, and violation of, the rights of others that begins in childhood or early adolescence and continues into adulthood. It is one of the most common of the personality disorders and is strongly associated with social impairment, offending behaviours and increased risks of both mental and physical health problems, particularly substance misuse (including alcoholism).

General diagnostic criteria for a personality disorder must be met for a diagnosis of antisocial personality disorder. There are two main sets of diagnostic criteria in current use, the International Classification of Mental and Behavioural Disorders 10th Revision (ICD-10) and the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV). General criteria for personality disorders are similar in ICD-10 and DSM-IV. Both require an individual to have an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of their culture, is pervasive and inflexible across a range of situations, leads to significant distress or impairment, is stable and of long duration (with onset in childhood, adolescence or early adulthood), and cannot be explained as a manifestation or consequence of other mental disorders, substance use, or organic brain disease, injury or dysfunction.

Diagnostic criteria for antisocial personality disorder are broadly similar in both ICD-10 and DSM-IV, although the latter has a heavy emphasis on criminality. ICD-10 uses the term dissocial personality disorder, which is characterised by at least three of the following features: a disregard for the feelings of others and social norms, rules and obligations; gross and persistent irresponsibility; incapacity to maintain relationships; a low tolerance to frustration and a low threshold for aggression and violence; incapacity to experience guilt or learn from experience (including punishment); and a tendency to blame others or offer rational explanations for antisocial behaviour. Additional criteria included in the DSM-IV definition of antisocial personality disorder are repeatedly performing acts that are grounds for arrest, deceitfulness, impulsiveness, and a disregard for the safety of others. DSM-IV criteria do not include lack of concern for the feeling of others and incapacity to maintain relationships or profit from experience.

Antisocial personality disorder can only be diagnosed in adults. In ICD-10 the specific personality disorders come within the overall grouping of disorders of adult personality. In DSM-IV antisocial personality disorder cannot be diagnosed in those under 18 years of age, although a number of juvenile criteria (that is, features present before the age of 15) are specified that must be met in addition to abnormal behaviour in adulthood.

ICD-10 notes that people with personality disorders may have other coexisting or superimposed mental disorders, behavioural syndromes and developmental disorders. In DSM-IV common comorbidities in people with antisocial personality disorder include anxiety and depressive disorders, mood disorders, substance-related disorders, somatisation disorder, pathological gambling and other disorders of impulse

Appendix 1

control. DSM-IV also notes that while the personality disorders have overlapping features and must be distinguished from one another by their distinguishing features, they can (and often do) co-occur.

Antisocial, aggressive or criminal behaviour that does not meet the full criteria for antisocial personality disorder is described as adult antisocial behaviour in DSM-IV, with the diagnosis of antisocial personality disorder only applying to those whose antisocial personality traits are inflexible, maladaptive and persistent, and a cause of significant impairment or distress. Antisocial personality disorder is distinguished from criminal behaviour for gain where the characteristic features of antisocial personality disorder are absent.

The aetiology of antisocial personality disorder is uncertain. Antisocial personality disorder may be the consequence of the accumulation and interaction of multiple factors through development, including temperament, childhood and adolescent experiences, and other environmental factors. The risk factor most predictive of adult antisocial personality is the severity and extent of child and adolescent conduct symptoms and a history of childhood or adolescent conduct disorder is common in people with antisocial personality disorder (and is one of the diagnostic criteria in DSM-IV). Other childhood and adolescent risk factors for adult antisocial personality disorder include other psychopathology (particularly depression, oppositional disorder, and substance misuse) and callous temperament.

Childhood and adolescent risk factors associated with the broader category of adult antisocial behaviour include: individual characteristics such as an undercontrolled, impulsive, aggressive or hyperactive temperament, low IQ and poor educational achievement; family factors such as having an antisocial parent, poor supervision, abuse and violence between parents; and wider societal factors such as an antisocial peer group and high levels of delinquency in school. Risk factors for antisocial behaviour are often correlated with one another. A number of childhood factors are protective against the development of later antisocial behaviour, including temperamental characteristics such as shyness and inhibition, intelligence, a close relationship with at least one adult, good school or sporting achievement, and non-antisocial peers.

Neurobiological mechanisms for antisocial personality disorder and antisocial behaviour have also been proposed and there is evidence that there is a genetic component in the development of antisocial behaviour. It has been proposed that a genetic predisposition may increase the likelihood that exposures to adverse environmental influences and life events will lead to the development of antisocial personality disorder.

The personality disorders are associated with a significant burden to the individual, those around them and society as a whole, with the impact of the disorder generally being greatest in early adulthood and diminishing with age. Their families commonly endure episodes of explosive anger and rage, a callous and unemotional behavioural pattern, depression, self-harm, and suicide attempts. Antisocial personality disorder is also associated with significant drug and alcohol misuse, with further attendant costs to the individual, their family and society.

The antisocial, violent and offending behaviour associated with antisocial personality disorder has a negative impact across society and results in a range of costs to society including those to victims of the behaviour (including physical harm and the

impact of intimidation and fear), the costs of policing and other national and local measures to curb antisocial behaviour, and general costs to the criminal justice system including the costs of detention and other punitive measures.

People with personality disorders tend to make heavy but dysfunctional demands on services, having frequent contact with mental health and social services, A&E, GPs and the criminal justice system, and may be high-cost, persistent, and intensive users of mental health services.

Some people with antisocial personality disorder will also be categorised as having a dangerous and severe personality disorder (DSPD). DSPD is not a diagnostic category; rather, it is a term used to describe a category of dangerous offenders whose offending is linked to severe personality disorder and who present a very high risk of serious violent and/or sexual offending. People in this category will have committed a violent and/or sexual crime and may have been detained under the criminal justice system or mental health legislation.

The prevalence of antisocial personality disorder in the general population of Great Britain has been estimated at 0.6%, with the rate in men (1%) five times that in women (0.2%). Surveys conducted in other countries report prevalence rates for antisocial personality disorder ranging from 0.2 to 4.1%. Higher prevalence rates for personality disorders appear to be found in urban populations and this may account for some of the range in reported prevalence – the estimate of 0.6% for the prevalence of antisocial personality disorder in Great Britain was based on data gathered from a survey covering a range of locations.

Antisocial personality disorder is common among drug and alcohol misusers in both treatment and custodial settings. The prevalence of personality disorders, and antisocial personality disorder in particular, is particularly high in the prison population. In England and Wales 78% of male remand prisoners, 64% of male sentenced prisoners, and 50% of female prisoners have personality disorders, with the prevalence of antisocial personality disorder being 63% among male remand prisoners (just over half of whom have antisocial personality disorder plus another personality disorder), 49% among sentenced male prisoners (two fifths of whom have antisocial personality disorder plus another personality disorder) and 31% among female prisoners (two thirds of whom have antisocial personality disorder plus another personality disorder).

Many clinicians are sceptical about the effectiveness of treatment interventions for personality disorder, and hence often reluctant to accept people with a primary diagnosis of personality disorder for treatment. Established antisocial personality disorder is difficult to treat and evidence on the effectiveness of therapeutic interventions is sparse.

The diagnosis of antisocial personality disorder requires evidence that the features of the disorder onset in childhood or adolescence (ICD-10) or evidence of conduct disorder with onset before age 15 years (DSM-IV) and this, combined with the difficulty of treating adult antisocial personality disorder, has led to a focus on preventative interventions with children and young people at risk of later antisocial personality disorder. Early prevention during childhood may be desirable, but many individuals who go on to develop adult antisocial personality disorder are not identified before adolescence.

It should be noted that a separate guideline on borderline personality disorder is being developed in parallel to the development of the antisocial personality disorder guideline. Beyond the differences in the diagnostic criteria for borderline personality disorder and antisocial personality disorder, there are good grounds for developing two separate guidelines for these disorders, rather than one unified guideline on personality disorders, as there are marked differences in the populations the guidelines will address in terms of their interaction with services. People with borderline personality disorder tend to be treatment seeking and at high risk of self-harm and suicide, whereas people with antisocial personality disorder tend not to seek treatment, are likely to come into contact with services via the criminal justice system and their behaviour is more likely to be a risk to others. Nevertheless, it is acknowledged that people with either of these diagnoses may present with some symptoms and behaviour normally associated with the other diagnosis.

THE GUIDELINE

The guideline development process is described in detail in two publications which are available from the NICE website²² (see ‘About NICE’ » ‘How we work’ » ‘Developing NICE clinical guidelines’ » ‘Clinical guideline development methods’). An overview for stakeholders, the public and the NHS (2006 edition) describes how organisations can become involved in the development of a guideline. The guidelines manual (2006 edition) provides advice on the technical aspects of guideline development.

This document is the scope. It defines exactly what this guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health (see Appendix [to the Scope]). The areas that will be addressed by the guideline are described in the following sections.

POPULATION

Groups that will be covered

The recommendations in this guideline will address the following:

- The treatment and management of adults with a diagnosis of antisocial personality disorder in the NHS and prison system (including dangerous and severe personality disorder).
- Preventative interventions with children and adolescents at significant risk of developing antisocial personality disorder.
- The treatment and management of common comorbidities in people with antisocial personality disorder as far as these conditions affect the treatment of antisocial personality disorder.

²²www.nice.org.uk

Groups that will not be covered

The guideline will not cover:

- The separate management of comorbid conditions.
- The management of criminal and antisocial behaviour in the absence of a diagnosis of antisocial personality disorder.

HEALTHCARE SETTING

The guideline will cover the care provided by primary, community, secondary and specialist healthcare services within the NHS. The guideline will include specifically:

- Care in general practice and NHS community care, hospital outpatient, day and inpatient care (including secure hospitals and tertiary settings), and the interface between these settings.
- Care in prisons and young offender institutions, and the transition from prison health services to care in the NHS outside of prison.

This is an NHS guideline. This guideline will comment on the interface with a range of other settings, services and agencies, such as social care services, educational services, the criminal justice system, the police, housing and residential care, and the voluntary sector. The guideline may include recommendations relating to these settings, services and agencies where the recommendations are relevant to the prevention, treatment, care and management of antisocial personality disorder.

CLINICAL MANAGEMENT

Areas that will be covered by the guideline:

- The assessment of people with antisocial personality disorder both before and after diagnosis and the identification of the threshold for intervention.
- Identification of risk factors for adult antisocial personality disorder in children and young people, including the early identification of child and adolescent behaviour disorders that are precursors or risk factors for antisocial personality disorder.
- The full range of treatment and care normally made available by the NHS, including health services in prisons and young offender institutions.
- The assessment and management of the risk of self-harm and violent and offending behaviour in people with diagnosed antisocial personality disorder.
- Psychological and psychosocial interventions, including type, format, frequency, duration and intensity. Consideration will be given as to which settings are most appropriate for which intervention. Approaches to be considered will include a broad range of psychological and psychosocial interventions normally provided in the NHS including therapeutic communities.
- The appropriate use of pharmacological interventions, including initiation and duration of treatment, management of side effects and discontinuation. Note that

Appendix 1

guideline recommendations will normally fall within licensed indications; exceptionally, and only where clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a drug's Summary of Product Characteristics to inform their decisions for individual patients. Nevertheless, where pharmacological interventions are commonly utilised off-licence in treatment strategies for people with antisocial personality disorder in the NHS, the evidence underpinning their usage will be critically evaluated.

- Combined pharmacological and psychological/psychosocial treatments.
- The nature of the therapeutic or other environment in which any interventions should be delivered.
- Support and supervision systems to facilitate the delivery of effective interventions, including team and individual professional functioning and how they are influenced by working with this client group.
- Sensitivity to different beliefs and attitudes of different races and cultures, and issues of social exclusion.
- The role of the family or carers in the treatment and support of people with antisocial personality disorder (with consideration of choice, consent and help), and support that may be needed by carers themselves.
- Preventative/protective measures and interventions with children and young people who are at significant risk of developing adult antisocial personality disorder, in particular those with a diagnosis of conduct disorder and young offenders serving custodial and non-custodial sentences (including educational interventions and interventions with carers/parents).
- The transition from child and adolescent services to adult services.

The guideline development group will take reasonable steps to identify ineffective interventions and approaches to care. When robust and credible recommendations for re-positioning the intervention for optimal use, or changing the approach to care to make more efficient use of resources, can be made, they will be clearly stated. When the resources released are substantial, consideration will be given to listing such recommendations in the 'Key priorities for implementation' section of the guideline.

AREAS THAT WILL NOT BE COVERED BY THE GUIDELINE

- The guideline will not cover treatments that are not normally available within the NHS or prison health services.

STATUS

Scope

This is the first draft of the scope, which will be reviewed by the Guidelines Review Panel and the Institute's Guidance Executive.

The guideline will incorporate the following relevant technology appraisal guidance issued by the Institute in collaboration with the Social Care Institute for Excellence: Parent-training/education programmes in the management of children with conduct disorders NICE technology appraisal guidance 102 (Published July 2006).

The guideline will also cross refer to relevant clinical guidance²³ issued by the Institute, including:

- Schizophrenia: core interventions in the treatment and management of schizophrenia in primary and secondary care (2002)
- Depression: the management of depression in primary and secondary care (2004)
- Anxiety: management of generalised anxiety disorder and panic disorder (2004)
- Self-harm: the short-term physical and psychological management and secondary prevention of self-harm in primary and secondary (2004)
- Post-traumatic stress disorder: management of PTSD in adults in primary, secondary and community care (2005)
- Obsessive-compulsive disorder: core interventions in the treatment of obsessive-compulsive disorder and body dysmorphic disorder (2005)
- Violence: the short-term management of disturbed/violent behaviour in in-patient psychiatric settings and emergency departments (2005)
- Bipolar disorder: the management of bipolar disorder in adults, children and adolescents, in primary and secondary care (2006)
- Drug misuse: opioid detoxification (2007)
- Drug misuse: psychosocial interventions (2007)
- Attention deficit hyperactivity disorder: diagnosis and management of ADHD in children, young people and adults (2008)
- Borderline personality disorder: treatment and management (2009).

GUIDELINE

The development of the guideline recommendations will begin in March 2007.

FURTHER INFORMATION

Information on the guideline development process is provided in:

- an overview for stakeholders, the public and the NHS (2006 edition)
- the guidelines manual (2006 edition)

These booklets are available as PDF files from the NICE website (<http://www.nice.org.uk/page.aspx?o=guidelinesmanual>). Information on the progress of the guideline will also be available from the website.

²³Since the Scope was issued some of the guideline titles had changed during development; the titles have been corrected here to reflect those changes.

Appendix 1

Appendix – Referral from the Department of Health

The Department of Health asked the Institute to consider preventative and treatment interventions for antisocial personality disorder in education, in primary healthcare and in specialist services including prisons for adults and children and adolescents and to consider which treatment settings are most appropriate for which intervention.

APPENDIX 2: DECLARATIONS OF INTERESTS BY GDG MEMBERS

With a range of practical experience relevant to antisocial personality disorder in the GDG, members were appointed because of their understanding and expertise in healthcare for people with antisocial personality disorder and support for their families and carers, including: scientific issues; health research; the delivery and receipt of healthcare, along with the work of the healthcare industry; and the role of professional organisations and organisations for people with antisocial personality disorder and their families and carers.

To minimise and manage any potential conflicts of interest, and to avoid any public concern that commercial or other financial interests have affected the work of the GDG and influenced guidance, members of the GDG must declare as a matter of public record any interests held by themselves or their families which fall under specified categories (see below). These categories include any relationships they have with the healthcare industries, professional organisations and organisations for people with antisocial personality disorder and their families and carers.

Individuals invited to join the GDG were asked to declare their interests before being appointed. To allow the management of any potential conflicts of interest that might arise during the development of the guideline, GDG members were also asked to declare their interests at each GDG meeting throughout the guideline development process. The interests of all the members of the GDG are listed below, including interests declared prior to appointment and during the guideline development process.

Categories of interest

- **Paid employment**
- **Personal pecuniary interest:** financial payments or other benefits from either the manufacturer or the owner of the product or service under consideration in this guideline, or the industry or sector from which the product or service comes. This includes holding a directorship, or other paid position; carrying out consultancy or fee paid work; having shareholdings or other beneficial interests; receiving expenses and hospitality over and above what would be reasonably expected to attend meetings and conferences.
- **Personal family interest:** financial payments or other benefits from the healthcare industry that were received by a member of your family.
- **Non-personal pecuniary interest:** financial payments or other benefits received by the GDG member's organisation or department, but where the GDG member has not personally received payment, including fellowships and other support provided by the healthcare industry. This includes a grant or fellowship or other

Appendix 2

payment to sponsor a post, or contribute to the running costs of the department; commissioning of research or other work; contracts with, or grants from, NICE.

- **Personal non-pecuniary interest:** these include, but are not limited to, clear opinions or public statements you have made about antisocial personality disorder, holding office in a professional organisation or advocacy group with a direct interest in antisocial personality disorder, other reputational risks relevant to antisocial personality disorder.

Declarations of interest	
Professor Conor Duggan - Chair, Guideline Development Group	
Employment	Professor of Forensic Mental Health, University of Nottingham Honorary Consultant Psychiatrist, Nottinghamshire Healthcare Trust
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	Department of Health grant to Nottinghamshire Healthcare NHS Trust to employ senior academics and research worker to further research into personality disorder; £170,000 per annum Research grants: 2007–2010 Duggan, Ferriter, Huband, Smailagic & Dennis. Partnership bid between the Cochrane Developmental, Psychosocial and Learning Problems Group and Nottinghamshire Healthcare NHS Trust. National Institute for Health Research, £408,594. 2007 Duggan, Ferriter, Huband & Smailagic. A review of reviews on sexual and domestic violence. CSIP; £45,000 2004–2006 Systematic review into the treatment of personality disorder. National Forensic R & D Committee; £100,000 IMPALOX study with Peter Tyrer Involved in translational research at Collaboration for Leadership in Applied Health Research and Care funded by National Institute for Health Research

Continued

Declarations of interest (Continued)	
Personal non-pecuniary interest	Fellow of Royal College of Psychiatrists. Advisory member of Home Office Expert Advisory Panel.
Dr Gwen Adshead	
Employment	Consultant Forensic Psychotherapist, Broadmoor Hospital, West London Mental Health NHS Trust
Personal pecuniary interest	Lecture on personality disorder at an educational conference organised by World Forum for Mental Health; £200 2004–2004 Funding from the Wellcome Trust to study moral reasoning in men with antisocial personality disorder
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Professor Jeremy Coid	
Employment	Professor of Forensic Psychiatry, Wolfson Institute of Preventive Medicine, Queen Mary, University of London
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	Ongoing: funding from Ministry of Justice to investigate risk 2008 National Institute for Health Research
Personal non-pecuniary interest	None
Mr Neil Connelly – Representing the interests of service users and carers	
Personal pecuniary interest	None
Personal family interest	None

Continued

Declarations of interest (Continued)	
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Mr Colin Dearden	
Employment	Deputy Chief Probation Officer, Lancashire Probation Service
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Dr Brian Ferguson	
Employment	Consultant Psychiatrist and Clinical Director of Specialist Services, Lincolnshire Partnership NHS Foundation Trust
Personal pecuniary interest	2006 Attended European College of Neuropsychopharmacology Congress in Paris as a guest of Janssen-Cilag, who paid for registration, accommodation, meals and travel
Personal family interest	None
Non-personal pecuniary interest	Deputy lead for East Midlands Mental Health Research Hub, which has adopted a number of research projects including one sponsored by Janssen-Cilag Involved in translational research at Collaboration for Leadership in Applied Health Research and Care funded by National Institute for Health Research
Personal non-pecuniary interest	In discussion with Servier Research and Development Ltd in respect of a joint pharmaceutical trial in the treatment of major depression, with the role of Deputy Head for the East Midlands Research Hub

Continued

Declarations of interest (Continued)	
Professor Peter Fonagy	
Employment	Freud Memorial Professor of Psychoanalysis, University College London Head of Research Department of Clinical, Educational and Health Psychology, University College London Chief Executive, Anna Freud Centre, London
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	<p>Research grants:</p> <p>2008–2012 With Stephen Pilling. Randomised controlled trial to evaluate multi-systemic therapy. Department of Health; £1 m</p> <p>2006–2009 Danya Glaser, Peter Fonagy & Rob Senior. Framework for Recognition, Assessment and Management of Emotional Abuse (FRAMEA). Department of Education and Skills; £325,000</p> <p>2005–2007 Peter Fonagy & Mary Target. Randomised controlled trial of parent-infant psychotherapy. Big Lottery Fund; £206,000</p> <p>2005–2008 Peter Fonagy & Stewart Twemlow. Building Peaceful Communities Project. FHL Foundation, Inc.; US\$10,000</p> <p>2005–2008 Mike Crawford & Peter Fonagy. Learning the Lessons: an evaluation of pilot community services for adults with personality disorder; NHS Service Delivery Organisation, £286,076</p> <p>2005–2008 Janet Feigen-Baum & Peter Fonagy. Mellow Parenting Programme to Support the Parenting of Mothers with Personality Disorder. Department for Education and Skills; £204,336</p> <p>2002–2006 Randomised controlled trial of a nursery-based early intervention service; Diana, Princess of Wales Memorial Fund, £48,000</p>

Continued

Appendix 2

Declarations of interest (Continued)	
Personal non-pecuniary interest	None
Dr Savas Hadjipavlou	
Employment	Programme Director, The Dangerous and Severe Personality Disorder (DSPD) Programme, Ministry of Justice
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	Represented the DSPD Programme at various conferences
Professor Eddie Kane	
Employment	Director, Personality Disorder Institute, University of Nottingham
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Professor Anthony Maden	
Employment	Professor of Forensic Psychiatry, Imperial College; Honorary Consultant, West London Mental Health NHS Trust
Personal pecuniary interest	Lecture to Trent study day, sponsored by Janssen Cilag; £1,000. Clinical director of a service for Dangerous and Severe Personality Disorder
Personal family interest	None
Non-personal pecuniary interest	None

Continued

Declarations of interest (Continued)	
Personal non-pecuniary interest	Have advised Janssen-Cilag on planning an audit of Risperdal use in mental illness in high security hospitals; no payment agreed
	Have advocated mental health law reform to remove the 'treatability' clause from psychopathic disorder
Professor James McGuire	
Employment	Professor of Forensic Clinical Psychology, University of Liverpool Honorary Consultant Clinical Psychologist, Mersey Care NHS Trust
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	<p>2006–2009 With Prof. J. Hill, Dr. R. Nathan, Prof. P. Kinderman, Dr. G. Lancaster and Prof. M. Knapp. National R&D Programme in Forensic Mental Health: Evaluation of a Community Risk Assessment and Management Service. Department of Health; £149,857</p> <p>2006–2009 With Prof. P. Salmon, Clinical Psychology Fellow in Addictions. Windsor Clinic, Mersey Care NHS Trust, £160,948</p> <p>2005–2007 With Prof. C. R. Hollin, Dr. E. J. Palmer, R. Hatcher & C. Bilby. Northern Ireland Office: Evaluation of Offending Behaviour Programmes. Joint project with the University of Leicester; £79,345</p> <p>2008–2009 With Drs. R. Whittington, W. Barr & M. Leitner: Update and extensions and risk assessment and intervention systematic review. Department of Health, National Institute for Health Research, Research for Patient Benefit Programme; £159,133</p> <p>2008–2009 Evaluation of a Stepped Care Psychology Service in HM Prison Liverpool. Mersey Care NHS Trust; £30,000</p>

Continued

Declarations of interest (Continued)	
Personal non-pecuniary interest	Until May 2008 member of the Board of Management, Resettle/CRACMS (Community Risk Assessment and Case Management Service), a multi-agency service being established in North West England. Jointly funded by the Home Office and the Department of Health
Ms Carol Rooney	
Employment	Deputy Director of Nursing, St Andrews Healthcare
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Dr Nat Wright	
Employment	Clinical Director for Substance Misuse, HM Prison Leeds
Personal pecuniary interest	GP adviser Department of Health, Prison Health Unit; funds 50% of salary
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

National Collaborating Centre for Mental Health

Dr Stephen Pilling – Facilitator, Guideline Development Group	
Employment	Joint Director, National Collaborating Centre for Mental Health Director, Centre for Outcomes Research and Effectiveness, University College London

Continued

Personal pecuniary interest	In receipt of funding from NICE to develop clinical guidelines
Personal family interest	None
Non-personal pecuniary interest	2008–2012 Randomised controlled trial to evaluate multi-systemic therapy. Principal investigator: Professor Peter Fonagy. Department of Health; £1 m
Personal non-pecuniary interest	None
Ms Amy Brown	
Employment	Research Assistant (2007), National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Mr Alan Duncan	
Employment	Systematic Reviewer, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Mr Matthew Dyer	
Employment	Health Economist, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

Continued

Appendix 2

Ms Esther Flanagan	
Employment	Project Manager (2008–2009), National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Mr Ryan Li	
Employment	Project Manager (2008), National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Dr Ifigeneia Mavranzouli	
Employment	Health Economist, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Dr Nick Meader	
Employment	Systematic Reviewer, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

Continued

Dr Catherine Pettinari	
Employment	Senior Project Centre Manager, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Ms Peny Retza	
Employment	Health Economist (2007–2008), National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Ms Maria Rizzo	
Employment	Research Assistant (2007–2008), National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Ms Sarah Stockton	
Employment	Information Scientist, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

Continued

Appendix 2

Dr Clare Taylor	
Employment	Editor, National Collaborating Centre for Mental Health
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

**APPENDIX 3:
SPECIAL ADVISERS TO THE GUIDELINE DEVELOPMENT
GROUP**

Name	Employed by
Dennis Lines	Carer representative for people with personality disorders
John Livesley	University of British Columbia, Canada

Appendix 4

**APPENDIX 4:
STAKEHOLDERS WHO RESPONDED TO EARLY REQUESTS
FOR EVIDENCE**

None

**APPENDIX 5:
STAKEHOLDERS AND EXPERTS WHO
SUBMITTED COMMENTS IN RESPONSE TO THE CONSULTA-
TION DRAFT OF THE GUIDELINE**

STAKEHOLDERS

Alder Hey Children's NHS Foundation Trust
Association for Cognitive Analytic (ACAT) Therapy
British Association of Art Therapists
British Paediatric Mental Health Group
Cassel Hospital
College of Occupational Therapists
Department of Health
Greater Manchester West Mental Health NHS Foundation Trust
Hampshire Partnership NHS Trust
NHS Direct
Nottinghamshire Healthcare NHS Trust
Oxleas NHS Foundation Trust and the Douglass House Project
Partnerships in Care
Royal College of Nursing
Sainsbury Centre for Mental Health
Sussex Partnership NHS Trust
Tavistock and Portman Foundation Trust
University of Liverpool

EXPERTS

Professor Jay Belsky
Dr Mike Crawford
Professor Mark Dadds
Dr Caroline Logan
Professor Chris Patrick

**APPENDIX 6:
RESEARCHERS CONTACTED TO REQUEST INFORMATION
ABOUT UNPUBLISHED OR
SOON-TO-BE PUBLISHED STUDIES**

Dr Geoffrey Baruch
Professor Charlie Brooker
Professor Avshalom Caspi
Dr Patricia Chamberlain
Professor John F. Clarkin
Professor Kate Davidson
Professor Tom Fahy
Professor John G. Gunderson, MD
Professor Scott Henggeler
Professor Jonathan Hill
Professor Sheilagh Hodgins
Professor Alan Kazdin
Dr Niklas Langstrom
Professor Terrie Moffitt
Professor Roger Mulder
Professor David Olds
Professor Paul Pilkonis
Professor Michael H. Stone
Professor Brian Thomas-Peter
Professor Peter Tyrer
Professor Richard Tremblay
Professor Christopher Webster
Professor John Weisz
Professor Stephen Wong

APPENDIX 7: ANALYTIC FRAMEWORK AND CLINICAL QUESTIONS

	Topic area	Key question(s)
1	Assessment and referral	<p>1a. What is the threshold for intervening to treat problems associated with antisocial personality disorder?</p> <p>1b. What is the threshold for intervening to treat symptoms associated with antisocial personality disorder?</p> <p>1c. What is the threshold for intervening to treat antisocial personality disorder?</p> <p>1d. What is the threshold at which other treatment and care should be modified because of antisocial personality disorder?</p> <p>1e. What is the threshold for referral to another service or setting?</p> <p>1f. When is a formal diagnosis of antisocial personality disorder needed/when does a diagnosis of antisocial personality disorder improve outcomes?</p> <p>1g. What are the harms of diagnosis?</p> <p>1h. What is the threshold for risk assessment?</p>
2	Interventions for adults with antisocial personality disorder	2. What interventions for people with antisocial personality disorder improve outcomes?
3	Treatment of comorbid disorders	3. For people with antisocial personality disorder with comorbid disorders, does treatment of comorbid disorders improve outcomes?
4	Interventions for offending behaviour	4. For people with antisocial personality disorder, do interventions for offending behaviour improve outcomes?

Continued

	Topic area	Key question(s)
5	Structures for the delivery of care and management of people with antisocial personality disorder	5a. What service structures for the management of ongoing long-term care and the delivery of interventions for people with antisocial personality disorder deliver the best outcomes?
		5b. What organisational structures and processes to support professionals and staff caring for and managing people with antisocial personality disorder deliver the best outcomes?
6	Risk assessment and management for adults with antisocial personality disorder	6. For people with antisocial personality disorder, does formal risk assessment and management improve outcomes and reduce harm to others?
7	Early intervention in children and adolescents to prevent antisocial personality disorder	7a. Are there early interventions for young at-risk children that are effective at preventing antisocial personality disorder?
		7b. Are interventions with children and adolescents with conduct disorder effective at preventing antisocial personality disorder?

CLINICAL QUESTIONS

1.1 Assessment and referral

- 1.1.1 What is the threshold for intervening to treat problems associated with antisocial personality disorder?
- 1.1.2 What is the threshold for intervening to treat symptoms associated with antisocial personality disorder?
- 1.1.3 What is the threshold for intervening to treat antisocial personality disorder?
- 1.1.4 What is the threshold at which other treatment and care should be modified because of antisocial personality disorder?
- 1.1.5 What is the threshold for referral to another service or setting?
- 1.1.6 When is a formal diagnosis of antisocial personality disorder needed/when does a diagnosis of antisocial personality disorder improve outcomes?
- 1.1.7 What are the harms of diagnosis?
- 1.1.8 What is the threshold for risk assessment?

- 2. What interventions for people with antisocial personality disorder improve outcomes?**
- 2.1 Interventions in primary care for problems associated with antisocial personality disorder*
- 2.1.1 What identifies people who have the potential to benefit from, and meet the threshold for, primary care interventions for antisocial personality disorder related problems?
- 2.1.2 What interventions to address problems and behaviour associated with antisocial personality disorder, or to promote harm avoidance, improve outcomes?
- 2.1.3 For each of these interventions, what factors favour and contraindicate referral?
- 2.1.4 What harms are associated with interventions to address problems and behaviour associated with antisocial personality disorder?
- 2.1.5 Where people with antisocial personality disorder have problems that are primarily social, are there non-healthcare services that improve outcomes?
- 2.1.6 What harms to people with antisocial personality disorder are associated with their use of non-healthcare services?
- 2.2 Secondary care mental health interventions to treat 'symptoms' of antisocial personality disorder*
- 2.2.1 What identifies people who have the potential to benefit from, and meet the threshold for, interventions to treat antisocial personality disorder symptoms?
- 2.2.2 What interventions are effective at treating symptoms of antisocial personality disorder?
- 2.2.3 For each of these interventions, what factors favour and contraindicate referral?
- 2.2.4 What are the harms of interventions to treat symptoms of antisocial personality disorder?
- 2.3 Interventions to treat antisocial personality disorder in tertiary care / specialist services*
- 2.3.1 What identifies people who have the potential to benefit from, and meet the threshold for, interventions to treat antisocial personality disorder?
- 2.3.2 What interventions are effective at treating antisocial personality disorder?
- 2.3.3 For each of these interventions, what factors favour and contraindicate referral?
- 2.3.4 What are the harms of interventions to treat antisocial personality disorder?
- 2.4 The therapeutic environment*
- 2.4.1 For people with antisocial personality disorder, what features of the environment in which interventions are delivered improve outcomes?

- 2.4.1 For people with antisocial personality disorder, what features of the environment in which interventions are delivered cause harm?

3. For people with antisocial personality disorder with comorbid disorders, does treatment of comorbid disorders improve outcomes?

3.1 Assessment for people with antisocial personality disorder and comorbid disorders

- 3.1.1 Where people with antisocial personality disorder have multiple comorbidities, what disorders/problems should be treated first?
- 3.1.2 Should people with antisocial personality disorder who have been treated for comorbid disorders be referred for assessment and treatment of antisocial personality disorder or antisocial personality disorder symptoms?

3.2 Interventions for people with antisocial personality disorder who have comorbid alcohol problems or dependence

- 3.2.1 What identifies people with antisocial personality disorder who have the potential to benefit from, and meet the threshold for, interventions for alcohol problems or dependence?
- 3.2.2 What interventions are effective at treating alcohol problems or dependence in people with antisocial personality disorder?
- 3.2.2a Are interventions for alcohol problems or dependence less effective for people with antisocial personality disorder?
- 3.2.2b How should interventions for alcohol problems or dependence be adapted for people with antisocial personality disorder?
- 3.2.3 For people with antisocial personality disorder, what are the harms of treating alcohol problems or dependence?

3.3 Interventions for people with antisocial personality disorder who have comorbid drug misuse or dependence

- 3.3.1 What identifies people with antisocial personality disorder who have the potential to benefit from, and meet the threshold for, interventions for drug misuse or dependence?
- 3.3.2 What interventions are effective at treating drug misuse or dependence in people with antisocial personality disorder?
- 3.3.2a Are interventions for drug misuse or dependence less effective for people with antisocial personality disorder?
- 3.3.2b How should interventions for drug misuse or dependence be adapted for people with antisocial personality disorder?
- 3.3.3 For people with antisocial personality disorder, what are the harms of treating drug misuse or dependence?

- 3.4 *Interventions for people with antisocial personality disorder who have comorbid depression or anxiety*
- 3.4.1 What identifies people with antisocial personality disorder who have the potential to benefit from, and meet the threshold for, interventions for depression or anxiety?
- 3.4.2 What interventions are effective at treating depression or anxiety in people with antisocial personality disorder?
- 3.4.3 For people with antisocial personality disorder, what are the harms of treating depression or anxiety?
- 3.5 *Interventions for people with antisocial personality disorder who have comorbid personality disorders*
- 3.5.1 What identifies people with antisocial personality disorder who have the potential to benefit from, and meet the threshold for, interventions for comorbid personality disorders?
- 3.5.2 What interventions are effective at treating comorbid personality disorders in people with antisocial personality disorder?
- 3.5.3 For people with antisocial personality disorder, what are the harms of treating comorbid personality disorders?
- 4. For people with antisocial personality disorder, do interventions for offending behaviour improve outcomes?**
- 4.1 *Could any interventions for offending behaviour be used as interventions to treat people with antisocial personality disorder in a healthcare setting?*
- 4.1.1 What interventions are effective at reducing re-offending in the general offender population?
- 4.1.2 What harms to offenders are associated with interventions to reduce offending behaviour?
- 4.1.3 In offender populations, what factors can be used as proxy indicators of antisocial personality disorder and validate extrapolation to people with antisocial personality disorder?
- 4.1.4 What identifies people with antisocial personality disorder who have the potential to benefit from, and meet the threshold for, interventions for offending behaviour?
- 4.1.5 What interventions for offenders improve outcomes for people with antisocial personality disorder or offenders with proxy indicators of antisocial personality disorder?
- 4.1.5a For each of these interventions, does the effectiveness differ for offenders with antisocial personality disorder compared with the general offender population?
- 4.1.5b For each of these interventions, what factors favour and contraindicate referral?

Appendix 7

4.1.6 What harms to people with antisocial personality disorder are associated with interventions to reduce offending behaviour?

5a. What service structures for the management of ongoing long-term care and the delivery of interventions for people with antisocial personality disorder deliver the best outcomes?

5.1.1 What identifies people with antisocial personality disorder who need long-term care and support through and beyond treatment interventions?

5.1.2 What service structures for delivering interventions and providing ongoing long-term care and support for people with antisocial personality disorder improve outcomes?

5.1.3 What harms are associated with structures for providing care for people with antisocial personality disorder?

5.1.4 What are the support needs of carers/people (including children) who live with people with antisocial personality disorder?

5.1.5 How can services meet the support needs of carers/people (including children) who live with people with antisocial personality disorder?

5.1.6 Does the delivery of care and interventions for the person with antisocial personality disorder cause harms to carers/the people (including children) who live with them?

5.1.7 Do the support needs of carers/people (including children) who live with people with antisocial personality disorder conflict with the needs of the person with antisocial personality disorder?

5b. What organisational structures and processes to support professionals and staff caring for and managing people with antisocial personality disorder deliver the best outcomes?

5.2.1 What are the potential harms to professionals and staff from working with people with antisocial personality disorder?

5.2.1a Do harms to professionals and staff lead to harms to the people with antisocial personality disorder they care for (for example by undermining treatment)?

5.2.2 How can services address the challenges of providing care for people with antisocial personality disorder?

5.2.2a What support for staff including training, consultation/liaison, supervision, peer support, team-based and collective working is associated with improved outcomes?

5.2.2b What leadership and management interventions (including clarity of roles and purpose, taking responsibility, case loads) are associated with improved outcomes?

5.2.3 What are the harms of measures to address the challenges of providing care for people with antisocial personality disorder?

5.2.4 Is there a conflict between what delivers better outcomes for people with antisocial personality disorder and what delivers better outcomes for professionals and staff?

5.2.5 Is there evidence on what ethos adopted by a service is most likely to deliver better outcomes?

6. For people with antisocial personality disorder, does formal risk assessment and management improve outcomes and reduce harm to others?

6.1 Risk assessment

6.1.1 What is the threshold for formal risk assessment?

6.1.2 What instruments and tools predict risk in people with antisocial personality disorder?

6.1.2a. What features of a risk assessment process make it more effective at predicting/improving outcomes?

6.1.3 What are the harms of risk assessment?

6.2 Risk management

6.2.1 What is the threshold for structured risk management?

6.2.2 Does structured risk management improve outcomes?

6.2.2a What are the essential features of an effective risk management plan?

6.2.3 What are the harms of structured risk management?

6.2.4 What is the threshold for limiting an individual's freedom because of risk?

6.2.5 Does limiting an individual's freedom improve outcomes?

6.2.6 What are the harms of limiting an individual's freedom?

7a. Are there early interventions for young at risk children that are effective at preventing antisocial personality disorder?

7.1 Early interventions for young children at risk of developing antisocial personality disorder prior to the development of behavioural symptoms

7.1.1 What identifies children at risk of developing antisocial personality disorder before they develop behavioural disorders (with particular reference to developmental, psychosocial and family factors)?

7.1.1a What are key modifiable risk factors that can be targeted by interventions?

7.1.1b How can children who would benefit from interventions be identified?

7.1.2 For children who do not have behavioural disorders, what are the harms of early identification of risks for antisocial personality disorder (with particular consideration of harm from stigma/labelling)?

7.1.3 What proportion of young children with risk factors for antisocial personality disorder will go on to develop conduct disorder?

Appendix 7

- 7.1.3a Where children have risk factors for antisocial personality disorder, what is the likelihood that they will go on to develop antisocial personality disorder?
- 7.1.4 What early interventions improve intermediate outcomes?
- 7.1.4a Following early intervention, what proportion of young children with risk factors for antisocial personality disorder will go on to develop conduct disorder and meet criteria for interventions for conduct disorder?
- 7.1.4b What early interventions prevent antisocial personality disorder?
- 7.1.5 What are the harms of early interventions (with particular consideration of harm from stigma/labelling)?
- 7.1.6 For children with risk factors for antisocial personality disorder who develop conduct disorder following early intervention, does early intervention make them more susceptible to interventions for conduct disorder?

7b. Are interventions with children and adolescents with conduct disorder effective at preventing antisocial personality disorder?

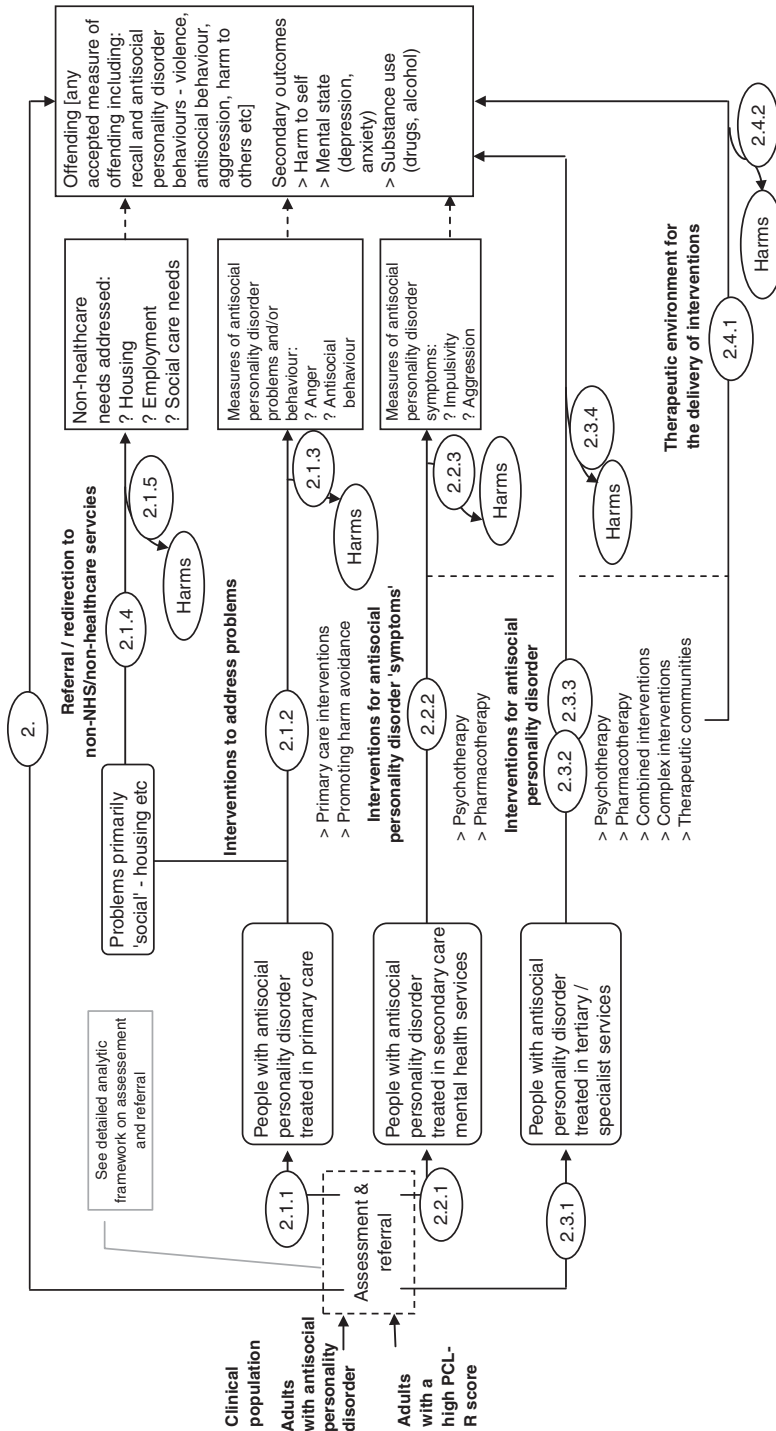
- 7.2 *Interventions for children and young people with conduct disorder*
- 7.2.1 What identifies young people who could benefit from interventions for conduct disorder?
- 7.2.2 What are the harms of identification of conduct disorder (with particular consideration of harm from stigma/labelling)?
- 7.2.3 What is the likelihood that a young person with conduct disorder will convert to antisocial personality disorder?
- 7.2.3a What other factors are most predictive of conversion to antisocial personality disorder?
- 7.2.4 What interventions for conduct disorder improve intermediate outcomes?
- 7.2.4a What interventions for conduct disorder prevent antisocial personality disorder?
- 7.2.5 What are the harms of treatment for conduct disorder?
- 7.2.6 For young people in contact with services because of conduct disorder, how should the transition to adult services be managed to maintain consistency of care and interventions, promote beneficial treatment outcomes and minimise harms?

Analytic framework 1: Settings, assessment and referral

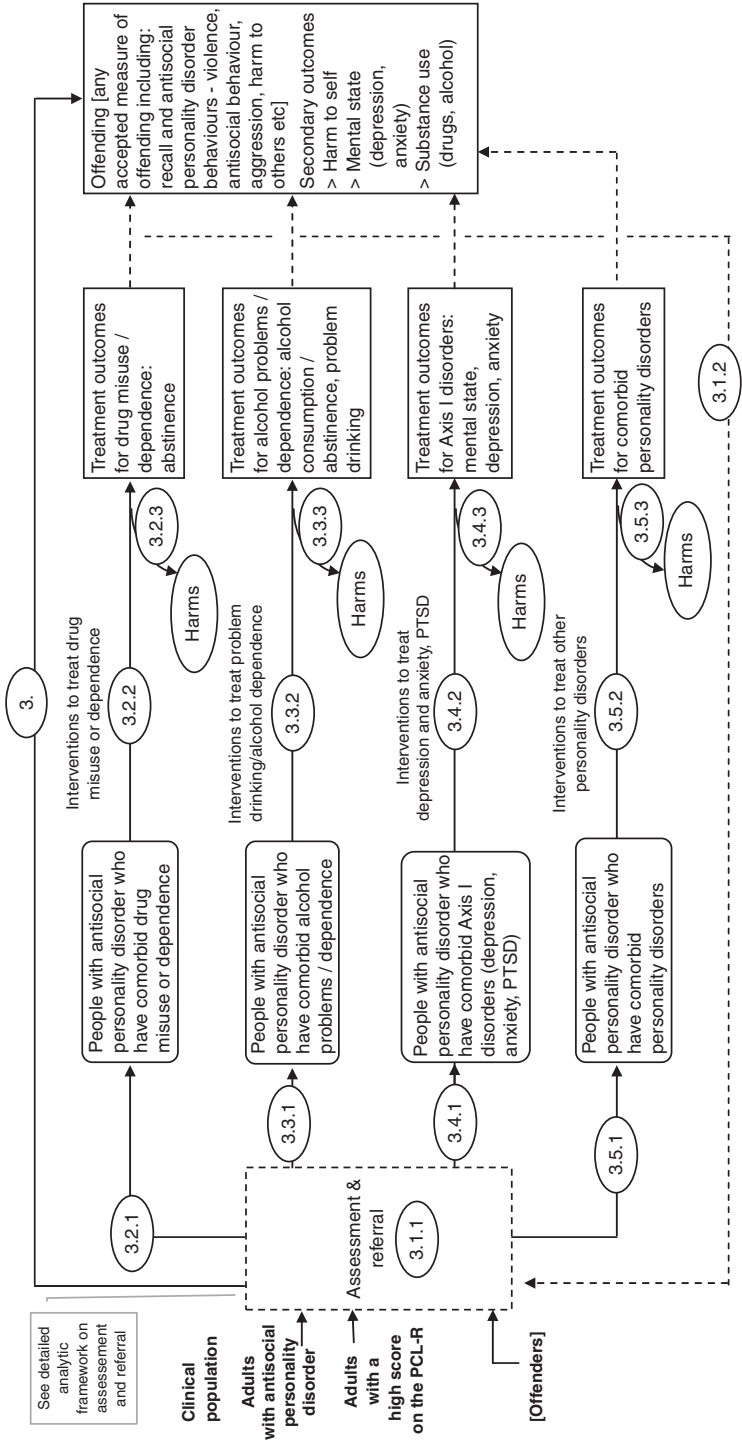
<p>Primary care / GP A & E</p> <p>People presenting in primary care due to problems, comorbid disorders or physical symptoms with behaviour and/or problems indicative of / raising concern about antisocial personality disorder</p> <p>People presenting in A&E (possibly repeatedly) due to injuries caused by behaviour indicative of possible antisocial personality disorder (violence, offending, risk taking behaviour, drug/alcohol use or self-harm with other indicators of antisocial personality disorder)</p>	<p>Secondary specialist mental health services</p> <p>People referred to secondary specialist mental health services for treatment of comorbid disorders whose presentation or behaviour gives rise to concern about antisocial personality disorder</p>	<p>Tertiary 'super specialist' services (including forensic services, secure settings, DSPD services)</p> <p>Direct referral into tertiary services from the criminal justice system following serious violent offending</p>	<p>Other services (including social care, housing, drug and alcohol services)</p> <p>People in other services with problem behaviours indicative of / raising concern about antisocial personality disorder (aggression, violence, offending etc)</p>	<p>Criminal justice system</p> <p>Offenders in the criminal justice system</p>
---	--	--	---	--

Presentation in primary care or A&E of partner or child indicative of abuse (or neglect in the case of a child) or allegation of abuse/neglect raising concern about violent behaviour / antisocial personality disorder in family member/ cohabitee of the person presenting

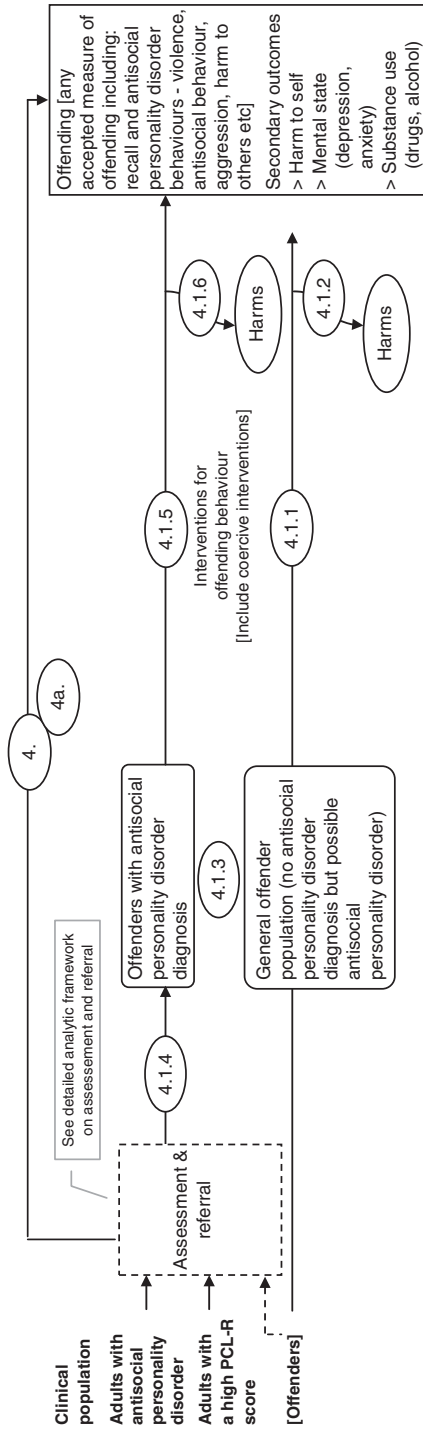
Analytic framework 2: Interventions for adults with antisocial personality disorder



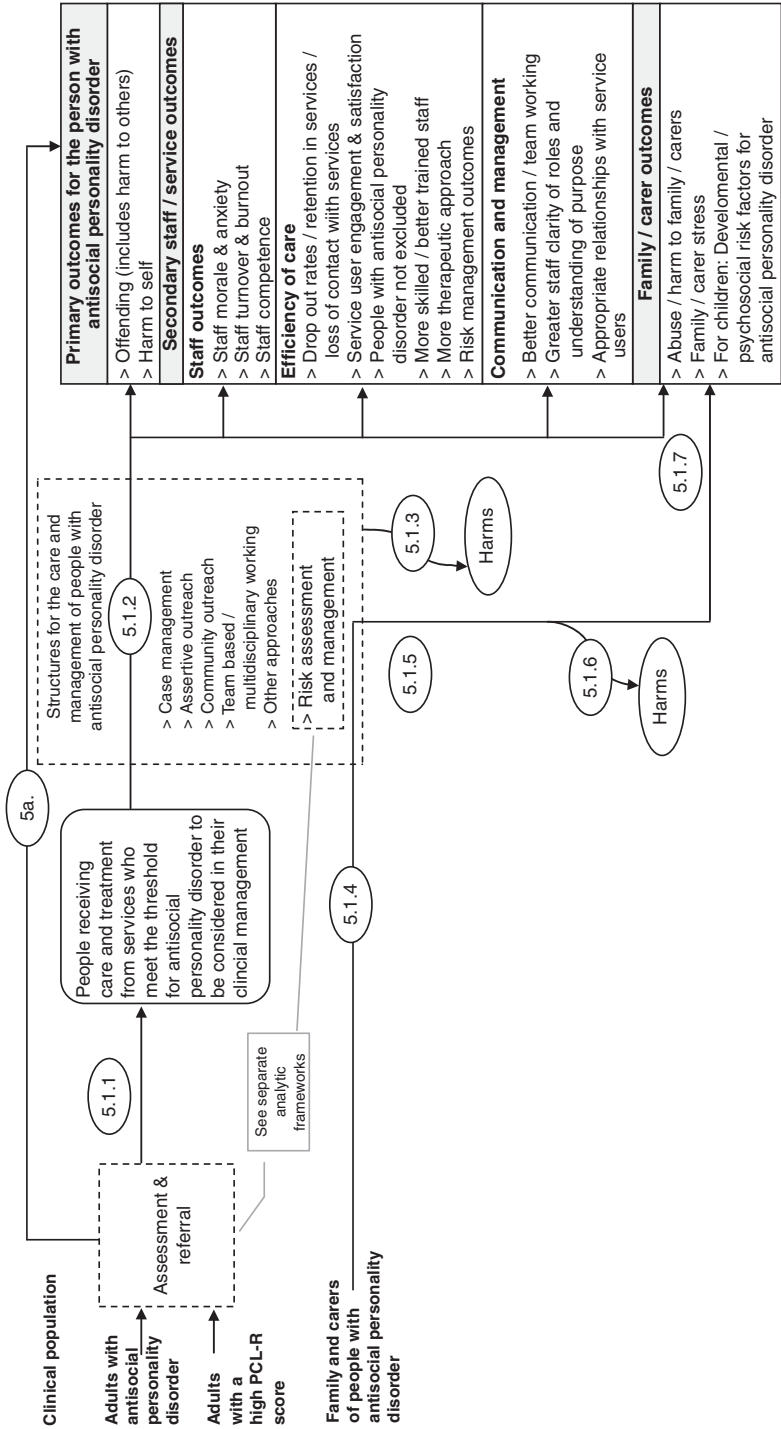
Analytic framework 3: Interventions to treat comorbid disorders in people with antisocial personality disorder



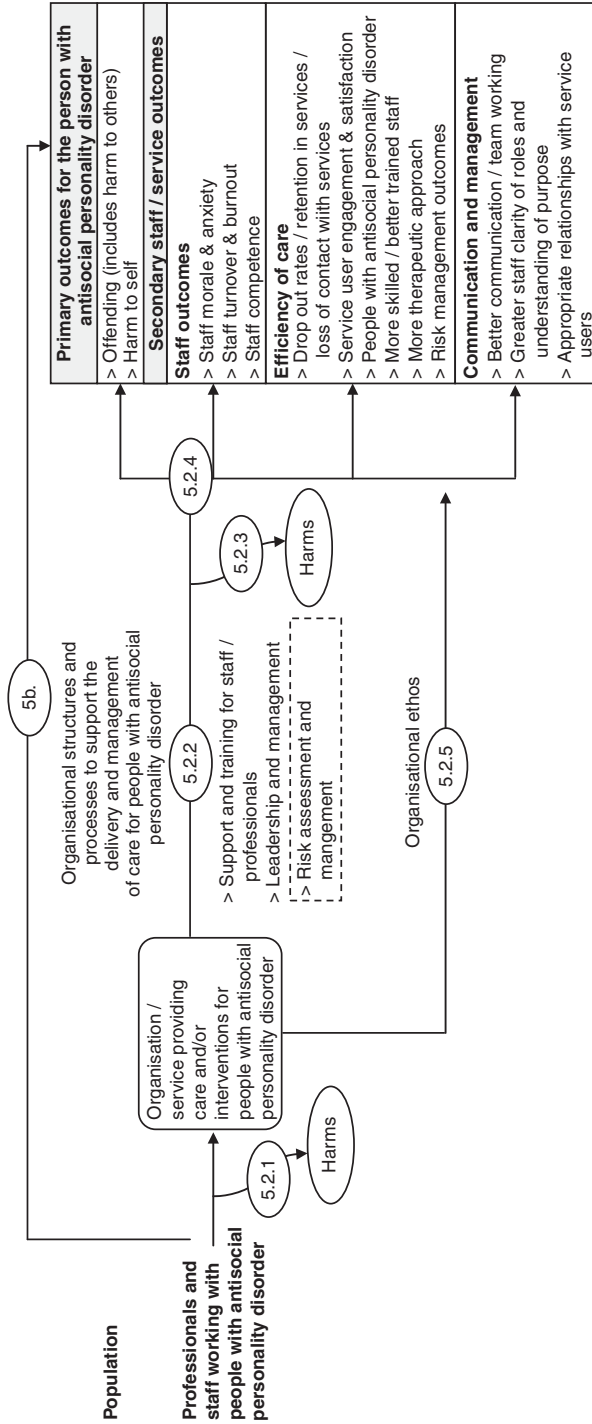
Analytic framework 4: Interventions for offending behaviour



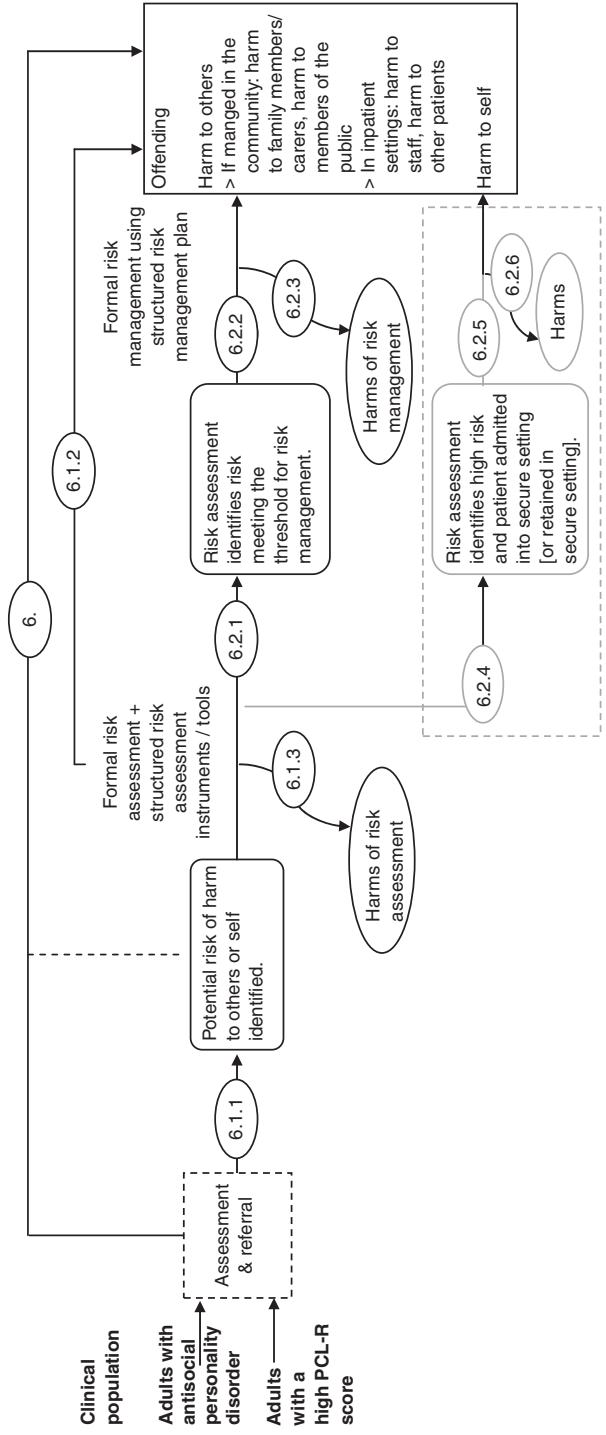
Analytic framework 5: Structures for the management of care and the delivery of interventions for people with antisocial personality disorder



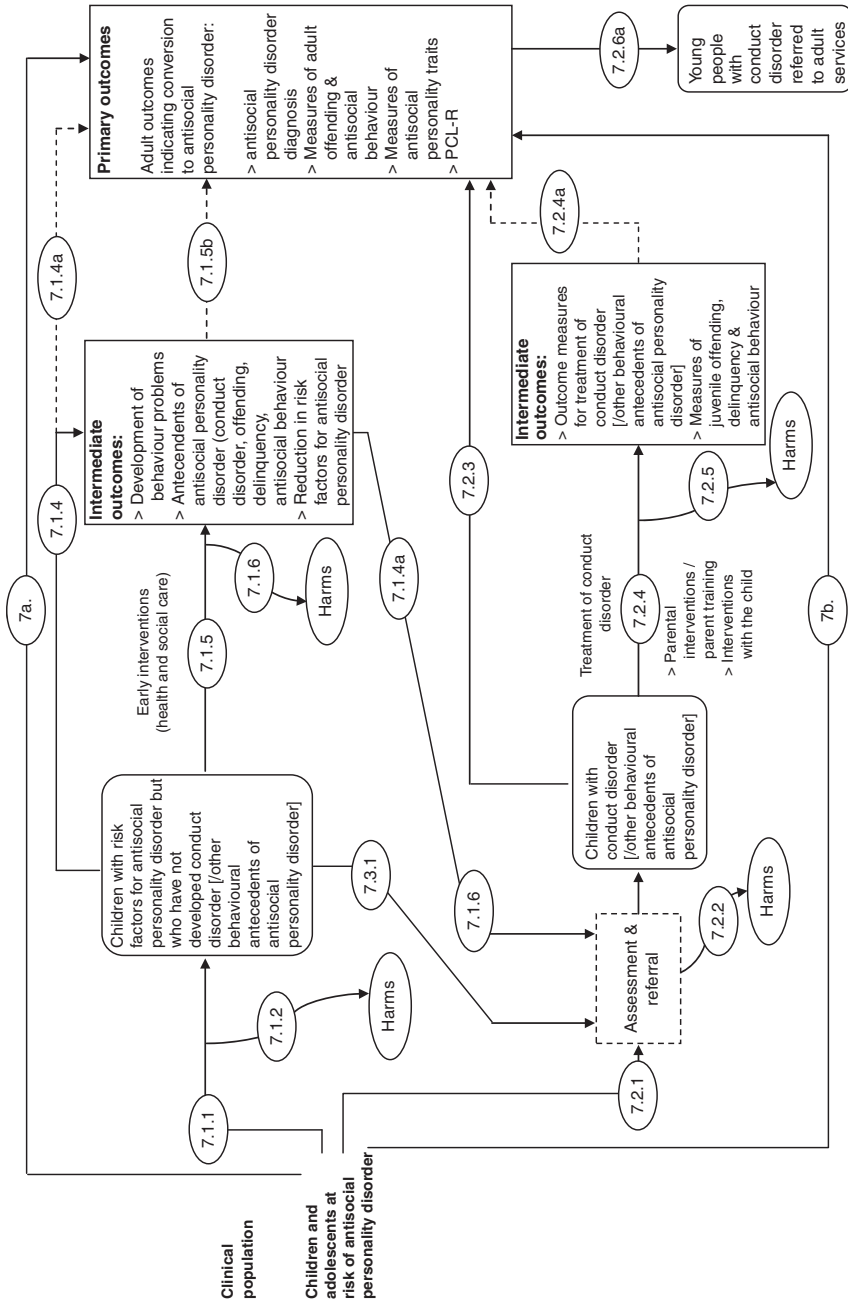
Analytic framework 6: Organisational structures and processes to support professionals and staff caring for and managing people with antisocial personality disorder



Analytic framework 7: Risk assessment and management for adults with antisocial personality disorder



Analytic framework 8: Early intervention in children and adolescents to prevent antisocial personality disorder



APPENDIX 8: SEARCH STRATEGIES FOR THE IDENTIFICATION OF CLINI- CAL STUDIES

1. General search strategies

a. MEDLINE, EMBASE, PsycINFO, CINAHL – Ovid interface

- 1 (antisocial personality disorder\$ or dissocial personality disorder or psychopa-
thy).sh,id.
- 2 (apd\$1.tw. and (asocial\$ or anti social\$ or antisocial\$ or character\$ or dissocial\$
or dis social\$ or person\$).mp.) or aspd\$1.tw.
- 3 ((asocial\$ or antisocial\$ or anti social\$ or dissocial\$ or dis social\$) adj3 (charac-
ter\$ or difficult\$ or disorder\$ or dysfunction\$ or PD or person\$)).tw. or ((asocial\$
or antisocial\$ or anti social\$ or dissocial\$ or dis social\$) and personalit\$).tw,hw.
- 4 neuropsychopath\$ or psychopath\$3 or psycho path\$3 or sociopath\$ or socio
path\$).tw.
- 5 (DSM and (axis and II)).mp.
- 6 (multiple personality disorder\$ or personality disorder\$).sh,id.
- 7 (personalit\$ adj2 (disorder\$ or dysfunction\$)).tw.
- 8 or/1–7

b. Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials – Wiley Interscience interface

- 1 MeSH descriptor Antisocial Personality Disorder, this term only
- 2 (apd* and (asocial* or anti next social* or antisocial* or character* or dissocial*
or dis next social* or person*)) or aspd:ti,ab,kw
- 3 (asocial* or antisocial* or anti next social* or dissocial* or dis next social*)
near/3 (character* or difficult* or disorder* or dysfunction* or PD or
person*):ti,ab,kw or (asocial* or antisocial* or anti next social* or dissocial* or
dis next social*) and personalit*:ti,ab,kw
- 4 (neuropsychopath* or psychopath or psychopaths or psychopathia or
psychopathias or psychopathic or psychopathics or psychopathies or psychopa-
thy):ti or (neuropsychopath* or psychopath or psychopaths or psychopathia or
psychopathias or psychopathic or psychopathics or psychopathies or psychopa-
thy):ab
- 5 (sociopath* or socio near/1 path*):ti or (sociopath* or socio near/1 path*):ab

Appendix 8

- 6 (DSM and (Axis and II)):ti,ab,kw
- 7 MeSH descriptor Personality Disorders, this term only
- 8 MeSH descriptor Multiple Personality Disorder, this term only
- 9 (personalit* near/2 (disorder* or dysfunction*)):ti or (personalit* near/2 (disorder* or dysfunction*)):ab
- 10 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9

2. Systematic review search filters

a. MEDLINE, EMBASE, PsycINFO, CINAHL, AMED, BNI – Ovid interface

- 1 cochrane library/ or exp literature searching/ or exp literature review/or exp review literature/ or systematic review/ or meta analysis/ or meta-analysis as topic/
- 2 ((systematic or quantitative or methodologic\$) adj5 (overview\$ or review\$)).mp.
- 3 (metaanaly\$ or meta analy\$ or metasynthesis or meta synthesis).mp.
- 4 (research adj (review\$ or integration)).mp.
- 5 reference list\$.ab.
- 6 bibliograph\$.ab.
- 7 published studies.ab.
- 8 relevant journals.ab.
- 9 selection criteria.ab.
- 10 (data adj (extraction or synthesis)).ab.
- 11 (handsearch\$ or ((hand or manual) adj search\$)).tw.
- 12 (mantel haenszel or peto or dersimonian or der simonian).tw.
- 13 (fixed effect\$ or random effect\$).tw.
- 14 ((bids or cochrane or index medicus or isi citation or psyclit or psychlit or scisearch or science citation or (web adj2 science)) and review\$).mp.
- 15 (systematic\$ or meta\$).pt. or (literature review or meta analysis or systematic review).md.
- 16 (pooled or pooling).tw.
- 17 or/1-16

3. Randomised controlled trial search filters

a. MEDLINE, EMBASE, PsycINFO, CINAHL, AMED, BNI – Ovid interface

- 1 exp clinical trials/ or exp clinical trial/ or exp controlled clinical trials/
- 2 exp crossover procedure/ or exp cross over studies/ or exp crossover design/
- 3 exp double blind procedure/ or exp double blind method/ or exp double blind studies/ or exp single blind procedure/ or exp single blind method/ or exp single blind studies/
- 4 exp random allocation/ or exp randomization/ or exp random assignment/ or exp random sample/ or exp random sampling/

- 5 exp randomized controlled trials/ or exp randomized controlled trial/or randomized controlled trials as topic/
- 6 (clinical adj2 trial\$.tw.
- 7 (crossover or cross over).tw.
- 8 (((single\$ or doubl\$ or trebl\$ or tripl\$) adj5 (blind\$ or mask\$ or dummy)) or (singleblind\$ or doubleblind\$ or trebleblind\$)).tw.
- 9 (placebo\$ or random\$.mp.
- 10 (clinical trial\$ or random\$.pt. or treatment outcome\$.md.
- 11 animals/ not (animals/ and human\$.mp.)
- 12 (animal/ or animals/) not ((animal/ and human/) or (animals/ and humans/))
- 13 (animal not (animal and human)).po.
- 14 (or/1-10) not (or/11-13)

Details of additional searches undertaken to support the development of this guideline, with special regard to offender, construct and conduct disorder populations, are available on request.

APPENDIX 9: CLINICAL STUDY DATA EXTRACTION FORM

Screenshots of bespoke database for extraction of study characteristics.

The screenshot displays a web-based data entry form titled "Lollypop's Data Extraction Database - [Main Data Entry Form]". The interface includes a menu bar (File, Edit, View, Insert, Format, Records, Tools, Window, Help, Adobe PDF) and a search bar. The main content area is divided into several sections:

- Basic Data and Inclusion Status:** Contains a "ReferenceID" field with the value "HENGGELE1997", a "Secondary Reference" checkbox, and a "Reprint Status" dropdown menu.
- Source:** Includes a "Source" dropdown, an "Electronic Search" dropdown, and a "Published or Unpublished Data?" dropdown.
- References:** A checkbox for "References Checked for Additional Papers?" and a "Includes Cost Data?" section with radio buttons for "Yes", "No", and "Unchecked".
- Reference:** A text box containing the citation: "Henggeler, S.W., Melton, G.B., Brondino, M.J. & Scherer, D.G. (1997) Multisystemic therapy with violent and chronic juvenile offenders and their families: the role of treatment fidelity in successful dissemination. Journal of Consulting and Clinical Psychology, 65, 821-833." Below this is a record navigation bar showing "Record: 14 of 1".
- Status within Topic Groups, Clinical Questions and Comparisons:**
 - Topic Group:** A dropdown menu set to "Prevention of ASPD".
 - Status for this Topic Group:** Radio buttons for "Relevant", "Excluded from all", and "Awaiting Assessment".
 - Reason for Exclusion/Awaiting Assessment:** A text input field.
 - Warning:** A text box stating: "Until this ReferenceID is allocated to a topic group and assigned as included, excluded or awaiting assessment, it will not appear in any Evidence Table, will not contribute to any Statistics, and will not be returned by any Complex Query".
 - Clinical Questions and Comparisons relevant to this paper:** A section with a "Clinical Question" dropdown (value: "What are the best interventions with children and adolescents who have behavioural problems?") and a "Comparison" dropdown (value: "Multisystemic vs Standard Care").
 - Update Button:** A button labeled "Update Clinical Question or Comparison".
 - Record Navigation:** A bar showing "Record: 14 of 1" and a note: "For papers relevant to more than one group, scroll between records below".

At the bottom of the form, there is a global record navigation bar showing "Record: 69 of 238" and a "Form View" button. The user's name "NLM" is visible in the bottom right corner.

Lollypop's Data Extraction Database - [Main Data Entry Form]

File Edit View Insert Format Records Tools Window Help Addge PDF Type a question for help

Basic Data and Inclusion Status Methods and Participants Outcomes and Interventions Results and Conclusions (if applicable)

Referenced
BOISJOLI2007

Study Description

Type of study:

Type of analysis: 111

Blindness: Open

Description of study: Control group and experimental group were compared to a normative group of children of low risk children

Duration (days)	Lower	Mean	Upper	Length of Followup (next)
		388		13 years (at age 24 years)

Setting: CANADA, Montreal School

No. people screened, excluded and reasons: 1161 screened, 911 excluded, 250 randomised

Notes: Randomisation achieved by drawing names from bowl until necessary numbers were obtained

Participants

No. Participants Included in Study: 250

Sex (no. males and females): Male: 250, Female: 0

Age (in whole years): Lower: 7, Mean: 7, Upper: 7

Exclusions: ETHNICITY: boys who did not have Canadian-born parents whose first language was French; LU/LALIAN: boys whose parents did not have 14 years or less of schooling; DIAGNOSIS: boys who had scores less than the 70th percentile on the disruptiveness scale

Diagnoses

For multiple Diagnoses, scroll between records below

Diagnosis: Disruptiveness (2 of 5 single with this diagnosis)

Diagnosis Tool: Social Behavior Questionnaire (SBQ) (100)

Record: 14 of 1

Form View

Lollypop's Data Extraction Database - [Main Data Entry Form]

File Edit View Insert Format Records Tools Window Help Addge PDF Type a question for help

Basic Data and Inclusion Status Methods and Participants Outcomes and Interventions Results and Conclusions (if applicable)

Referenced
ARMSTRONG2003

Interventions

Interventions for This Group: Moral reconnection therapy

Number of Participants in this Group: 110

Mean dose:

Intervention Details: 3 sessions per week, approximately 1 to 1.5 hours duration. Delivered by correctional counselors and officers. Targeted at moral development, self-control and reducing association with delinquent peers. Group therapy.

For this group's other interventions, move to the next record below

Record: 14 of 1

For the next group's interventions move to the next record below

Record: 14 of 2

Outcomes

OutcomeID: Usable:

Record: 14 of 2

Notes about Outcomes: TIME PERIOD: from first release until the end of data collection. GROUP OUTS: 15% (intervention); 20% (control); only report means for the 65/110 who received > 30 days of treatment. Note: only report mean and median, no SDs or p-values reported (Table 5).

Form View

APPENDIX 10: QUALITY CHECKLISTS FOR CLINICAL STUDIES AND REVIEWS

The methodological quality of each study was evaluated using dimensions adapted from SIGN (SIGN, 2001). SIGN originally adapted its quality criteria from checklists developed in Australia (Liddel *et al.*, 1996). Both groups reportedly undertook extensive development and validation procedures when creating their quality criteria.

Quality Checklist for a Systematic Review or Meta-analysis			
Study ID:			
Guideline topic:		Key question no:	
Checklist completed by:			
SECTION 1: INTERNAL VALIDITY			
In a well-conducted systematic review:		In this study this criterion is: <i>(Circle one option for each question)</i>	
1.1	The study addresses an appropriate and clearly focused question.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.2	A description of the methodology used is included.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.3	The literature search is sufficiently rigorous to identify all the relevant studies.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.4	Study quality is assessed and taken into account.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.5	There are enough similarities between the studies selected to make combining them reasonable.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
SECTION 2: OVERALL ASSESSMENT OF THE STUDY			
2.1	How well was the study done to minimise bias? Code ++, + or -		

Notes on the use of the methodology checklist: systematic reviews and meta-analyses

Section 1 identifies the study and asks a series of questions aimed at establishing the internal validity of the study under review — that is, making sure that it has been carried out carefully and that the outcomes are likely to be attributable to the intervention being investigated. Each question covers an aspect of methodology that research has shown makes a significant difference to the conclusions of a study.

For each question in this section, one of the following should be used to indicate how well it has been addressed in the review:

- well covered
- adequately addressed
- poorly addressed
- not addressed (that is, not mentioned or indicates that this aspect of study design was ignored)
- not reported (that is, mentioned but insufficient detail to allow assessment to be made)
- not applicable.

1.1 The study addresses an appropriate and clearly focused question

Unless a clear and well-defined question is specified in the report of the review, it will be difficult to assess how well it has met its objectives or how relevant it is to the question to be answered on the basis of the conclusions.

1.2 A description of the methodology used is included

One of the key distinctions between a systematic review and a general review is the systematic methodology used. A systematic review should include a detailed description of the methods used to identify and evaluate individual studies. If this description is not present, it is not possible to make a thorough evaluation of the quality of the review, and it should be rejected as a source of level-1 evidence (though it may be useable as level-4 evidence, if no better evidence can be found).

1.3 The literature search is sufficiently rigorous to identify all the relevant studies

A systematic review based on a limited literature search — for example, one limited to MEDLINE only — is likely to be heavily biased. A well-conducted review should as a minimum look at EMBASE and MEDLINE and, from the late 1990s onward, the Cochrane Library. Any indication that hand searching of key journals, or follow-up of

reference lists of included studies, were carried out in addition to electronic database searches can normally be taken as evidence of a well-conducted review.

1.4 Study quality is assessed and taken into account

A well-conducted systematic review should have used clear criteria to assess whether individual studies had been well conducted before deciding whether to include or exclude them. If there is no indication of such an assessment, the review should be rejected as a source of level-1 evidence. If details of the assessment are poor, or the methods are considered to be inadequate, the quality of the review should be downgraded. In either case, it may be worthwhile obtaining and evaluating the individual studies as part of the review being conducted for this guideline.

1.5 There are enough similarities between the studies selected to make combining them reasonable

Studies covered by a systematic review should be selected using clear inclusion criteria (see question 1.4 above). These criteria should include, either implicitly or explicitly, the question of whether the selected studies can legitimately be compared. It should be clearly ascertained, for example, that the populations covered by the studies are comparable, that the methods used in the investigations are the same, that the outcome measures are comparable and the variability in effect sizes between studies is not greater than would be expected by chance alone.

Section 2 relates to the overall assessment of the paper. It starts by rating the methodological quality of the study, based on the responses in Section 1 and using the following coding system:

++	All or most of the criteria have been fulfilled. Where they have not been fulfilled, the conclusions of the study or review are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.
-	Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

Quality Checklist for an RCT			
Study ID:			
Guideline topic:		Key question no:	
Checklist completed by:			
SECTION 1: INTERNAL VALIDITY			
In a well-conducted RCT study:		In this study this criterion is: (Circle one option for each question)	
1.1	The study addresses an appropriate and clearly focused question.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.2	The assignment of subjects to treatment groups is randomised.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.3	An adequate concealment method is used.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.4	Subjects and investigators are kept 'blind' about treatment allocation.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.5	The treatment and control groups are similar at the start of the trial.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.6	The only difference between groups is the treatment under investigation.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.7	All relevant outcomes are measured in a standard, valid and reliable way.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.8	What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?		
1.9	All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention-to-treat analysis).	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.10	Where the study is carried out at more than one site, results are comparable for all sites.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable

Continued

SECTION 2: OVERALL ASSESSMENT OF THE STUDY	
2.1	How well was the study done to minimise bias? <i>Code ++, + or -</i>

Notes on the use of the methodology checklist: RCTs

Section 1 identifies the study and asks a series of questions aimed at establishing the internal validity of the study under review — that is, making sure that it has been carried out carefully and that the outcomes are likely to be attributable to the intervention being investigated. Each question covers an aspect of methodology that research has shown makes a significant difference to the conclusions of a study.

For each question in this section, one of the following should be used to indicate how well it has been addressed in the review:

- well covered
- adequately addressed
- poorly addressed
- not addressed (that is, not mentioned or indicates that this aspect of study design was ignored)
- not reported (that is, mentioned but insufficient detail to allow assessment to be made)
- not applicable.

1.1 The study addresses an appropriate and clearly focused question

Unless a clear and well-defined question is specified, it will be difficult to assess how well the study has met its objectives or how relevant it is to the question to be answered on the basis of its conclusions.

1.2 The assignment of subjects to treatment groups is randomised

Random allocation of patients to receive one or other of the treatments under investigation, or to receive either treatment or placebo, is fundamental to this type of study. If there is no indication of randomisation, the study should be rejected. If the description of randomisation is poor, or the process used is not truly random (for example, allocation by date or alternating between one group and another) or can otherwise be seen as flawed, the study should be given a lower quality rating.

1.3 An adequate concealment method is used

Research has shown that where allocation concealment is inadequate, investigators can overestimate the effect of interventions by up to 40%. Centralised allocation,

computerised allocation systems or the use of coded identical containers would all be regarded as adequate methods of concealment and may be taken as indicators of a well-conducted study. If the method of concealment used is regarded as poor, or relatively easy to subvert, the study must be given a lower quality rating, and can be rejected if the concealment method is seen as inadequate.

1.4 Subjects and investigators are kept ‘blind’ about treatment allocation

Blinding can be carried out up to three levels. In single-blind studies, patients are unaware of which treatment they are receiving; in double-blind studies, the doctor and the patient are unaware of which treatment the patient is receiving; in triple-blind studies, patients, healthcare providers and those conducting the analysis are unaware of which patients receive which treatment. The higher the level of blinding, the lower the risk of bias in the study.

1.5 The treatment and control groups are similar at the start of the trial

Patients selected for inclusion in a trial should be as similar as possible, in order to eliminate any possible bias. The study should report any significant differences in the composition of the study groups in relation to gender mix, age, stage of disease (if appropriate), social background, ethnic origin or comorbid conditions. These factors may be covered by inclusion and exclusion criteria, rather than being reported directly. Failure to address this question, or the use of inappropriate groups, should lead to the study being downgraded.

1.6 The only difference between groups is the treatment under investigation

If some patients receive additional treatment, even if of a minor nature or consisting of advice and counselling rather than a physical intervention, this treatment is a potential confounding factor that may invalidate the results. If groups are not treated equally, the study should be rejected unless no other evidence is available. If the study is used as evidence, it should be treated with caution and given a low quality rating.

1.7 All relevant outcomes are measured in a standard, valid and reliable way

If some significant clinical outcomes have been ignored, or not adequately taken into account, the study should be downgraded. It should also be downgraded if the measures used are regarded as being doubtful in any way or applied inconsistently.

1.8 What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?

The number of patients that drop out of a study should give concern if the number is very high. Conventionally, a 20% drop-out rate is regarded as acceptable, but this may vary. Some regard should be paid to why patients drop out, as well as how many. It should be noted that the drop-out rate may be expected to be higher in studies conducted over a long period of time. A higher drop-out rate will normally lead to downgrading, rather than rejection, of a study.

1.9 All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention-to-treat analysis)

In practice, it is rarely the case that all patients allocated to the intervention group receive the intervention throughout the trial, or that all those in the comparison group do not. Patients may refuse treatment, or contraindications arise that lead them to be switched to the other group. If the comparability of groups through randomisation is to be maintained, however, patient outcomes must be analysed according to the group to which they were originally allocated, irrespective of the treatment they actually received. (This is known as intention-to-treat analysis.) If it is clear that analysis is not on an intention-to-treat basis, the study may be rejected. If there is little other evidence available, the study may be included but should be evaluated as if it were a non-randomised cohort study.

1.10 Where the study is carried out at more than one site, results are comparable for all sites

In multi-site studies, confidence in the results should be increased if it can be shown that similar results have been obtained at the different participating centres.

Section 2 relates to the overall assessment of the paper. It starts by rating the methodological quality of the study, based on the responses in Section 1 and using the following coding system:

++	All or most of the criteria have been fulfilled. Where they have not been fulfilled, the conclusions of the study or review are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.
-	Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

Quality Checklist for a Cohort Study*			
Study ID:		Relevant questions:	
Guideline topic:			
Checklist completed by:			
SECTION 1: INTERNAL VALIDITY			
In a well conducted cohort study:		In this study the criterion is: (Circle one option for each question)	
1.1	The study addresses an appropriate and clearly focused question.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
SELECTION OF SUBJECTS			
1.2	The two groups being studied are selected from source populations that are comparable in all respects other than the factor under investigation.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.3	The study indicates how many of the people asked to take part did so, in each of the groups being studied.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.4	The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.5	What percentage of individuals or clusters recruited into each arm of the study dropped out before the study was completed?		
1.6	Comparison is made between full participants and those lost to follow-up, by exposure status.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
ASSESSMENT			
1.7	The outcomes are clearly defined.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.8	The assessment of outcome is made blind to exposure status.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable

Continued

Appendix 10

1.9	Where blinding was not possible, there is some recognition that knowledge of exposure status could have influenced the assessment of outcome.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.10	The measure of assessment of exposure is reliable.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.11	Evidence from other sources is used to demonstrate that the method of outcome assessment is valid and reliable.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
1.12	Exposure level or prognostic factor is assessed more than once.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
CONFOUNDING			
1.13	The main potential confounders are identified and taken into account in the design and analysis.	Well covered Adequately addressed Poorly addressed	Not addressed Not reported Not applicable
STATISTICAL ANALYSIS			
1.14	Have confidence intervals been provided?		
SECTION 2: OVERALL ASSESSMENT OF THE STUDY			
2.1	How well was the study done to minimise the risk of bias or confounding, and to establish a causal relationship between exposure and effect? <i>Code ++, + or -</i>		

*A cohort study can be defined as a retrospective or prospective follow-up study. Groups of individuals are defined on the basis of the presence or absence of exposure to a suspected risk factor or intervention. This checklist is not appropriate for assessing uncontrolled studies (for example, a case series where there is no comparison [control] group of patients).

Notes on the use of the methodology checklist: cohort studies

The studies covered by this checklist are designed to answer questions of the type ‘What are the effects of this exposure?’ It relates to studies that compare a group of people with a particular exposure with another group who either have not had the exposure or have a different level of exposure. Cohort studies may be prospective (where the exposure is defined and subjects selected before outcomes occur) or retrospective (where exposure is assessed after the outcome is known, usually by the

examination of medical records). Retrospective studies are generally regarded as a weaker design, and should not receive a 2 ++ rating.

Section 1 identifies the study and asks a series of questions aimed at establishing the internal validity of the study under review—that is, making sure that it has been carried out carefully, and that the outcomes are likely to be attributable to the intervention being investigated. Each question covers an aspect of methodology that has been shown to make a significant difference to the conclusions of a study.

Because of the potential complexity and subtleties of the design of this type of study, there are comparatively few criteria that automatically rule out use of a study as evidence. It is more a matter of increasing confidence in the likelihood of a causal relationship existing between exposure and outcome by identifying how many aspects of good study design are present and how well they have been tackled. A study that fails to address or report on more than one or two of the questions considered below should almost certainly be rejected.

For each question in this section, one of the following should be used to indicate how well it has been addressed in the review:

- well covered
- adequately addressed
- poorly addressed
- not addressed (that is, not mentioned or indicates that this aspect of study design was ignored)
- not reported (that is, mentioned but insufficient detail to allow assessment to be made)
- not applicable.

1.1 The study addresses an appropriate and clearly focused question

Unless a clear and well-defined question is specified, it will be difficult to assess how well the study has met its objectives or how relevant it is to the question to be answered on the basis of its conclusions.

1.2 The two groups being studied are selected from source populations that are comparable in all respects other than the factor under investigation

Study participants may be selected from the target population (all individuals to which the results of the study could be applied), the source population (a defined subset of the target population from which participants are selected) or from a pool of eligible subjects (a clearly defined and counted group selected from the source population). It is important that the two groups selected for comparison are as similar as possible in all characteristics except for their exposure status or the presence of specific prognostic factors or prognostic markers relevant to the study in question. If the study does not include clear definitions of the source populations and eligibility criteria for participants, it should be rejected.

1.3 The study indicates how many of the people asked to take part did so in each of the groups being studied

This question relates to what is known as the participation rate, defined as the number of study participants divided by the number of eligible subjects. This should be calculated separately for each branch of the study. A large difference in participation rate between the two arms of the study indicates that a significant degree of selection bias may be present, and the study results should be treated with considerable caution.

1.4 The likelihood that some eligible subjects might have the outcome at the time of enrolment is assessed and taken into account in the analysis

If some of the eligible subjects, particularly those in the unexposed group, already have the outcome at the start of the trial, the final result will be biased. A well-conducted study will attempt to estimate the likelihood of this occurring and take it into account in the analysis through the use of sensitivity studies or other methods.

1.5 What percentage of individuals or clusters recruited into each arm of the study dropped out before the study was completed?

The number of patients that drop out of a study should give concern if the number is very high. Conventionally, a 20% drop-out rate is regarded as acceptable, but in observational studies conducted over a lengthy period of time a higher drop-out rate is to be expected. A decision on whether to downgrade or reject a study because of a high drop-out rate is a matter of judgement based on the reasons why people drop out and whether drop-out rates are comparable in the exposed and unexposed groups. Reporting of efforts to follow up participants that drop out may be regarded as an indicator of a well-conducted study.

1.6 Comparison is made between full participants and those lost to follow-up by exposure status

For valid study results, it is essential that the study participants are truly representative of the source population. It is always possible that participants who drop out of the study will differ in some significant way from those who remain part of the study throughout. A well-conducted study will attempt to identify any such differences between full and partial participants in both the exposed and unexposed groups. Any indication that differences exist should lead to the study results being treated with caution.

1.7 The outcomes are clearly defined

Once enrolled in the study, participants should be followed until specified end points or outcomes are reached. In a study of the effect of exercise on the death rates from heart disease in middle-aged men, for example, participants might be followed up until death, reaching a predefined age or until completion of the study. If outcomes and the criteria used for measuring them are not clearly defined, the study should be rejected.

1.8 The assessment of outcome is made blind to exposure status

If the assessor is blinded to which participants received the exposure, and which did not, the prospects of unbiased results are significantly increased. Studies in which this is done should be rated more highly than those where it is not done or not done adequately.

1.9 Where blinding was not possible, there is some recognition that knowledge of exposure status could have influenced the assessment of outcome

Blinding is not possible in many cohort studies. In order to assess the extent of any bias that may be present, it may be helpful to compare process measures used on the participant groups — for example, frequency of observations, who carried out the observations and the degree of detail and completeness of observations. If these process measures are comparable between the groups, the results may be regarded with more confidence.

1.10 The measure of assessment of exposure is reliable

A well-conducted study should indicate how the degree of exposure or presence of prognostic factors or markers was assessed. Whatever measures are used must be sufficient to establish clearly that participants have or have not received the exposure under investigation and the extent of such exposure, or that they do or do not possess a particular prognostic marker or factor. Clearly described, reliable measures should increase the confidence in the quality of the study.

1.11 Evidence from other sources is used to demonstrate that the method of outcome assessment is valid and reliable

The inclusion of evidence from other sources or previous studies that demonstrate the validity and reliability of the assessment methods used should further increase confidence in study quality.

1.12 Exposure level or prognostic factor is assessed more than once

Confidence in data quality should be increased if exposure level or the presence of prognostic factors is measured more than once. Independent assessment by more than one investigator is preferable.

1.13 The main potential confounders are identified and taken into account in the design and analysis

Confounding is the distortion of a link between exposure and outcome by another factor that is associated with both exposure and outcome. The possible presence of confounding factors is one of the principal reasons why observational studies are not more highly rated as a source of evidence. The report of the study should indicate which potential confounders have been considered and how they have been assessed or allowed for in the analysis. Clinical judgement should be applied to consider whether all likely confounders have been considered. If the measures used to address confounding are considered inadequate, the study should be downgraded or rejected, depending on how serious the risk of confounding is considered to be. A study that does not address the possibility of confounding should be rejected.

1.14 Have confidence intervals been provided?

Confidence limits are the preferred method for indicating the precision of statistical results and can be used to differentiate between an inconclusive study and a study that shows no effect. Studies that report a single value with no assessment of precision should be treated with caution.

Section 2 relates to the overall assessment of the paper. It starts by rating the methodological quality of the study, based on the responses in Section 1 and using the following coding system:

++	All or most of the criteria have been fulfilled. Where they have not been fulfilled, the conclusions of the study or review are thought very unlikely to alter.
+	Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.
–	Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

APPENDIX 11:

SEARCH STRATEGIES FOR THE IDENTIFICATION OF HEALTH ECONOMICS EVIDENCE

Search strategies for the identification of health economics and quality-of-life studies.

1 General search strategies

a. MEDLINE, EMBASE, PsycINFO, CINAHL – Ovid interface

- 1 (antisocial personality disorder\$ or dissocial personality disorder or psychopathy).sh,id.
- 2 (apd\$1.tw. and (asocial\$ or anti social\$ or antisocial\$ or character\$ or dissocial\$ or dis social\$ or person\$).mp.) or aspd\$1.tw.
- 3 ((asocial\$ or antisocial\$ or anti social\$ or dissocial\$ or dis social\$) adj3 (character\$ or difficult\$ or disorder\$ or dysfunction\$ or PD or person\$)).tw. or ((asocial\$ or antisocial\$ or anti social\$ or dissocial\$ or dis social\$) and personalit\$).tw,hw.
- 4 neuropsychopath\$ or psychopath\$3 or psycho path\$3 or sociopath\$ or sociopath\$).tw.
- 5 (DSM and (axis and II)).mp.
- 6 (multiple personality disorder\$ or personality disorder\$).sh,id.
- 7 (personalit\$ adj2 (disorder\$ or dysfunction\$)).tw.
- 8 or/1–7

b. NHS Economic Evaluation Database, Health Technology Assessment Database — Wiley interface

- 1 MeSH descriptor Antisocial Personality Disorder, this term only
- 2 (apd* and (asocial* or anti next social* or antisocial* or character* or dissocial* or dis next social* or person*)) or aspd:ti,ab,kw
- 3 (asocial* or antisocial* or anti next social* or dissocial* or dis next social*) near/3 (character* or difficult* or disorder* or dysfunction* or PD or person*):ti,ab,kw or (asocial* or antisocial* or anti next social* or dissocial* or dis next social*) and personalit*:ti,ab,kw
- 4 (neuropsychopath* or psychopath or psychopaths or psychopathia or psychopathias or psychopathic or psychopathics or psychopathies or psychopathy):ti or (neuropsychopath* or psychopath or psychopaths or psychopathia or psychopathias or psychopathic or psychopathics or psychopathies or psychopathy):ab
- 5 (sociopath* or socio near/1 path*):ti or (sociopath* or socio near/1 path*):ab
- 6 (DSM and (Axis and II)):ti,ab,kw

Appendix 11

- 7 MeSH descriptor Personality Disorders, this term only
- 8 MeSH descriptor Multiple Personality Disorder, this term only
- 9 (personalit* near/2 (disorder* or dysfunction*)):ti or (personalit* near/2 (disorder* or dysfunction*)):ab
- 10 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9

c. OHE HEED — Wiley interface

- 1 ax = personalit* and (disorder* or dysfunction*)
- 2 ax = aspd or (apd* and (asocial* or antisocial* or 'anti social' or 'anti socially' or 'anti sociality' or dissocial* or 'dis social' or 'dis sociality' or person*))
- 3 (asocial* or antisocial* or 'anti social' or 'anti socially' or 'anti sociality' or dissocial* or 'dis social' or 'dis sociality') and (character* or difficult* or disorder* or dysfunction* or PD or person*)
- 4 ax = neuropsychopath* or psychopath or psychopaths or psychopathia or psychopathias or psychopathic or psychopathics or psychopathies or psychopathy
- 5 ax = sociopath* or 'socio path' or 'socio paths' or 'socio pathic' or 'socio pathics' or 'socio pathy'
- 6 ax = (DSM and (Axis and II))
- 7 ax = ((asocial* or antisocial* or 'anti social' or 'anti socially' or 'anti sociality' or dissocial* or 'dis social' or 'dis sociality') and personalit*)
- 8 cs = 1 or 2 or 3 or 4 or 5 or 6 or 7

2. *Health economics and quality-of-life search filters*

a. MEDLINE, EMBASE, PsycINFO, CINAHL — Ovid interface

- 1 exp "costs and cost analysis"/ or "health care costs"/
- 2 exp health resource allocation/ or exp health resource utilization/
- 3 exp economics/ or exp economic aspect/ or exp health economics/
- 4 exp value of life/
- 5 (burden adj5 (disease or illness)).tw.
- 6 (cost or costs or costing or costly or economic\$ or expenditure\$ or price or prices or pricing or pharmaco-economic\$).tw.
- 7 (budget\$ or financ\$ or fiscal or funds or funding).tw.
- 8 (resource adj5 (allocation\$ or utilit\$)).tw.
- 9 or/1-8
- 10 (value adj5 money).tw.
- 11 exp quality of life/
- 12 (qualit\$3 adj5 (life or survival)).tw.
- 13 (health status or QOL or wellbeing or well being).tw.
- 14 or/9-13

Details of additional searches undertaken to support the development of this guideline, with special regard to offender and construct populations, are available on request.

APPENDIX 12:**QUALITY CHECKLIST FOR ECONOMIC STUDIES****1.1 Full economic evaluations****Author:****Date:**

Title:

	Study design	Yes	No	NA
1.	The research question is stated	<input type="checkbox"/>	<input type="checkbox"/>	
2.	The viewpoint(s) of the analysis are clearly stated	<input type="checkbox"/>	<input type="checkbox"/>	
3.	The alternatives being compared are relevant	<input type="checkbox"/>	<input type="checkbox"/>	
4.	The rationale for choosing the alternative programmes or interventions compared is stated	<input type="checkbox"/>	<input type="checkbox"/>	
5.	The alternatives being compared are clearly described	<input type="checkbox"/>	<input type="checkbox"/>	
6.	The form of economic evaluation used is justified in relation to the question addressed	<input type="checkbox"/>	<input type="checkbox"/>	
	Data collection			
1.	The source of effectiveness data used is stated	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Details of the design and results of the effectiveness study are given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The primary outcome measure(s) for the economic evaluation are clearly stated	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Methods to value health states and other benefits are stated	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Details of the subjects from whom valuations were obtained are given	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Indirect costs (if included) are reported separately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Quantities of resources are reported separately from their unit costs	<input type="checkbox"/>	<input type="checkbox"/>	
8.	Methods for the estimation of quantities and unit costs are described	<input type="checkbox"/>	<input type="checkbox"/>	
9.	Currency and price data are recorded	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix 12

10.	Details of currency of price adjustments for inflation or currency conversion are given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Details of any models used are given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The choice of model used and the key parameters on which it is based are justified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analysis and interpretation of results				
1.	Time horizon of costs and benefits is stated	<input type="checkbox"/>	<input type="checkbox"/>	
2.	The discount rate(s) is stated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The choice of rate(s) is justified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	An explanation is given if costs or benefits are not discounted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	Details of statistical tests and confidence intervals are given for stochastic data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	The approach to sensitivity analysis is given	<input type="checkbox"/>	<input type="checkbox"/>	
7.	The choice of variables for sensitivity analysis is given	<input type="checkbox"/>	<input type="checkbox"/>	
8.	The ranges over which the variables are varied are stated	<input type="checkbox"/>	<input type="checkbox"/>	
9.	Relevant alternatives are compared	<input type="checkbox"/>	<input type="checkbox"/>	
10.	Incremental analysis is reported	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Major outcomes are presented in a disaggregated as well as aggregated form	<input type="checkbox"/>	<input type="checkbox"/>	
12.	The answer to the study question is given	<input type="checkbox"/>	<input type="checkbox"/>	
13.	Conclusions follow from the data reported	<input type="checkbox"/>	<input type="checkbox"/>	
14.	Conclusions are accompanied by the appropriate caveats	<input type="checkbox"/>	<input type="checkbox"/>	

1.2 Partial economic evaluations

Author:

Date:

Title:

	Study design	Yes	No	NA
1.	The research question is stated	<input type="checkbox"/>	<input type="checkbox"/>	
2.	The viewpoint(s) of the analysis is clearly stated and justified	<input type="checkbox"/>	<input type="checkbox"/>	
	Data collection			
1.	Details of the subjects from whom valuations were obtained are given	<input type="checkbox"/>	<input type="checkbox"/>	
2.	Indirect costs (if included) are reported separately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Quantities of resources are reported separately from their unit costs	<input type="checkbox"/>	<input type="checkbox"/>	
4.	Methods for the estimation of quantities and unit costs are described	<input type="checkbox"/>	<input type="checkbox"/>	
5.	Currency and price data are recorded	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Details of currency of price adjustments for inflation or currency conversion are given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Details of any model used are given	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	The choice of model used and the key parameters on which it is based are justified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Analysis and interpretation of results			
1.	Time horizon of costs is stated	<input type="checkbox"/>	<input type="checkbox"/>	
2.	The discount rate(s) is stated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Details of statistical tests and confidence intervals are given for stochastic data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	The choice of variables for sensitivity analysis is given	<input type="checkbox"/>	<input type="checkbox"/>	
5.	The ranges over which the variables are varied are stated	<input type="checkbox"/>	<input type="checkbox"/>	
6.	Appropriate sensitivity analysis is performed	<input type="checkbox"/>	<input type="checkbox"/>	
7.	The answer to the study question is given	<input type="checkbox"/>	<input type="checkbox"/>	
8.	Conclusions follow from the data reported	<input type="checkbox"/>	<input type="checkbox"/>	
9.	Conclusions are accompanied by the appropriate caveats	<input type="checkbox"/>	<input type="checkbox"/>	

APPENDIX 13: DATA EXTRACTION FORM FOR ECONOMIC STUDIES

Reviewer:

Date of Review:

Authors:

Publication Date:

Title:

Country:

Language:

Economic study design:

- | | |
|------------------------------|------------------------------|
| <input type="checkbox"/> CEA | <input type="checkbox"/> CCA |
| <input type="checkbox"/> CBA | <input type="checkbox"/> CA |
| <input type="checkbox"/> CUA | <input type="checkbox"/> CMA |

Modelling:

- | | |
|-----------------------------|------------------------------|
| <input type="checkbox"/> No | <input type="checkbox"/> Yes |
|-----------------------------|------------------------------|

Source of data for effect size measure(s):

- | | |
|---|--|
| <input type="checkbox"/> RCT | <input type="checkbox"/> Meta-analysis |
| <input type="checkbox"/> Quasi experimental study | <input type="checkbox"/> Cohort study |
| <input type="checkbox"/> Expert opinion | <input type="checkbox"/> Mirror image (before-after) study |

Comments _____

Primary outcome measure(s) (please list):

Interventions compared (please describe):

Treatment: _____

Comparator: _____

Setting (please describe):

Patient population characteristics (please describe):

Perspective of analysis:

- Societal Other: _____
- Patient and family
- Healthcare system
- Healthcare provider
- Third party payer

Time frame of analysis: _____

Cost data:

- Primary Secondary

If secondary please specify: _____

Costs included:

- | Direct medical | Direct non-medical | Lost productivity |
|---|--|--|
| <input type="checkbox"/> direct treatment | <input type="checkbox"/> social care | <input type="checkbox"/> income forgone due to illness |
| <input type="checkbox"/> inpatient | <input type="checkbox"/> social benefits | <input type="checkbox"/> income forgone due to death |
| <input type="checkbox"/> outpatient | <input type="checkbox"/> travel costs | <input type="checkbox"/> income forgone by caregiver |
| <input type="checkbox"/> day care | <input type="checkbox"/> caregiver out-of-pocket | |
| <input type="checkbox"/> community healthcare | <input type="checkbox"/> criminal justice | |
| <input type="checkbox"/> medication | <input type="checkbox"/> training of staff | |

Or

- staff
- medication
- consumables
- overhead
- capital equipment
- real estate

Others: _____

Currency: _____

Year of costing: _____

Appendix 13

Was discounting used?

- Yes, for benefits and costs Yes, but only for costs No

Discount rate used for costs: _____

Discount rate used for benefits: _____

Result(s):

Comments, limitations of the study:

Quality checklist score (Yes/NA/All):/...../.....

**APPENDIX 14:
EVIDENCE TABLES FOR ECONOMIC STUDIES**

See pages 308–321

Appendix 14

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Alemi <i>et al.</i> , 2006 US	Intervention: Seamless combination of probation and treatment Comparator: Traditional probation	Clients on probation and requiring substance misuse treatment in Northern Virginia and Maryland Study design: RCT plus decision-analytic modelling Source of effectiveness data: single study (N = 272) Source of resource use data: Self-report and official probation office records Source of unit cost data: National estimates	Cost-analysis	<u>Costs:</u> Treatment; arrest and court processing; incarceration; homeless shelter; hospitalisation <u>Cost results:</u> Seamless probation: \$38.84 per follow-up day per client Traditional probation: \$21.60 per follow-up day per client	Seamless probation was \$6,293 more expensive than traditional probation per client per year	Perspective: US tax payers Currency: US \$ Cost year: 2004 Time horizon: 2.75 years Discounting: Not reported Internal validity: 17/4/2
Barnoski, 2004 US	Intervention: Functional family therapy for juvenile offenders Comparator: Untreated control group	Moderate or high-risk juvenile offenders (age 13-17) Study design: Prospective observational study	Cost-benefit analysis	<u>Costs:</u> Functional family therapy treatment programme; criminal justice costs <u>Cost results:</u> Functional family therapy: \$2,100 per family	Benefit-cost ratio of \$10.69	Perspective: societal and criminal justice system Currency: US \$ Cost year: Not reported

Caldwell <i>et al.</i> , 2006 US	<p><u>Intervention:</u> Intensive juvenile corrective service treatment programme</p> <p><u>Comparator:</u> Usual juvenile corrective service intervention</p>	<p>Source of effectiveness data: Single study (N = 700)</p> <p>Source of resource use data: Washington State Juvenile Court Assessment Programme</p> <p>Source of unit cost data: NA</p>	Cost-benefit analysis	<p><u>Outcomes:</u> 18-month recidivism rates Total taxpayer and crime victim costs avoided</p> <p><u>Effectiveness results:</u> Functional family therapy: 17% recidivism rate Control: 32% recidivism rate \$22,448 costs avoided</p>	Intensive juvenile treatment dominated the usual treatment of juvenile corrective serv- ice Cost-benefit ratio: 1 to 7.18	Time horizon: 18 months Discounting: Not conducted Internal validity: 21/6/8
				<p><u>Costs:</u> Cost of intervention, juvenile institution care, arrest, prosecution and defence. Treatment group cost: \$173,012/youth Comparison group cost: \$216,388/youth (P < 0.05)</p> <p><u>Outcomes:</u> All offences, felony offences, violent offences Number of offences charged: Treatment group: 1.09 Comparison group: 2.49 (p < 0.05) Violent offence: Treatment group: 0.25 Comparison group: 0.85 (p < 0.001) Felony offence: Treatment group: 0.48 Comparison group: 0.89 (p < 0.05)</p>	<p>Perspective: Public sector Currency: US\$ Cost year: 2001 Time horizon: 4.5 years Discounting: not conducted Internal validity: 22/1/12</p>	

Appendix 14

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Crane <i>et al.</i> , 2005 US	Interventions: 1) In-office family therapy 2) In-home family therapy Comparator: Untreated control group	Youths who had received services for conduct disorder between May and October 1999 Study design: Retrospective longitudinal study of Kansas Medicaid claims forms Source of effectiveness data: single study (N = 3,753) Source of resource use data: Medicaid claims records Source of unit cost data: Medicaid	Cost-analysis	<u>Costs:</u> Intervention treatments; pharmacy; hospital and professional services <u>Cost results:</u> <u>Interventions:</u> 1. \$11,116 per child 2. \$1,622 per child Control: \$16,260 per child	Both interventions resulted in significant net savings (p < .0001)	Perspective: Health Insurance Currency: US \$ Cost year: NA Time horizon: 30 months Discounting: No Internal validity: 8/10/5
Davidson <i>et al.</i> , 2008 UK	Intervention: CBT plus treatment as usual (TAU) in a community setting Comparator: TAU alone	Adult men with diagnosis of antisocial personality disorder and acts of aggression 6 months before study Study design: RCT	Cost-analysis	<u>Costs:</u> Psychiatric, A&E, primary care and social services <u>Cost results:</u> CBT: £1,295 per participant (+£1,300 per participant for CBT sessions) TAU: £1,133 per participant	CBT costs more per participant than TAU alone over 12 months	Perspective: NHS Currency: £ Cost year: 2007 Time horizon: 12 months Discounting: N/A Internal validity: 9/7/7

Dembo <i>et al.</i> , 2000a US	<p>Intervention: Family empowerment intervention – families receive home-based meetings from a clinically trained paraprofessional</p> <p>Comparator: Extended services intervention – families receive monthly phone contacts</p>	<p>Source of effectiveness data: Single study (N = 52)</p> <p>Source of resource use data: Directly from study case-notes</p> <p>Source of unit cost data: National sources</p>	<p>Juvenile offenders (11–18 years) and their families</p> <p>Study design: Prospective longitudinal study</p> <p>Source of effectiveness data: Single study (N = 303)</p> <p>Source of resource use data: Florida Department of Juvenile Justice</p> <p>Source of unit cost data: Local estimates</p>	Cost-analysis	<p>Costs: Interventions; recidivism (arrests, state attorney, public defender, judicial and department of juvenile justice costs)</p> <p>Cost results (based on 3,600 diversion cases):</p> <p>Initial year costs: Family empowerment intervention: \$5,295,600</p> <p>Extended services intervention: \$6,980,400</p> <p>New arrest costs: Family empowerment intervention: \$4,956,084</p> <p>Extended services intervention: \$7,957,656</p>	<p>Net saving of \$4,686,372 per 3,600 youths (\$1,302 per case)</p>	<p>Perspective: Criminal justice system</p> <p>Currency: US \$</p> <p>Cost year: Not reported</p> <p>Time horizon: 2 years</p> <p>Discounting: No</p> <p>Internal validity: 6/10/7</p>
--------------------------------------	--	---	--	---------------	---	--	--

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Dretzke <i>et al.</i> , 2005 UK	<p><u>Intervention:</u> Three types of parent-training/ education programmes: 1. Group community-based 2. Group clinic-based 3. Individual home-based</p> <p><u>Comparator:</u> No treatment</p>	<p>Children with conduct disorder aged up to 18 years</p> <p>Study design: Decision-analytic modelling</p> <p>Source of clinical effectiveness data: Systematic review and meta-analysis (clinical effectiveness between parent-training/ education programmes); hypothetical rates (parent-training/ education programmes versus no treatment)</p> <p>Source of resource use data: Expert opinion supported by published literature</p> <p>Source of unit costs: national sources</p>	<p>Cost-minimisation analysis (comparison across the three types of parent-training/ education programmes) and secondary cost-effectiveness analysis (all parent-training/ education programmes versus no treatment)</p>	<p><u>Costs:</u> Intervention costs: staff, supervision, travelling, crèche, course packs, room hire</p> <p><u>Cost per family:</u> Group community-based parent-training/ education programmes: £899 (assuming eight families per group)</p> <p>Group clinic-based parent-training/ education programmes: £629 (assuming eight families per group)</p> <p>Individual home-based parent-training/ education programmes: £3,839</p> <p>No treatment: 0</p> <p><u>Outcomes:</u> 1. Child behaviour-related measures 2. (Hypothetical) levels of response to treatment and improvement in children's HRQoL expressed in QALYs</p>	<p>Group clinic-based parent-training/ education programmes dominate the two other types of parent-training/ education programmes</p> <p>ICERs of parent-training/ education programmes versus no treatment assuming a 80% uptake: <u>50% response rate</u> Group community-based parent-training/ education programmes: £1,438 per responder</p>	<p>Perspective: NHS</p> <p>Currency: UK £</p> <p>Cost year: 2003</p> <p>Time horizon: 10 weeks</p> <p>Discounting: N/A</p> <p>Internal validity: 20/6/9</p>

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Foster <i>et al.</i> , 2006 US	Intervention: Fast-track multi-component intervention Comparator: Untreated control group	Youths screened for classroom conduct problems in four sites in the US Study design: Multi-centre RCT Source of effectiveness data: Single study (N = 891) Source of resource use data: Annual budget records Source of unit cost data: Annual budget records	Cost-effectiveness analysis	<u>Costs:</u> Fast-track intervention <u>Cost results:</u> Intervention: \$58,283 per child Control: \$0 per child <u>Outcomes:</u> 1. Diagnosis of conduct disorder – cases of conduct disorder averted 2. Index Criminal Offences scale – index criminal offence avoided 3. Interpersonal Violence scale – acts of interpersonal violence avoided <u>Effectiveness results:</u> Not reported	programmes: £19,196/QALY 1) ICER of \$3,481,433 per case of conduct disorder averted 2) ICER of \$423,480 per index crime averted 3) ICER of \$736,010 per act of interpersonal violence averted	Perspective: State department of mental health Currency: US \$ Cost year: 2004 Time horizon: 10 years Discounting: Yes Internal validity: 20/9/6

Griffith <i>et al.</i> , 1999 US	Intervention: In-prison therapeutic community treatment for drug misuse Comparator: Untreated comparison group	Male prisoners with history of substance misuse Study design: Retrospective observational study Source of effectiveness data: Single study (N = 394) Source of resource use data: Texas Department of Criminal Justice Institutional Division database Source of unit cost data: Published literature	Cost-effectiveness analysis	<p><u>Costs:</u> In-prison therapeutic community treatment; parole and aftercare</p> <p><u>Cost results:</u> Low-risk aftercare completers: \$21,860 per patient High-risk aftercare completers: \$22,208 High-risk untreated comparison group: \$18,402 per patient Low-risk untreated comparison group: \$17,928 per patient</p> <p><u>Outcomes:</u> % not reincarcerated</p> <p><u>Effectiveness results:</u> Low-risk aftercare completers: 78% High-risk aftercare completers: 74% Low-risk untreated comparison group: 71% High-risk untreated comparison group: 45%</p>	<p>Low-risk comparison: ICER of \$494 per 1% reduction in reincarceration</p> <p>High-risk comparison: ICER of \$165 per 1% reduction in reincarceration</p>	<p>Perspective: criminal justice system</p> <p>Currency: US \$</p> <p>Cost year: 1999</p> <p>Time horizon: 3 years</p> <p>Discounting: Not conducted</p> <p>Internal validity: 21/6/8</p>
--	---	---	-----------------------------	--	--	---

Appendix 14

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Masse & Barnett, 2002 US	<p>Intervention: Provision of intensive preschool services to children in low-income families</p> <p>Comparator: Untreated control group</p>	<p>1–5 year olds (born between 1972 and 1977) at risk of retarded intellectual and social development and followed-up at age 21</p> <p>Study design: RCT</p> <p>Source of effectiveness data: Single study (N = 112)</p> <p>Source of resource use data: Programme sponsor records and national statistics</p> <p>Source of unit cost data: local and national estimates</p>	Cost-benefit analysis	<p><u>Costs:</u> Programme costs in child development centre setting and public school</p> <p><u>Cost results:</u> Child development centre: \$35,864 Public school: \$41,916</p> <p><u>Outcomes (programme differentials/net benefits):</u> Future earnings; maternal earnings; education costs; healthcare costs</p> <p><u>Effectiveness results (discount rate of 3%):</u> Total benefits: \$135,546</p>	<p>Net benefits: Child development centre: \$99,682 per child Public school: \$93,630 per child</p>	<p>Perspective: Societal</p> <p>Currency: US \$</p> <p>Cost year: 2002</p> <p>Time horizon: 16-20 years</p> <p>Discounting: Yes</p> <p>Internal validity: 15/11/9</p>
McCullister <i>et al.</i> , 2003 US	<p>Intervention: Work release therapeutic community and aftercare programme for criminal offenders (Delaware CREST Outreach Centre)</p>	<p>Male prisoners with history of substance misuse</p> <p>Study design: Randomised ITT study</p>	Cost-effectiveness analysis	<p><u>Costs:</u> Intervention costs including work release and aftercare programmes</p> <p><u>Cost results:</u> Intervention: \$1,937 Control: \$0</p>	<p>ICER of \$65 per avoided incarceration day</p>	<p>Perspective: prison sector</p> <p>Currency: US \$</p> <p>Cost year: NA</p> <p>Time horizon: 18 months</p>

	<p>Comparator: No standard work release group</p>	<p>Source of effectiveness data: Single study (N = 836)</p> <p>Source of resource use data: Drug Abuse Treatment Cost Analysis Program (DATCAP)</p> <p>Source of unit cost data: Published literature</p>	<p>Cost-effectiveness analysis</p>	<p>Outcomes: Number of incarceration days avoided during follow-up</p> <p><u>Effectiveness results:</u> Intervention: 74 days incarcerated Control: 104 days incarcerated</p>	<p>Discounting: Not conducted</p> <p>Internal validity: 16/9/10</p>
<p>McCollister <i>et al.</i>, 2003a, 2004 US</p>	<p>Intervention: In-prison therapeutic community and aftercare programme (Amity programme, California)</p> <p>Comparator: No treatment control group</p>	<p>Male prisoners with history of substance misuse</p> <p>Study design: Randomised ITT study</p> <p>Source of effectiveness data: Single study (N = 576)</p> <p>Source of resource use data: Drug Abuse Treatment Cost Analysis Program (DATCAP)</p> <p>Source of unit cost data: Published literature</p>	<p>Cost-effectiveness analysis</p>	<p><u>Costs:</u> Intervention costs; hospital inpatient and outpatient visits; methadone/detoxification drug maintenance; self-help/12-step programmes</p> <p><u>Cost results:</u> 12 months Intervention: \$4,112 per patient Control: \$0 per patient 5 years</p> <p><u>Intervention:</u> \$7,041 per patient <u>Control:</u> \$1,731 per patient</p> <p><u>Outcomes:</u> Number of incarceration days avoided during follow-up</p> <p><u>Effectiveness results:</u> 12 months Intervention: 91 days incarcerated Control: 142 days incarcerated</p>	<p>Perspective: health service and prison sector</p> <p>Currency: US \$</p> <p>Cost year: 2000</p> <p>Time horizon: 12 months and 5 years</p> <p>Discounting: Not conducted</p> <p>Internal validity: 19/8/8</p>

Appendix 14

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Myers <i>et al.</i> , 2000 US	<p>Intervention: Project Back-on-Track multi-component intervention</p> <p>Comparator: Untreated community control group</p>	<p>Early-career juvenile offenders (9–17 years)</p> <p>Study design: Observational case-control</p> <p>Source of effectiveness data: Single study (N = 60)</p> <p>Source of resource use data: Not reported</p> <p>Source of unit cost data: Published estimates</p>	Cost-analysis	<p>5 years</p> <p>Intervention: 544 days incarcerated</p> <p>Control: 626 days incarcerated</p> <p><u>Costs:</u> Back-on-Track treatment; criminal offences</p> <p><u>Cost results:</u></p> <p>Intervention: \$600 per youth</p> <p>Control: \$600 per youth</p> <p><u>Outcomes:</u> Total number of crimes (total costs of crimes)</p> <p><u>Effectiveness results:</u></p> <p>Intervention: 3 (\$9,000)</p> <p>Control: 21 (\$63,000)</p>	Net saving of \$1,800 per youth receiving Back-on-Track treatment	<p>Perspective: Criminal justice system</p> <p>Currency: US \$</p> <p>Cost year: Not reported</p> <p>Time horizon: 12 months</p> <p>Discounting: N/A</p> <p>Internal validity: 8/8/7</p>
Nores <i>et al.</i> , 2005 US	<p>Intervention: High/Scope Perry preschool programme</p> <p>Comparator: Untreated control group</p>	<p>3–4 year old African-American children from Michigan in 1960s followed up to age 40 years</p> <p>Study design: RCT</p>	Cost-benefit analysis	<p><u>Costs:</u> Programme costs</p> <p><u>Cost results:</u> Intervention: \$15,166</p> <p><u>Outcomes (programme differential/net benefits):</u> Child care costs; education costs; tax contributions; crime costs; welfare payments (receipts)</p>	<p>Net benefits:</p> <ol style="list-style-type: none"> \$49,190 per participant \$180,455 per participant \$229,645 per participant 	<p>Perspective: Participants/general public/society</p> <p>Currency: US \$</p> <p>Cost year: 2000</p> <p>Time horizon: 36–37 years</p>

Reynolds <i>et al.</i> , 2002 US	Intervention: Chicago Child- Parent centres Comparator: TAU comparison group	Source of effectiveness data: Single study (N = 123) Source of resource use data: Interviews and official records Source of unit cost data: Published national estimates	Cost-benefit analysis	<u>Effectiveness results (discount rate of 3%):</u> 1. Participant perspective: \$49,190 per participant 2. General public perspective: \$195,621 per participant 3. Societal perspective: \$244,645 per participant	Net benefits: 1. \$15,296 per child 2. \$12,389 per child 3. \$34,375 per child	Discounting: Yes Internal validity: 23/4/8
				<u>Costs:</u> Chicago Child-Parent centre staff; administration; operations and maintenance; family and community support; transportation and community services; school district services <u>Cost results:</u> Chicago Child- Parent programme: \$6,692 per child <u>Outcomes (programme differ- entials/net benefits):</u> Child care costs; special education costs; child welfare savings; abuse/neglect victim savings; juvenile justice/crime victim savings <u>Effectiveness results (discount rate of 3%):</u> 1. Participant perspective: \$21,988 per child		Perspective: Participants/taxpayer/ crime victim/society Currency: US \$ Cost year: 1998 Time horizon: 15–17 years Discounting: Yes Internal validity: 22/6/7

Appendix 14

Study, year and country	Intervention details	Study population Study design Data source	Study type	Costs: description and values Outcomes: description and values	Results: cost effectiveness	Comments Internal validity (Yes/No/NA)
Robertson <i>et al.</i> , 2001 USA	<p><u>Intervention:</u> Intensive supervision and monitoring CBT</p> <p><u>Comparator:</u> Regular probation</p>	<p>Children aged 11–17 years who committed delinquent activity or status offences</p> <p>Study design: quasi-experimental design (N = 293)</p> <p>Source of data for clinical outcomes: Patients' data (N = 153)</p> <p>Source of resource use data: Patient questionnaires and court records</p> <p>Source of unit cost: Not reported</p>	<p>Cost-benefit analysis</p>	<p>2. Taxpayer/crime victim perspective: \$19,079 per child</p> <p>3. Societal perspective: \$41,067 per child</p> <p><u>Costs:</u> Increase in spending (within justice system) necessary to support and maintain the intervention programmes</p> <p>Intensive supervision and monitoring : NA CBT: \$1,493</p> <p><u>Outcomes:</u> Expected short-run reduction in justice system expenditures due to intervention</p> <p>Intensive supervision and monitoring : NA CBT: \$2,928</p> <p>Cost/patient: Intensive supervision and monitoring: \$927 CBT: -\$2927</p>	<p>CBT programme resulted in net reduction in local justice system expenditures of \$1,435 per offender</p> <p>Cost-benefit ratio: 1 to 1.96</p> <p>Intensive supervision and monitoring programme did not result in significant difference in justice system expenditures</p>	<p>Perspective: public sector</p> <p>Currency: US \$</p> <p>Cost year: 2001</p> <p>Time horizon: 18 months</p> <p>Discounting: NA</p> <p>Internal validity: 12/5/18</p>

Zhang <i>et al.</i> , 2006 US	<p>Intervention: Preventing Parolee Crime Programme - multiple commu- nity-based services for parolees</p> <p>Comparator: Untreated control group</p>	<p>Californian parolees within 12-36 months of release</p> <p>Study design: Observational study</p> <p>Source of effectiveness data: Single study (N = 239,919)</p> <p>Source of resource use data: California Department of Corrections' database</p> <p>Source of unit cost data: California Department of Corrections' internal accounting documents</p>	<p>Cost-analysis</p>	<p>Costs: Preventing Parolee Crime Programme; parole supervision; daily incarceration costs</p> <p><u>Cost results:</u> Cost-saving factors (incarceration costs avoided): \$66,166,198 Parole/ Preventing Parolee Crime Programme expendi- tures: \$45,087,182</p>	<p>Net savings: \$21,079,016</p> <p>Cost-benefit ratio: \$1:\$1.47</p>	<p>Perspective: societal and criminal justice system</p> <p>Currency: US \$</p> <p>Cost year: 2000/01 and 2001/02</p> <p>Time horizon: 2 years</p> <p>Discounting: Not conducted</p> <p>Internal validity: 11/7/5</p>
-------------------------------------	---	---	----------------------	---	--	---

10. REFERENCES

- Adams, J. F. (2001) Impact of parent training on family functioning. *Child and Family Behavior Therapy*, 23, 29–42.
- Adshead, G. (2002) Three degrees of security: attachment and forensic institutions. *Criminal Behaviour and Mental Health*, 12, S31–S45.
- AGREE Collaboration (2003) Development and validation of an international appraisal instrument for assessing the quality of clinical practice guidelines: the AGREE project. *Quality and Safety in Health Care*, 12, 18–23.
- Alemi, F., Taxman, F., Baghi, H., *et al.* (2006) Costs and benefits of combining probation and substance abuse treatment. *Journal of Mental Health Policy and Economics*, 9, 57–70.
- Alexander, J. F. & Parsons, B. V. (1973) Short-term behavioral intervention with delinquent families: impact on family process and recidivism. *Journal of Abnormal Psychology*, 81, 219–225.
- American Academy of Psychiatry and the Law (2005) *Ethics Guidelines for the Practice of Forensic Psychiatry*. Available at: <https://www.aapl.org/pdf/ETHICSGDLNS.pdf> [accessed June 2008]
- Andrews, D. A. & Bonta, J. (1995) *The Level of Service Inventory-Revised*. Toronto: Multi-Health Systems.
- Anonymous (2001) On the receiving end. *Human Givens: Radical Psychology Today*, 8, 17–21.
- Aos, S., Lieb, R., Mayfield, J., *et al.* (2004) *Benefits and Costs of Prevention and Early Intervention Programs for Youth*. Olympia: Washington State Institute for Public Policy.
- APA (1952) *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: APA.
- APA (1968) *Diagnostic and Statistical Manual of Mental Disorders*, 2nd edition. Washington, DC: APA.
- APA (1980) *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition. Washington, DC: APA.
- APA (1987) *Diagnostic and Statistical Manual of Mental Disorders: DSM-III-R*, 3rd edition, Revised. Washington, DC: APA.
- APA (1994) *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition. Washington, DC: APA.
- APA (2000) *Diagnostic and Statistical Manual of Mental Disorders: Text Revision (DSM-IV-TR)*. Washington, DC: APA.
- Appelbaum, P. S. (1997) A theory of ethics for forensic psychiatry. *Journal of the American Academy of Psychiatry and the Law*, 25, 233–247.
- Appleby, L., Shaw, J., Kapur, N., *et al.* (2006) Avoidable deaths: five year report by the National Confidential Inquiry into Suicide and Homicide by People with

- Mental Illness. Available at: http://www.medicine.manchester.ac.uk/suicide/prevention/nci/Useful/avoidable_deaths_full_report.pdf [Accessed 30 June 2008]
- Armstrong, T. A. (2003) The effect of moral reconnection therapy on the recidivism of youthful offenders: a randomized experiment. *Criminal Justice and Behaviour*, *30*, 668–687.
- Austin, J., Robinson, B., Elms, B., *et al.* (1997) The evaluation of two models of treating sentenced federal drug offenders in the community. *International Journal of Offender Rehabilitation and Comparative Criminology*, *36*, 247–262.
- Azrin, N. H., Donohue, B., Teichner, G. A., *et al.* (2001) A controlled evaluation and description of individual-cognitive problem solving and family-behavior therapies in dually-diagnosed conduct disordered and substance-dependent youth. *Journal of Child and Adolescent Substance Abuse*, *11*, 1–43.
- Babinski, L. M., Hartsough, C. S. & Lambert, N. M. (1999) Childhood conduct problems, hyperactivity-impulsivity, and inattention as predictors of adult criminal activity. *Journal of Child Psychiatry*, *40*, 347–355.
- Baker, E. & Crichton, J. (1995) *Ex parte* A: psychopathy, treatability and the law. *Journal of Forensic Psychiatry*, *6*, 101–109.
- Bandura, A. (2001) Social cognitive theory: an agentic perspective. *Annual Review of Psychology*, *52*, 1–26.
- Bank, L., Hicks Marlowe, J., Reid, J. B., *et al.* (1991) A comparative evaluation of parent-training interventions for families of chronic delinquents. *Journal of Abnormal Child Psychology*, *19*, 15–33.
- Barkley, R. A., Shelton, T. L., Crosswait, C., *et al.* (2000) Multi-method psychoeducation intervention for preschool children with disruptive behavior: preliminary results at post-treatment. *Journal of Child Psychology and Psychiatry*, *41*, 319–332.
- Barlow, J. & Stewart-Brown, S. (2000) Behavior problems and group-based parent education programs. *Journal of Developmental and Behavioral Pediatrics*, *21*, 356–370.
- Barlow, J., Parsons, J. & Stewart-Brown, S. (2005) Preventing emotional and behavioural problems: the effectiveness of parenting programmes with children less than 3 years of age. *Child: Care, Health and Development*, *31*, 33–42.
- Barnes, J., Ball, M., Meadows, P., *et al.* (2008) *Nurse-Family Partnership Programme: First Year Pilot Sites Implementation in England Pregnancy and the Post-partum Period*. London: Department of Children, Schools and Families.
- Barnoski, R. (2004) *Outcome Evaluation of Washington State's Research-based Programs for Juvenile Offenders*. Washington, WA: Washington State Institute for Public Policy.
- Barratt, E. S., Stanford, M., Felthouse, A. R., *et al.* (1997) The effects of phenytoin on impulsive and premeditated aggression: a controlled study. *Journal of Clinical Psychopharmacology*, *17*, 341–349.
- Barrett, B., Byford, S., Seivewright, H., *et al.* (2005) Service costs for severe personality disorder at a special hospital. *Criminal Behaviour and Mental Health*, *15*, 184–190.

References

- Barrett, B., Byford, S., Chitsabesan, P., *et al.* (2006) Mental health provision for young offenders: service use and cost. *British Journal of Psychiatry*, *188*, 541–546.
- Barrett, P., Turner, C., Rombouts, S., *et al.* (2000) Reciprocal skills training in the treatment of externalising behaviour disorders in childhood: a preliminary investigation. *Behaviour Change*, *17*, 221–234.
- Beck, R. & Fernandez, E. (1998) Cognitive behavioral therapy in the treatment of anger: a meta-analysis. *Cognitive Therapy and Research*, *22*, 63–74.
- Behan, J., Fitzpatrick, C., Sharry, J., *et al.* (2001) Evaluation of the parenting plus programme. *The Irish Journal of Psychology*, *22*, 238–256.
- Belsky, J. (2001) Development risks (still) association with early child care. *Journal of Child Psychology and Psychiatry*, *42*, 845–859.
- Belsky, J., Melhuish, E., Barnes, J., *et al.* (2006) Effects of Sure Start local programmes on children and families: early findings from a quasi-experimental, cross sectional study. *British Medical Journal*, *332*, 1476.
- Belsky, J., Vandell, D., Burchinal, M., *et al.* (2007) Are there long term effects of early child care? *Child Development*, *78*, 681–701.
- Benjamin, L. S. (1993) *Interpersonal Diagnosis and Treatment of Personality Disorders*. New York: Guilford.
- Benjamin, L. S. (1996) *Interpersonal Diagnosis and Treatment of Personality Disorders*, 2nd edition. New York: Guilford.
- Berlin, J. A. (2001) Does blinding of readers affect the results of meta-analyses? *Lancet*, *350*, 185–186.
- Biederman, J., Faraone, S. V., Milberger, S., *et al.* (1996) Is childhood oppositional defiant disorder a precursor to adolescent conduct disorder? Findings from a four-year follow-up study of children with ADHD. *Journal of American Academy of Child and Adolescent Psychiatry*, *35*, 1193–1204.
- Black, D. W., Baumgard, C. H. & Bell, S. E. (1995) A 16 to 45 year follow-up of 71 men with antisocial personality disorder. *Comprehensive Psychiatry*, *36*, 130–140.
- Black, D. W., Baumgard, C. H., Bell, S. E., *et al.* (1996) Death rates in 71 men with antisocial personality disorder: a comparison with general population mortality. *Psychosomatics*, *37*, 131–136.
- Blackburn, R. (2007) Personality disorder and antisocial deviance: comments on the debate on the structure of the Psychopathy Checklist-Revised. *Journal of Personality Disorders*, *21*, 142–159.
- Blackburn, R. & Coid, J. C. (1999) Empirical clusters of DSM-III personality disorders in violent offenders. *Journal of Personality Disorders*, *13*, 18–34.
- Blackburn, R., Logan, C., Donnelly, J., *et al.* (2003) Personality disorder, psychopathy, and other mental disorders: co-morbidity among patients at English and Scottish high security hospitals. *Journal of Forensic Psychiatry and Psychology*, *14*, 111–137.
- Blair, R. J. R., Peschardt, K. S., Budhani, S., *et al.* (2006) The development of psychopathy. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *47*, 262–275.
- Bodenmann, G., Cina, A., Ledermann, T., *et al.* (2008) The efficacy of the Triple P - Positive Parenting Program in improving parenting and child behavior:

- a comparison with two other treatment conditions. *Behaviour Research and Therapy*, 46, 411–427.
- Bor, W., McGee, T. R. & Fagan, A. A. (2004) Early risk factors for adolescent antisocial behaviour: an Australian longitudinal study. *Australian and New Zealand Journal of Psychiatry*, 38, 365–372.
- Borduin, C. & Schaeffer, C. (2001) Multisystemic treatment of juvenile sexual offenders: a progress report. *Journal of Psychology and Human Sexuality*, 13, 25–42.
- Borduin, C. M., Mann, B. J., Cone, L. T., *et al.* (1995) Multisystemic treatment of serious juvenile offenders: long term prevention of criminality and violence. *Journal of Consulting and Clinical Psychology*, 63, 569–578.
- Bowden-Jones, O., Iqbal, M. Z., Tyrer, P., *et al.* (2004) Prevalence of personality disorder in alcohol and drug services and associated comorbidity. *Addictions*, 99, 1306–1314.
- Bowers, L. (2002) *Dangerous and Severe Personality Disorder: Response and Role of the Psychiatric Team*. London: Routledge.
- Bowers, L., Carr-Walker, P., Paton, J., *et al.* (2005) Changes in attitudes to personality on a DSPD unit. *Criminal Behaviour and Mental Health*, 15, 171–183.
- Bowers, L., Carr-Walker, P., Allan, T., *et al.* (2006) Attitude to personality disorder among prison officers working in a dangerous and severe personality disorder unit. *International Journal of Law and Psychiatry*, 29, 333–342.
- Bradley, S. J., Jadaa, D-A. & Brody, J. (2003) Brief psychoeducational parenting program: an evaluation and 1-year follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 1171–1178.
- Brand, S. & Price, R. (2000) *The Economic and Social Costs of Crime*. Home Office Research Study 217. London: Home Office, Research, Development and Statistics Directorate.
- Brooks-Gunn, J., McCarton, C. M., Casey, P. H., *et al.* (1994) Early intervention in low-birth-weight premature infants. Results through age 5 years from the infant health and development program. *Journal of the American Medical Association*, 272, 1257–1262.
- Brooner, R. K., Kidorf, M. S., King, V. L., *et al.* (1998) Preliminary evidence of good treatment response in antisocial drug abusers. *Drug and Alcohol Dependence*, 49, 249–260.
- Buckner, J. C., Trickett, E. J. & Corse, S. J. (1985) *Primary Prevention in Mental Health: an Annotated Bibliography*. Washington, D.C.: US Government Printing Office.
- Buffington-Vollum, J., Edens, J. F., Johnson, D. W., *et al.* (2002) Psychopathy as a predictor of institutional misbehaviour among sex offenders: a prospective replication. *Criminal Justice and Behavior*, 29, 497–511.
- Cadoret, R. J., Yates, W. R., Troughton, E., *et al.* (1995) Genetic-environmental interaction in the genesis of aggressivity and conduct disorders. *Archives of General Psychiatry*, 52, 916–924.
- Caldwell, M. F., Vitacco, M. & Van-Rybroek, G. J. (2006) Are violent delinquents worth treating? A cost-benefit analysis. *Journal of Research in Crime and Delinquency*, 43, 148–168.

References

- Campbell, F. A. & Ramey, C. T. (1994) Effects of early intervention on intellectual and academic achievement: a follow-up study of children from low-income families. *Child Development*, 65, 684–698.
- Campbell, M. A., French, S. & Gendreau, P. (2007) *Assessing the Utility of Risk Assessment Tools and Personality Measures in the Prediction of Violent Recidivism for Adult Offenders. User Report 2007–04*. Ottawa, Canada: Department of Public Safety and Emergency Preparedness.
- Cann, J., Falshaw, L., Nugent, F., et al. (2003) *Understanding What Works: Accredited Cognitive Skills Programmes for Adult Men and Young Offenders. Home Office Research Findings Number 226*. London: Home Office.
- Carr-Walker, P., Bowers, L., Callaghan, P., et al. (2004) Attitudes towards personality disorders: comparison between prison officers and psychiatric nurses. *Legal and Criminological Psychology*, 9, 265–277.
- Castillo, H. (2000) Temperament or trauma? Users' views on the nature and treatment of personality disorder. *Mental Health Care*, 4, 53–58.
- Castillo, H. (2003) *Personality Disorder: Temperament of Trauma? An Account of an Emancipatory Research Study Carried Out by Service Users Diagnosed with Personality Disorder*. London and Philadelphia: Jessica Kingsley.
- Castillo, H., Allen, L. & Coxhead, N. (2001) The hurtfulness of a diagnosis: user research about personality disorder. *Mental Health Practice*, 4, 16–19.
- Cavell, T. A. & Hughes, J. N. (2000) Secondary prevention as a context for assessing change processes in aggressive children. *Journal of School Psychology*, 38, 199–235.
- Chamberlain, P. & Reid, J. B. (1998) Comparison of two community alternatives to incarceration for chronic juvenile offenders. *Journal of Consulting and Clinical Psychology*, 66, 624–633.
- Chamberlain, P., Leve, L. D. & DeGarmo, D. S. (2007) Multidimensional foster care for girls in the juvenile justice system: 2 year follow up of a randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 75, 187–193.
- Chevalier, A. & Feinstein, L. (2006) *Sheepskin or Prozac: the Causal Effect of Education on Mental Health*. London: Centre for the Economics of Education.
- Clark, D. H. (1965) The therapeutic community—concept, practice and future. *British Journal of Psychiatry*, 111, 947–954.
- Clark, L. A. (2007) Assessment and diagnosis of personality disorder: perennial issues and an emerging reconceptualization. *Annual Review of Psychology*, 58, 227–257.
- Clark, L. A., Livesley, J. W. & Money, L. (1997) Personality disorder assessment: the challenge of construct validity. *Journal of Personality Disorders*, 11, 205–231.
- Cleckley, H. (1941) *The Mask of Sanity* (1st edition). St. Louis: Mosby.
- Coccaro, E. F. & Kavoussi, R. J. (1997)²⁴ Fluoxetine and impulsive aggressive behaviour in personality-disordered subjects. *Archives of General Psychiatry*, 54, 1081–1088.

²⁴This is the reference for study ID COCCARO1997A.

- Coccaro, E. F., Kavoussi, R. J., Sheline, Y. I., *et al.* (1996a) Impulsive aggression in personality disorder correlates with tritiated paroxetine binding in the platelet. *Archives of General Psychiatry*, *53*, 531–536.
- Coccaro, E. F., Berman, M. E., Kavoussi, R. J., *et al.* (1996b) Relationship of prolactin response to d-fenfluramine to behavioural and questionnaire assessments of aggression in personality disordered men. *Biological Psychiatry*, *40*, 157–164.
- Cochrane Collaboration (2008) *Cochrane Handbook of Systematic Reviews*. Oxford: Cochrane Collaboration.
- Cohen, M. & Miller, T. (1998) The cost of mental health care for victims of crime. *Journal of Interpersonal Violence*, *13*, 93–110.
- Cohen, P., Crawford, T. N., Johnson, J. G. *et al.* (2005) The children in the community study of developmental course of personality disorders. *Journal of Personality Disorders*, *19*, 466–486.
- Coid, J. (2003) Epidemiology, public health and the problem of personality disorder. *The British Journal of Psychiatry*, *182 Suppl. 44*, S3–S10.
- Coid, J., Yang, M., Tyrer, P., *et al.* (2006) Prevalence and correlates of personality disorder in Great Britain. *The British Journal of Psychiatry*, *188*, 423–431.
- Coid, K., Yang, M., Ullrich, S., *et al.* (2007) *Predicting and Understanding Risk of Re-offending: the Prisoner Cohort Study*. London: Ministry of Justice.
- Compton, W. M., Conway, K. P., Stinson, F. S., *et al.* (2005) Prevalence, correlates and comorbidity of DSM-IV antisocial personality syndromes and alcohol and specific drug use disorders in the United States: results from the National Epidemiological Survey on alcohol and related conditions. *Journal of Clinical Psychiatry*, *66*, 677–685.
- Cooke, D. J. & Michie, C. (2001) Refining the construct of psychopathy: toward a hierarchical model. *Psychological Assessment*, *13*, 171–188.
- Cooke, D. J., Michie, C. & Skeem, J. (2007) Understanding the structure of the Psychopathy Checklist - Revised. *The British Journal of Psychiatry*, *190*, 39–50.
- Conduct Problems Prevention Research Group (1992) A developmental and clinical model for the prevention of conduct disorders: the FAST Track Program. *Development and Psychopathology*, *4*, 509–527.
- Connell, S., Sanders, M. & Markie-Dadds, C. (1997) Self-directed behavioral family intervention for parents of oppositional children in rural and remote areas. *Behavior Modification*, *21*, 379–408.
- Copas, J. & Marshall, M. (1998) The Offender Group Reconviction Scale: a statistical reconviction score for use by probation officers. *Applied Statistics*, *47*, 159–171.
- Cordess, C. & Cox, M. (1998) *Forensic Psychotherapy*. London: Jessica Kingsley.
- Cornelius, J. R., Soloff, P. H., Perel, J. M., *et al.* (1990) Fluoxetine trial in borderline personality disorder. *Psychopharmacology Bulletin*, *26*, 151–154.
- Cote, S. M., Boivin, M., Nagin, D. S., *et al.* (2007) The role of maternal education and nonmaternal care services in the prevention of children's physical aggression problems. *Archives of General Psychiatry*, *6*, 1305–1312.
- Cowdry, R. W. & Gardner, D. L. (1989) Pharmacotherapy of borderline personality disorder: alprazolam, carbamazepine, trifluoperazine and tranylcypromine. *Archives of General Psychiatry*, *45*, 111–119.

References

- Crane, D. R., Hillin, H. H., Jakubowski, S. F. (2005) Costs of treating conduct disordered Medicaid youth with and without family therapy. *American Journal of Family Therapy*, 33, 403–413.
- Crawford, M. & Rutter, D. (2007) Lessons learned from an evaluation of dedicated community-based services for people with personality disorder. *Mental Health Review Journal*, 12, 55–61.
- Crawford, M., Rutter, D., Price, K., et al. (2007) *Learning the Lessons: a Multi-Method Evaluation Of Dedicated Community-Based Services for People with Personality Disorder*. London: National Coordinating Centre for NHS Service Delivery and Organisation.
- CSIP (2006) *Carers and Families of People with a Diagnosis of Personality Disorder: What Works: What is Needed: What is the Way Forward?* Available at: <http://www.personalitydisorder.org.uk/assets/Resources/155.pdf> [Accessed April 2008]
- Curtis, L. (2007) *Unit Costs of Health and Social Care*. Available at: <http://www.pssru.ac.uk/>[accessed June 2008]
- Dadds, M. R. & McHugh, T. A. (1992) Social support and treatment outcome in behavioral family therapy for child conduct problems. *Journal of Consulting and Clinical Psychology*, 60, 252–259.
- Dadds, M. R., Schwartz, S. & Sanders, M. R. (1987a) Marital discord and treatment outcome in behavioral treatment of child conduct disorders. *Journal of Consulting and Clinical Psychology*, 55, 396–403.
- Dadds, M., Sanders, M. & James, J. (1987b) The generalization of treatment effects in parent training with multidistressed parents. *Behavioural Psychotherapy*, 15, 314–318.
- Dahle, K-P. (2006) Strengths and limitations of actuarial prediction of criminal reoffence in a German prison sample: a comparative study of LSI-R, HCR-20 and PCL-R. *International Journal of Law and Psychiatry*, 29, 431–442.
- Darke, S., Sims, J., McDonald, S., et al. (2008) Cognitive impairment among methadone maintenance patients. *Addiction*, 95, 687–695.
- Davidson, K. M., Tyrer, P., Tata, P., et al. (2008) Cognitive behaviour therapy for violent men with antisocial personality disorder in the community: an exploratory randomized controlled trial. *Psychological Medicine*, 38, 1–9.
- De Brito, S. & Hodgins, S. (2009) Antisocial personality disorder. In *Personality, Personality Disorder and Risk of Violence: An Evidence-Based Approach* (eds M. McMurran & R. Howard). Oxford: Wiley-Blackwell.
- Deeks, J. J. (2002) Issues in the selection of a summary statistic for meta-analysis of clinical trials with binary outcomes. *Statistics in Medicine*, 21, 1575–1600.
- Deffenbacher, J. L., Lynch, R. S., Oetting, E. R., et al. (1996) Anger reduction in early adolescents. *Journal of Counseling Psychology*, 43, 149–157.
- Del Vecchio, T. & O’Leary, D. (2004) Effectiveness of anger treatments for specific anger problems: meta-analytic review. *Clinical Psychology Review*, 24, 15–34.
- Dembo, R., Ramirez-Garnica, G., Rollie, M. W., et al. (2000a) Youth recidivism twelve months after a family empowerment intervention: final report. *Journal of Offender Rehabilitation*, 31, 29–65.

- Department of Health (2003) *Personality Disorder: No Longer a Diagnosis of Exclusion. Policy Implementation Guidance for the Development of Services for People with Personality Disorder*. London: Department of Health.
- Department of Health (2007a) *Best Practice in Managing Risk: Principles and Evidence for Best Practice in the Assessment and Management of Risk to Self and Others in Mental Health Services*. London: Department of Health.
- Department of Health (2007b) *Drug Misuse and Dependence: UK Guidelines on Clinical Management*. London: Department of Health.
- Department of Transport (2007) *Highways Economics Note No. 1. 2005 Valuation of the Benefits of Prevention of Road Accidents and Casualties*. Available at: <http://www.dft.gov.uk> [accessed October 2008]
- DerSimonian, R. & Laird, N. (1986) Meta-analysis in clinical trials. *Controlled Clinical Trials*, 7, 177–188.
- Desbiens, N. & Royer, E. (2003) Peer groups and behaviour problems: a study of school-based intervention for children with EBD. *Emotional and Behavioural Difficulties*, 8, 120–139.
- Dishion, T. J. & Andrews, D. W. (1995) Preventing escalation in problem behaviors with high-risk young adolescents: immediate and 1-year outcomes. *Journal of Consulting and Clinical Psychology*, 63, 538–548.
- Dodge, K. A. (2000) Conduct disorder. In *Handbook of Developmental Psychopathology* (eds A. Sameroff, M. Lewis & S. M. Miller), pp. 447–463. New York: Guilford.
- Dolan, B. & Coid, J. (1993) *Psychopathic and Antisocial Personality Disorders: Treatment and Research Issues*. London: Gaskell.
- Dolan, M. & Doyle, M. (2000) Violence risk prediction. *The British Journal of Psychiatry*, 177, 303–311.
- Dolan, M., Anderson, I. M. & Deakin, J. F. (2001) Relationship between 5-HT function and impulsivity and aggression in male offenders with personality disorders. *The British Journal of Psychiatry*, 178, 352–359.
- Dolan, P. & Moore, S. (2007) From preferences to experiences: valuing the intangible victim costs of crime. *International Review of Victimology*, 14, 265–280.
- Dolan, P. & Peasgood, T. (2007) Estimating the economic and social costs of the fear of crime. *British Journal of Criminology*, 47, 121–132.
- Dolan, P., Loomes, G., Peasgood, T., *et al.* (2005) Estimating the intangible victim costs of violent crime. *British Journal of Criminology*, 45, 958–976.
- Dolan, P., Netten A., P., Shapland, J., *et al.* (2007) Towards a preference-based measure of the impact on well-being due to victimisation and the fear of crime. *International Review of Victimology*, 14, 253–264.
- Dreessen, L. & Arntz, A. (1998) The impact of personality disorders on treatment outcome of anxiety disorders: best-evidence synthesis. *Behavior Research and Therapy*, 36, 483–504.
- Dretzke, J., Frew, E., Davenport, C., *et al.* (2005) The effectiveness and cost-effectiveness of parent training/education programmes for the treatment of conduct disorder, including oppositional defiant disorder, in children. *Health Technology Assessment*, 9, 1–233.

References

- Drugli, M. B. & Larsson, B. (2006) Children aged 4–8 years treated with parent training and child therapy because of conduct problems: generalisation effects to day-care and school settings. *European Child and Adolescent Psychiatry*, *15*, 392–399.
- Drummond, M. F. & Jefferson, T. O. (1996) Guidelines for authors and peer reviewers of economic submissions to the *BMJ. British Medical Journal*, *313*, 275–283.
- Dubourg, R. & Hamed, J. (2005) Estimates of the economic and social costs of crime in England and Wales: costs of crime against individuals and households, 2003/04. In *The Economic and Social Costs of Crime Against Individuals and Households 2003/04*. Home Office, online report 30/05. Available at: <http://www.homeoffice.gov.uk/rds/pdfs/05/rdsolr3005.pdf> [accessed October 2008]
- Duff, A. (1977) Psychopathy and moral understanding. *American Philosophical Quarterly*, *14*, 189–200.
- Dugan, J. R. & Everett, R. S. (1998) An experimental test of chemical dependency therapy for jail inmates. *International Journal of Offender Therapy and Comparative Criminology*, *42*, 360–368.
- Duggan, C. (2002) Developing services for people with personality disorder: the training needs of staff and services. Unpublished manuscript.
- Duggan, C. (2008) Why are programmes for offenders with personality disorder not informed by the relevant scientific findings? *Philosophical Transactions of the Royal Society B: Biological Sciences*, *363*, 2483–2622.
- Duggan, C., Adams, C., McCarthy, L., et al. (2007a) *Systematic review of the effectiveness of pharmacological and psychological strategies for the management of people with personality disorder*. NHS National R&D Programme in Forensic Mental Health. Available at: <http://www.nfmhp.org.uk/MRD%2012%2033%20Final%20Report.pdf> [accessed March 2008]²⁵
- Duggan, C., Huband, N., Smailagic, N., et al. (2007b) The use of psychological treatments for people with personality disorder: a systematic review of randomized controlled trials. *Personality and Mental Health*, *1*, 95–125.
- Duggan, C., Huband, N., Smailagic, N., et al. (2008) The use of pharmacological treatments for people with personality disorder: a systematic review of randomized controlled trials. *Personality and Mental Health*, *2*, 119–170.
- Durlak, J. A. (1997) *Successful Prevention Programs for Children and Adolescents*. New York: Plenum Press.
- Eccles, M., Freemantle, N. & Mason, J. (1998) North of England evidence based guideline development project: methods of developing guidelines for efficient drug use in primary care. *British Medical Journal*, *316*, 1232–1235.
- Edens, J. F., Skeem, J. L. & Douglas, K. S. (2006) Incremental validity analyses of the violence risk appraisal guide and the Psychopathy Checklist: Screening Version in a civil psychiatric sample. *Assessment*, *13*, 368–374.
- Edmunson, C. B. & Conger, J. C. (1996) A review of treatment efficacy for individuals with anger problems: conceptual, assessment and methodological issues. *Clinical Psychology Review*, *16*, 251–275.

²⁵This review was updated and has been published as Duggan et al., 2007b and 2008.

- Elias, L. C. Dos Sontoas, Marturano, E. M., De Almeida Motta, A. M., *et al.* (2003) Treating boys with low school achievement and behavior problems: comparison of two kinds of intervention. *Psychological Reports*, 92, 105–116.
- Elrod, H. P. & Minor, K. I. (1992) Second wave evaluation of a multi-faceted intervention for juvenile court probationers. *International Journal of Offender Therapy and Comparative Criminology*, 36, 247–262.
- ESMHCG (2005) *Personality Disorder Services Framework*. Available at: <http://www.personalitydisorder.org.uk/assets/Resources/96.pdf> [Accessed April 2008]
- ESMHCG (2006) East of England personality disorder capacity framework ... a year on. Unpublished manuscript.
- Fallon, P., Buglass, R. & Edwards, B. (1999) *Ashworth Special Hospital: Report of the Committee of Inquiry*. Available at: <http://www.archive.official-documents.co.uk/document/cm41/4194/ash-00.htm> [accessed 23 April 2008]
- Faraone, S. V., Biederman, J., Jetton, J. G., *et al.* (1997) Attention deficit disorder and conduct disorder: longitudinal evidence for a familial subtype. *Psychological Medicine*, 27, 291–300.
- Farmer, T. W., Price, L. N., O'Neal, K. K., *et al.* (2004) Exploring risk in early adolescent African American youth. *American Journal of Community Psychology*, 33, 51–59.
- Farrington, D. P. (1989) Early predictors of adolescent aggression and adult violence. *Violence and Victims*, 4, 79–100.
- Farrington, D. P. & Coid, J. W. (2003) *Early Prevention of Adult Antisocial Behaviour*. Cambridge Studies in Criminology. Cambridge: Cambridge University Press.
- Farrington, D. P. & Welsh, B. C. (2006) A half-century of randomized experiments on crime and justice. In *Crime and Justice*, volume 34 (ed. M. Tonry), pp. 55–132. Chicago: University of Chicago Press.
- Farrington, D. P., Ohlin, L. E. & Wilson, J. Q. (1986) *Understanding and Controlling Crime: Toward a New Research Strategy*. New York: Springer-Verlag.
- Faulkner, A. & Morris, B. (2002) *User Involvement in Forensic Mental Health Research and Development*. Liverpool: NHS National Programme on Forensic Mental Research and Development.
- Fazel, S. & Danesh, J. (2002) Serious mental disorder in 23,000 prisoners: a systematic review of 62 surveys. *Lancet*, 359, 545–550.
- Feindler, E. L., Marriott, S. A. & Iwata, M. (1984) Group anger control training for junior high school delinquents. *Cognitive Therapy and Research*, 8, 299–311.
- Feinfield, K. A. & Baker, B. L. (2004) Empirical support for a treatment program for families of young children with externalizing problems. *Journal of Clinical Child and Adolescent Psychology*, 33, 182–195.
- Ferguson, B. & Tyrer, R. (2000) History of the concept of personality disorder. In *Personality Disorders: Diagnosis, Management and Course* (ed P. Tyrer). Oxford: Butterworth-Heinemann.
- Fergusson, D. M., Horwood, J. L. & Lynskey, M. T. (1994) The childhoods of multiple problem adolescents: a 15 year longitudinal study. *Journal of Child Psychology and Psychiatry*, 32, 1123–1140.
- Fonagy, P., Target, M., Cottrell, D., *et al.* (2002) *What Works for Whom: A Critical Review of Treatments for Children and Adolescents*. New York: Guilford.

References

- Foster, E. M., Jones, D. E. & the Conduct Problems Prevention Research Group (2005) The high costs of aggression: public expenditures resulting from conduct disorder. *American Journal of Public Health*, *95*, 1767–1772.
- Foster, E. M., Jones, D., Bierman, K. L., *et al.* (2006) Can a costly intervention be cost-effective? An analysis of violence prevention. *Archives of General Psychiatry*, *63*, 1284–1291.
- Fournier, J. C., DeRubeis, R. J., Shelton, R. C., *et al.* (2008) Antidepressant medications v. cognitive therapy in people with depression with or without personality disorder. *The British Journal of Psychiatry*, *192*, 124–129.
- Fraser, M., Day, S., Galinsky, M., *et al.* (2004) Conduct problems and peer rejection in childhood: a randomized trial of the Making Choices and Strong Families programs. *Research on Social Work Practice*, *14*, 313–324.
- Friendship, C., Blud, L., Erikson, M., *et al.* (2002) *An Evaluation of Cognitive Behavioural Treatment for Prisoners. Home Office Research Report Findings 161*. London: Home Office.
- Fulford, K. W. M., Thornton, T. & Graham, G. (2006) *The Oxford Textbook of Philosophy and Psychiatry*. Oxford: Oxford University Press.
- Furukawa, T. A., Barbui, C., Cipriani, A., *et al.* (2006) Imputing missing standard deviations in meta-analyses can provide accurate results. *Journal of Clinical Epidemiology*, *59*, 7–10.
- Galen, L. W., Brower, K. J., Gillespie, B. W., *et al.* (2000) Sociopathy, gender, and treatment outcome among outpatient substance abusers. *Drug and Alcohol Dependence*, *61*, 23–33.
- Gardner, F., Burton, J. & Kilimes, I. (2006) Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry*, *47*, 1123–1132.
- Gelhorn, H. J., Sakai, J. T., Price, R. K., *et al.* (2007) DSM-IV conduct disorder criteria as predictors of antisocial personality disorder. *Comprehensive Psychiatry*, *48*, 529–538.
- General Medical Council (2006) *Good Medical Practice*. London: General Medical Council.
- Godfrey, C., Eaton, G., McDougall, C., *et al.* (2002) *The Economic and Social Costs of Class A Drug Use in England and Wales. Home Office Research Study 249*. London: Home Office.
- Goldberg, S. C., Schulz, S. C., Schulz, P. M., *et al.* (1986) Borderline and schizotypal personality disorders treated with low-dose thiothixene vs. placebo. *Archives of General Psychiatry*, *43*, 680–686.
- Goodwin, R. & Hamilton, S. P. (2003) Lifetime comorbidity of antisocial personality disorder and anxiety disorders among adults in the community. *Psychiatry Research*, *117*, 159–166.
- Gordon, D. A., Graves, K. & Arbuthnot, J. (1995) The effect of functional family therapy for delinquents on adult criminal behavior. *Criminal Justice and Behavior*, *22*, 60–73.

- Gordon, R. (1983) An operational classification of disease prevention. *Public Health Reports*, 98, 107–109.
- Gordon, R. A. (1977) A critique of the evaluation of Patuxent Institution, with particular attention to the issues of dangerousness and recidivism. *Bulletin of the American Academy of Psychiatry and the Law*, 5, 210–255.
- Gottschalk, L. A., Covi, L. & Uliana, R. (1973) Effects of diphenylhydantoin on anxiety and hostility in institutionalized prisoners. *Comprehensive Psychiatry*, 14, 503–511.
- GRADE Working Group (2004) Grading quality of evidence and strength of recommendations. *British Medical Journal*, 328, 1490–1497.
- Grann, M., Langstrom, N., Tengstrom, A., *et al.* (1999) Psychopathy (PCL-R) predicts violent recidivism among criminal offenders with personality disorders in Sweden. *Law and Human Behavior*, 23, 205–217.
- Grann, M., Belfrage, H. & Tengstrom, A. (2000) Actuarial assessment of risk for violence: predictive validity of the VRAG and the historical part of the HCR-20. *Criminal Justice and Behavior*, 27, 97–114.
- Greenwood, G. L., Woods, W. J., Gudyish, J., *et al.* (2001) Relapse outcomes in a randomised trial of residential and day drug abuse treatment. *Journal of Substance Abuse Treatment*, 20, 15–23.
- Greenwood, P. W. & Turner, S. (1993) Evaluation of the Paint Creek Youth Center: a residential program for serious delinquents. *Criminology*, 31, 263–279.
- Grilo, C. M., McGlashan, T. H., Oldham, J. M. (1998) Course and stability of personality disorders. *Journal of Practical Psychiatry and Behavioural Health*, 4, 61–75.
- Griffith, J. D., Hiller, M. L., Knight, K., *et al.* (1999) A cost-effectiveness analysis of in-prison therapeutic community treatment and risk classification. *The Prison Journal*, 79, 352–368.
- Guerra, N. G. & Slaby, R. G. (1990) Cognitive mediators of aggression in adolescent offenders: 2. intervention. *Developmental Psychology*, 26, 269–277.
- Gunderson, J. G., Frank, A. F., Ronningstam, E. F., *et al.*, (1989) Early discontinuance of borderline patients from psychotherapy. *Journal of Nervous and Mental Disease*, 177, 38–42.
- Guze, S. (1976) *Criminality and Psychiatric Disorders*. New York: Oxford University Press.
- Haddock, A., Snowden, P., Dolan, M., *et al.* (2001) Managing dangerous people with severe personality disorder: a survey of forensic psychiatrists' opinions. *Psychiatric Bulletin*, 25, 293–296.
- Haigh, R. (2002) Services for people with personality disorder: the thoughts of service users. Available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4009546 [accessed 10 April 2008]
- Hanson, R. & Thornton, D. (1999) *Static 99: Improving Actuarial Risk Assessments for Sex Offenders*. Canada: Public Works and Government Services Canada.
- Hare, R. D. (1980) A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences*, 1, 111–117.

References

- Hare, R. D. (1991) *The Hare Psychopathy Checklist-Revised (PCL-R)*. Toronto: Multi-Health Systems.
- Hare, R. D., Hart, S. D. & Harpur, T. J. (1991) Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology*, *100*, 391–398.
- Hare, R. D., Clark, D., Grann, M., *et al.* (2000) Psychopathy and the predictive validity of the PCL-R: an international perspective. *Behavioral Sciences and the Law*, *18*, 623–645.
- Harris, G. T., Rice, M. E. & Cormier, C. A. (1991) Psychopathy and violent recidivism. *Law and Human Behavior*, *15*, 625–637.
- Harris, G. T., Rice, M. E., Quinsey, V. L. (2003) A multisite comparison of actuarial risk instruments for sex offenders. *Psychological Assessment*, *15*, 413–425.
- Harrison, T. (2002) *Advancing on a Different Front*. London: Jessica Kingsley.
- Hart, S. D. (1998a) Psychopathy and risk for violence. In *Psychopathy: Theory, Research and Implications for Society* (eds. D. E. Cooke, A. Forth & R. D. Hare), pp. 355–373. Dordrecht, Netherlands: Kluwer.
- Hart, S. D. (1998b) The role of psychopathy in assessing risk for violence: conceptual and methodological issues. *Legal and Criminological Psychiatry*, *3*, 121–137.
- Hart, S. D. & Hare, R. D. (1989) Discriminant validity of the Psychopathy Checklist in a forensic psychiatric population. *Psychological Assessment*, *1*, 211–218.
- Hart, S. D., Cox, D. N. & Hare, R. D. (1999) *The Hare Psychopathy Checklist Screening Version (PCL:SV)*. Toronto, Canada: Multi-Health Systems.
- Hart, S. D., Michie, C. & Cooke, D. J. (2007) Precision of actuarial risk assessment instruments: evaluating the ‘margins of error’ of group v individual predictions of violence. *British Journal of Psychiatry*, *190*, 60–65.
- Hawkins, J. D., Von Cleve, E. & Catalano, R. F. (1991) Reducing early childhood aggression: results of a primary prevention programme. *Journal of the American Academy of Child and Adolescent Psychiatry*, *30*, 208–217.
- Hawkins, J. D., Catalano, R. F., Morrison, D. M., *et al.* (1992) The Seattle Social Development Project: effects of the first four years on protective factors and problem behaviours. In *Preventing Antisocial Behaviour: Interventions from Birth through Adolescence* (eds. J. McCord & R. E. Tremblay), pp. 139–161. New York: Guilford Press.
- Hawkins, J. D., Catalano, R. F. & Brewer, D. D. (1995) Preventing serious, violent, and chronic juvenile offending: effective strategies from conception to age 6. In *Source Book on Serious Violent, and Chronic Juvenile Offenders* (eds. J. C. Howell, B. Krisberg, J. D. Hawkins *et al.*), pp. 47–60. Thousand Oaks, CA: Sage.
- Hawkins, J. D., Catalano, R. F., Kosterman, R., *et al.* (1999) Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics and Adolescent Medicine*, *153*, 226–234.
- Hawkins, J. D., Kosterman, R., Catalano, R. F., *et al.* (2005) Promoting positive adult functioning through social development intervention in childhood: long-term effects from the Seattle Social Development Project. *Archives of Pediatrics and Adolescent Medicine*, *159*, 25–31.

- Helgeland, M. I., Kjelsberg, E. & Torgersen, S. (2005) Continuities between emotional and disruptive behavior disorders in adolescence and personality disorders in adulthood. *American Journal of Psychiatry*, *10*, 1941–1947.
- Henderson, D. K. (1939) *Psychopathic States*. New York: Norson.
- Henggeler, S. W., Melton, G. B. & Smith, L. A. (1992) Family preservation using multisystemic therapy: an effective alternative to incarcerating serious juvenile offenders. *Journal of Consulting and Clinical Psychology*, *60*, 953–961.
- Henggeler, S. W., Melton, G. B., Brondino, M. J., *et al.* (1997) Multisystemic therapy with violent and chronic juvenile offenders and their families: the role of treatment fidelity in successful dissemination. *Journal of Consulting and Clinical Psychology*, *65*, 821–833.
- Henggeler, S. W., Pickrel, S. G. & Brondino, M. J. (1999) Multisystemic treatment of substance-abusing and -dependent delinquents: outcomes, treatment fidelity, and transportability. *Mental Health Services Research*, *1*, 171–184.
- Henggeler, S. W., Halliday-Boykins, C. A., Cunningham, P. B., *et al.* (2006) Juvenile drug court: enhancing outcomes by integrating evidence-based treatments. *Journal of Consulting and Clinical Psychology*, *74*, 42–54.
- Henggeler, S. W., Schoenwald, S. K., Swenson, C. C., *et al.* (2006a) Methodological critique and meta-analysis as Trojan horse. *Children and Youth Services Review*, *28*, 447–457.
- Herrenkohl, T. I., Maguin, E., Hill, K. G., *et al.* (2000) Developmental risk factors for youth violence. *Journal of Adolescent Health*, *26*, 176–186.
- Hesselbrock, M. (1991) Gender comparison of antisocial personality disorder and depression in alcoholism. *Journal of Substance Abuse*, *3*, 205–219.
- Higgins, J. P. T. & Thompson, S. G. (2002) Quantifying heterogeneity in a meta-analysis. *Statistics in Medicine*, *21*, 1539–1558.
- Hill, J. (2003) Early identification of individuals at risk for antisocial personality disorder. *British Journal of Psychiatry*, *182*, S11–S14.
- HM Inspectorate of Prisons (2007) *The Mental Health of Prisoners: a Thematic Review of the Care and Support of Prisoners with Mental Health Needs*. London: HM Inspectorate of Prisons.
- HMSO (1959) *Mental Health Act 1959*. London: The Stationery Office. Available at: http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1959/cukpga_19590072_en_1 [Accessed October 2008]
- HMSO (2003) *Criminal Justice Act 2003*. London: The Stationery Office. Available at: http://www.opsi.gov.uk/acts/acts2003/ukpga_20030044_en_1 [Accessed October 2008]
- HMSO (2005) *The Mental Capacity Act 2005*. London: The Stationery Office. Available at: http://www.opsi.gov.uk/acts/acts2005/ukpga_20050009_en_1 [Accessed October 2008]
- HMSO (2007) *The Mental Health Act 2007*. London: The Stationery Office. Available at: http://www.opsi.gov.uk/acts/acts2007/ukpga_20070012_en_1 [Accessed October 2008]
- Hollander, E., Stein, D. J., DeCaria, C. M., *et al.* (1994) Serotonergic sensitivity in borderline personality disorder: preliminary findings. *American Journal of Psychiatry*, *151*, 277–280.

References

- Hollander, E., Tracy, K. A., Swann, A. C., *et al.* (2003) Divalproex in the treatment of impulsive aggression: efficacy in cluster B personality disorders. *Neuropsychopharmacology*, 28, 1186–1197.
- Hollin, C. R. (1999) Treatment programs for offenders. Meta-analysis, ‘what works,’ and beyond. *International Journal of Law and Psychiatry*, 22, 361–372.
- Home Office (1997) Managing dangerous people with personality disorder: proposals for policy development. Available at: <http://www.homeoffice.gov.uk/documents/cons-1999-personality-disorder?view=Binary> [Accessed July 2008]
- Home Office (2005a) *Dangerous and Severe Personality Disorder (DSPD) High Secure Services For Men: Planning and Delivery Guide*. Available at: http://www.dspdprogramme.gov.uk/media/pdfs/High_Secure_Services_for_Men.pdf [Accessed April 2008]
- Home Office (2005b) *Forensic Personality Disorder Medium Secure and Community Pilot Services: Planning and Delivery Guide*. Available at: <http://www.personalitydisorder.org.uk/assets/Resources/121.pdf> [Accessed April 2008]
- Home Office (2005c) *Strengthening Multi-Agency Public Protection Arrangements (MAPPAs)*. London: HMSO.
- Home Office & Department of Health (2002) *Managing Dangerous People with Severe Personality Disorder: Proposals for Policy Development*. London: HMSO.
- Howard, R. C., Huband, N., Duggan, C., *et al.* (2008) Exploring the link between personality disorder and criminality in a community sample. *Journal of Personality Disorders*, 22, 589–603.
- Huband, N. & Duggan, C. (2007) Working with adults with personality disorder in the community: a multi-agency interview study. *Psychiatric Bulletin*, 31, 133–137.
- Huband, N., McMurrin, M., Evans, C., *et al.* (2007) Social problem solving plus psychoeducation for adults with personality disorder: pragmatic randomised controlled trial. *The British Journal of Psychiatry*, 190, 307–313.
- Hutchings, J., Gardner, F., Bywater, T., *et al.* (2007) Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised controlled trial. *British Medical Journal*, 334, 678–682.
- IMPALOX Group (2007) Evaluation of the assessment procedure at two pilot Sites in the DSPD Programme (IMPALOX Study). Available at: http://www.dspdprogramme.gov.uk/media/pdfs/2007_06_02-IMPALOX%20Study.pdf [Accessed April 2008]
- Intrator, J., Hare, R., Stritzki, P., *et al.* (1997) A brain imaging (single photon emission computerized tomography) study of semantic and affective processing in psychopaths. *Biological Psychiatry*, 42, 96–103.
- Ireland, J. L., Sanders, M. R. & Markie-Dadds, C. (2003) The impact of parent training on marital functioning: a comparison of two group versions of the Triple P - Positive Parenting Program for parents of children with early-onset conduct problems. *Behavioural and Cognitive Psychotherapy*, 31, 127–142.
- Irvine, A. B., Biglan, A., Smolkowski, K., *et al.* (1999) The effectiveness of a parenting skills program for parents of middle school students in small communities. *Journal of Consulting and Clinical Psychology*, 67, 811–825.
- Ison, M. S. (2001) Training in social skills: an alternative technique for handling disruptive child behavior. *Psychological Reports*, 88, 903–911.

- Jadad, A. R., Moore, R. A., Carroll, D., *et al.* (1996) Assessing the quality of reports of randomised clinical trials: is blinding necessary? *Controlled Clinical Trials*, *17*, 1–12.
- Johnson, G. & Hunter, R. M. (1995) Evaluation of the specialized drug offender program. In *Thinking Straight: The Reasoning and Rehabilitation Program for Delinquency Prevention and Offender Rehabilitation* (eds. R. R. Ross & R. D. Ross), pp. 214–234. Ontario, Canada: Air Training and Publications.
- Jouriles, E. N., McDonald, R., Spiller, L., *et al.* (2001) Reducing conduct problems among children of battered women. *Journal of Consulting and Clinical Psychology*, *69*, 774–785.
- Kacir, C. D. & Gordon, D. A. (1999) Parenting adolescents wisely: the effectiveness of an interactive videodisk parent training program in Appalachia. *Child and Family Behaviour Therapy*, *21*, 1–22.
- Karoly, L. A., Kilburn, M. R. & Cannon, J. S. (2005) *Early Childhood Interventions: Proven Results, Future Promise*. Santa Monica, CA: RAND Corporation.
- Kazdin, A. E. (1995) Child, parent and family dysfunction as predictors of outcome in cognitive-behavioral treatment of antisocial children. *Behaviour Research and Therapy*, *33*, 271–281.
- Kazdin, A. E. (2010) Psychosocial treatments for conduct disorder in children and adolescents. In *A Guide to Treatments that Work*, 3rd edition. (eds. P. E. Nathan & J. M. Gorman). New York: Oxford University Press, in press.
- Kazdin, A. E., Esveldt-Dawson, K., French, N. H., *et al.* (1987) Effects of parent management training and problem-solving skills training combined in the treatment of antisocial child behavior. *American Academy of Child and Adolescent Psychiatry*, *26*, 416–424.
- Kazdin, A., Bass, D., Siegel, T., *et al.* (1989) Cognitive-behavioral therapy and relationship therapy in the treatment of children referred for antisocial behavior. *Journal of Consulting and Clinical Psychology*, *57*, 522–535.
- Kazdin, A. E., Siegel, T. C. & Bass, D. (1992) Cognitive problem-solving skills training and parent management training in the treatment of antisocial behavior in children. *Journal of Consulting and Clinical Psychology*, *60*, 733–747.
- Kavouissi, R. J., Lui, J. & Coccaro, E. F. (1994) An open trial of sertraline in personality disordered patients with impulsive aggression. *Journal of Clinical Psychiatry*, *55*, 137–141.
- Keenan, S. & Paget, S. (2006) *Service Standards for Therapeutic Communities: 5th Edition*. London: Royal College of Psychiatrists.
- Keller, M. B., McCullough, J. P., Klein, D. N., *et al.* (2000) A comparison of nefazodone, the cognitive behavioral-analysis system of psychotherapy, and their combination for the treatment of chronic depression. *New England Journal of Medicine*, *342*, 1462–1470.
- Kendall, P. C., Reber, M., McLeer, S., *et al.* (1990) Cognitive-behavioral treatment of conduct-disordered children. *Cognitive Therapy and Research*, *14*, 279–297.
- Kernberg, O. (1984) *Severe Personality Disorders—Psychotherapeutic Strategies*. New Haven, CT: Yale University Press.
- Kernberg, O. (1992) *Aggression in Personality Disorders and Perversions*. New Haven, CT: Yale University Press.

References

- Kinlock, T. W., O'Grady, K. E. & Hanlon, T. E. (2003) The effects of drug treatment on institution behavior. *The Prison Journal*, 83, 257–276.
- Kitzman, H., Olds, D., Henderson, C. R., Jr., *et al.* (1997) Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing: a randomized controlled trial. *Journal of the American Medical Association*, 278, 644–652.
- Kitzman, H., Olds, D. L., Sidora, K., *et al.* (2000) Enduring effects of nurse home visitation on maternal life course: a 3-year follow-up of a randomized trial. *Journal of the American Medical Association*, 283, 1983–1989.
- Klein, K., Forehand, R., Armistead, L., *et al.* (1997) Delinquency during the transition to early adulthood: family and parenting predictors from early adolescence. *Adolescence*, 32, 61–79.
- Knapp, M., McCrone, P., Fombonne, E., *et al.* (2002) The Maudsley long-term follow-up of child and adolescent depression: 3. Impact of comorbid conduct disorder on service use and costs in adulthood. *British Journal of Psychiatry*, 180, 19–23.
- Koch, J. L. A. (1891) *Die Psychopathischen Minderwertigkeiten*. Dorn: Ravensburg.
- Koskinen, O., Sauvola, A., Valonen, P., *et al.* (2001) Increased risk of violent recidivism among adult males is related to single-parent family during childhood: the Northern Finland 1966 birth cohort study. *Journal of Forensic Psychiatry*, 12, 539–548.
- Kraepelin, E. (1905) *Lectures on Clinical Psychiatry*. 2nd edition. Translated by T. Johnstone. London: Balliere Tindall.
- Kratzer, L. & Hodgins, S. (1997) Adult outcomes of child conduct problems: a cohort study. *Journal of Abnormal Child Psychology*, 25, 65–81.
- Kroner, D. G. & Loza, W. (2001) Evidence for the efficacy of self-report in predicting non-violent and violent criminal recidivism. *Journal of Interpersonal Violence*, 16, 168–177.
- Kroner, D. G., Mills, J. F. & Reddon, J. R. (2005) A coffee can, factor analysis, and prediction of antisocial behavior: the structure of criminal risk. *International Journal of Law and Psychiatry*, 28, 360–374.
- Kunz, M., Yates, K. F., Czobor, P., *et al.* (2004) Course of patients with histories of aggression and crime after discharge from a cognitive-behavioral program. *Psychiatric Services*, 55, 654–659.
- Kurtz, A. (2005) The needs of staff who care for people with a diagnosis of personality disorder who are considered a risk to others. *The Journal of Forensic Psychiatry and Psychology*, 16, 399–422.
- Kurtz, A. & Turner, K. (2007) An exploratory study of the needs of staff who care for offenders with a diagnosis of personality disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 80, 421–435.
- Lally, J. R., Mangione, P. & Honig, A. S. (1988) The Syracuse University family development research program: long-range impact of an early intervention with low-income children and their families. In *Parent Education as Early Childhood*

- Intervention: Emerging Directions in Theory, Research and Practice* (ed D. Powell), pp. 79–104. Norwood, NJ: Ablex.
- Lamb, R. H. & Goentzel, V. (1974) Elsworth House: a community alternative to jail. *American Journal of Psychiatry*, *131*, 64–68.
- Marshall, P. (1997) *A Reconviction Study of HMP Grendon Therapeutic Community. Home Office Research Findings Number 53*. London: Home Office.
- Landenberger, N. A. & Lipsey, M. W. (2005) The positive effects of cognitive-behavioral programs for offenders: a meta-analysis of factors associated with effective treatment. *Journal of Experimental Criminology*, *1*, 451–476.
- Leal, J., Ziedonis, D. & Kosten, T. (1994) Antisocial personality disorder as a prognostic factor for pharmacotherapy of cocaine dependence. *Drug and Alcohol Dependence*, *35*, 31–53.
- Lee, J. H. (1999) *The Treatment of Psychopathic and Antisocial Personality Disorders: a Review*. London: Risk Assessment Management and Audit Systems.
- Leeman, L. W. (1993) Evaluation of a multi-component group treatment program for juvenile delinquents. *Aggressive Behavior*, *19*, 281–292.
- Lees, J., Manning, N., Menzies, D., *et al.* (2003) *A Culture of Enquiry: Research Evidence and the Therapeutic Community*. London: Jessica Kingsley.
- Lenzenweger, M. F., Lane, M. C., Loranger, A. W., *et al.* (2007) DSM-IV personality disorders in the National Comorbidity Survey Replication. *Biological Psychiatry*, *15*, 553–564.
- Leschied, A. W. & Cunningham, A. (2002) *Seeking Effective Interventions for Young Offenders: Interim Results of a Four-Year Randomized Study of Multisystemic Therapy in Ontario, Canada*. London, Ontario: Centre for Children and Families in the Justice System.
- Lewis, A. (1974) Psychopathic personality: a most elusive category. *Psychological Medicine*, *4*, 133–140.
- Liau, A. K., Shively, R., Horn, M., *et al.* (2004) Effects of psychoeducation for offenders in a community correctional facility. *Journal of Community Psychology*, *32*, 543–558.
- Liddel, J., Williamson, M. & Irwig, L. (1996) *Method for Evaluating Research and Guideline Evidence*. Sydney: New South Wales Health Department.
- Lilienfeld, S. O. (1998) Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy*, *36*, 99–125.
- Linehan, M. M. & Dimeff, L. A. (1997) *Dialectical Behavior Therapy for Substance Abuse Treatment Manual*. University of Washington, Seattle, WA, unpublished manuscript.
- Links, P. (1990) Lithium therapy for borderline patients. *Journal of Personality Disorders*, *4*, 173–181.
- Links, P. S., Strike, C., Ball, J. S., *et al.* (2007) The experience of suicidal, substance-abusing men with severe personality disorders in the emergency department. *Personality and Mental Health*, *1*, 51–61.
- Lipman, E., Boyle, M. H., Cunningham, C. *et al.* (2006) Testing effectiveness of a community-based aggression management program for children 7 to 11 years old and their families. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*, 1085–1093.

References

- Lipsey, M. W., Chapman, G. L. & Landenberger, N. A. (2001) Cognitive-behavioral programs for offenders. *Annals of the American Academy of Political and Social Science*, 578, 144–157.
- Lipsey, M. W., Landenberger, N. A. & Wilson, S. J. (2007) *Effects of Cognitive-Behavioral Programs for Criminal Offenders*. Campbell Collaboration Systematic Review. Available at: http://www.campbellcollaboration.org/doc-pdf/lipsey_CBT_finalreview.pdf [accessed June 2008]
- Lipton, D. S., Pearson, F. S., Cleland, C. M., *et al.* (2002) The effectiveness of cognitive-behavioural treatment methods on offender recidivism: meta-analytic outcomes from the CDATE project. In *Offender Rehabilitation and Treatment: Effective Programmes and Policies to Reduce Re-Offending* (ed J. McGuire), pp. 79–112. Chichester: John Wiley & Sons.
- Livesley, J. W. (2007) A framework for integrating dimensional and categorical classifications of personality disorder. *Journal of Personality Disorders*, 21, 199–224.
- Livesley, J. W., Reiffer, L. I., Sheldon, A. E. R., *et al.* (1987) Prototypicality ratings of DSM-III criteria for personality disorders. *Journal of Nervous and Mental Disease*, 175, 395–401.
- Lochman, J. E. & Wells, K. C. (2002) The coping power program at the middle-school transition: universal and indicated prevention effects. *Psychology of Addictive Behaviors*, 16, S40–S54.
- Lochman, J. E. & Wells, K. C. (2004) The coping power program for preadolescent aggressive boys and their parents: outcome effects at the 1-year follow-up. *Journal of Consulting and Clinical Psychology*, 72, 571–578.
- Lochman, J. E., Burch, P. R., Curry, J. F., *et al.* (1984) Treatment and generalization effects of cognitive-behavioral and goal-setting interventions with aggressive boys. *Journal of Consulting and Clinical Psychology*, 52, 915–916.
- Loeber, R., Stouthamer-Loeber, M., van Kamen, W., *et al.* (1991) Initiation, escalation, and desistance in juvenile offending and its correlates. *Journal of Criminal Law and Criminology*, 82, 36–82.
- Loeber, R., Stouthamer-Loeber, M. & Green, S. M. (1995) Age at onset of problem behaviour in boys, and later disruptive and delinquent behaviours. *Criminal Behaviour and Mental Health*, 1, 289–246.
- Loeber, R., Burke, J. D. & Lahey, B. B. (2002) What are the adolescent antecedents to antisocial personality disorder? *Criminal Behaviour and Mental Health*, 12, 24–36.
- Lonczak, H. S., Abbott, R. D., Hawkins, J. D., *et al.* (2002) Effects of the Seattle social development project on sexual behavior, pregnancy, birth, and sexually transmitted disease outcomes by age 21 years. *Archives of Pediatrics and Adolescent Medicine*, 156, 438–447.
- Loomes, G. (2007) Valuing reductions in the risks of being a victim of crime: the ‘willingness to pay’ approach to valuing the ‘intangible’ consequences of crime. *International Review of Victimology*, 14, 237–252.
- Lorber, M. F. (2004). Psychophysiology of aggression, psychopathy, and conduct problems: a meta-analysis. *Psychological Bulletin*, 130, 531–552.

- Loza, W. & Green, K. (2003) The self-appraisal questionnaire: a self-report measure for predicting recidivism versus clinician-administered measures: a 5-year follow-up study. *Journal of Interpersonal Violence*, *18*, 781–797.
- Luntz, B. K. & Widom, C. S. (1994) Antisocial personality disorder in abused and neglected children grown up. *American Journal of Psychiatry*, *151*, 670–674.
- Maden, T. (2007) *Treating Violence: a Guide to Risk Management in Mental Health*. Oxford: Oxford University Press.
- Magen, R. H. & Rose, S. D. (1994) Parents in groups: problem solving versus behavioral skills training. *Research on Social Work Practice*, *4*, 172–191.
- Malatesti, L. (2006) *Psychopathy in Psychiatry and Philosophy: an Annotated Bibliography*. Available at: <http://www.hull.ac.uk/php/pislm> [Accessed June 2008]
- Maltman, L., Stacey, J. & Hamilton, L. (2008) Peaks and troughs: an exploration of patient perspectives of dangerous and severe personality disorder assessment (Peaks Unit, Rampton Hospital). *Personality and Mental Health*, *2*, 7–16.
- Mann, T. (1996) *Clinical Guidelines: Using Clinical Guidelines to Improve Patient Care Within the NHS*. London: Department of Health NHS Executive.
- Mannuzza, S., Klein, R. G., Bessler, A., *et al.* (1998) Adult psychiatric status of hyperactive boys grown up. *American Journal of Psychiatry*, *155*, 493–498.
- Markie-Dadds, C. & Sanders, M. R. (2006) Self-directed Triple P (Positive Parenting Program) for mothers with children at-risk of developing conduct problems. *Behavioural and Cognitive Psychotherapy*, *34*, 259–275.
- Markovitz, P. J. (2001) Pharmacotherapy. In *Handbook of Personality Disorders: Theory, Research and Treatment* (ed. W. J. Livesley). New York: Guilford Press.
- Markovitz, P. J. & Wagner, S. L. (1995) Venlafaxine in the treatment of borderline personality disorder. *Psychopharmacology Bulletin*, *31*, 773–777.
- Markovitz, P. J., Calabrese, J. R., Schulz, S. C., *et al.* (1991) Fluoxetine in the treatment of borderline and schizotypal personality disorders. *American Journal of Psychiatry*, *148*, 1064–1067.
- Martin, A. J. & Sanders, M. R. (2003) Balancing work and family: a controlled evaluation of the Triple P - Positive Parenting Program as a work-site intervention. *Child and Adolescent Mental Health*, *4*, 161–169.
- Martin, R. L., Cloninger, C. R., Guze, S. B. (1982) The natural history of somatization and substance abuse in women criminals: a six year follow-up study. *Comprehensive Psychiatry*, *23*, 528–537.
- Martin, R. L., Cloninger, R., Guze, S. B., *et al.* (1985) Mortality in a follow-up of 500 psychiatric outpatients. *Archives of General Psychiatry*, *42*, 47–54, 58–66.
- Masse, L. N. & Barnett, W. S. (2002) *A Benefit Cost Analysis of the Abecedarian Early Childhood Intervention*. New Brunswick: National Institute for Early Education Research.
- Massion, A. O., Dyck, I. R., Shea, M. T., *et al.* (2002) Personality disorders and time to remission in generalized anxiety disorder, social phobia, and panic disorder. *Archives of General Psychiatry*, *59*, 434–440.
- Mather, D. B. (1987) The role of antisocial personality disorder in alcohol rehabilitation treatment effectiveness. *Military Medicine*, *152*, 516–518.

References

- Mattes, J. A. (2005) Oxcarbazepine in patients with impulsive aggression: a double-blind, placebo-controlled trial. *Journal of Clinical Psychopharmacology*, *25*, 575–579.
- Mattes, J. A. (2008) Levetiracetam in patients with impulsive aggression: a double-blind, placebo-controlled trial. *Journal of Clinical Psychiatry*, *69*, 311–315.
- Maudsley, H. (1874) *Responsibility in Mental Disease*. London: King.
- McCabe, K. M., Lucchini, S. E., Hough, R.L., *et al.* (2005) The relation between violence exposure and conduct problems among adolescents: a prospective study. *American Journal of Orthopsychiatry*, *75*, 575–584.
- McCormick, M. C., Brooks-Gunn, J., Buka, S. L., *et al.* (2006) Early intervention in low birth weight premature infants: results at 18 years of age for the Infant Health and Development Program. *Pediatrics*, *117*, 771–780.
- McCord, W. & McCord, J. (1956) *Psychopathy and Delinquency*. New York: Grune & Stratton.
- McCollister, K. E. (2003) Is in-prison treatment enough? A cost-effectiveness analysis of prison-based treatment and aftercare services for substance-abusing offenders. *Law and Policy*, *25*, 63–82.
- McCollister, K. E. (2003a) Post-release substance abuse treatment for criminal offenders: a cost-effectiveness analysis. *Journal of Quantitative Criminology*, *19*, 389–407.
- McCollister, K. E. (2004) Long-term cost effectiveness of addiction treatment for criminal offenders. *Justice Quarterly*, *21*, 659–679.
- McKay, J. R., Alterman, A. I., Cacciola, J. S., *et al.* (2000) Prognostic significance of antisocial personality disorder in cocaine-dependent patients entering continuing care. *Journal of Nervous and Mental Disease*, *188*, 287–296.
- McGauhey, P. J., Starfield, B., Alexander, C., *et al.* (1991) Social environment and vulnerability of low birth weight children: a social-epidemiological perspective. *Pediatrics*, *88*, 943–953.
- McMurran, M. & Theodosi, E. (2007) Is treatment non-completion associated with increased reconviction over no treatment? *Psychology Crime and Law*, *13*, 333–343.
- McMurran, M. & Wilmington, R. (2007) A Delphi survey of the views of adult male patients with personality disorders on psychoeducation and social problem-solving therapy. *Criminal Behaviour and Mental Health*, *17*, 293–299.
- McPherson, S. J., McDonald, L. E. & Ryer, C. W. (1983) Intensive counselling with families of juvenile offenders. *Juvenile and Family Court Journal*, *28*, 27–33.
- Melhuish, E., Belsky, J., Anning, A., *et al.* (2007) Variation in community intervention programmes and consequences for children and families: the example of Sure Start Local Programmes. *The Journal of Child Psychology and Psychiatry*, *48*, 543–551.
- Melhuish, E., Belsky, J., Leyland, H., *et al.* (2008) Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi-experimental observational study. *Lancet*, *372*, 1610–1612.
- Messina, N., Farabee, D. & Rawson, R. (2003) Treatment responsiveness of cocaine-dependent patients with antisocial personality disorder to cognitive-behavioral

- and contingency management interventions. *Journal of Consulting and Clinical Psychology*, 71, 320–329.
- Mercer, D., Richman, J. & Mason, T. (2000) Out of the mouths of forensic nurses: a ‘pathology of the monstrous’ revisited. *Mental Health Care*, 3, 197–200.
- Michelson, L., Mannarino, A. P., Marchione, K. E., *et al.* (1983) A comparative outcome study of behavioral social skills training, interpersonal problem-solving skills and non-directive control treatments with child psychiatric outpatients. *Behaviour Research and Therapy*, 21, 545–556.
- Millon, T. & Davis, R. (1996) *Disorders of Personality, DSM-IV and Beyond*. New York: Wiley Interscience.
- Ministry of Justice (2007) *DSPD: Dangerous People with Severe Personality Disorder. Community Provision. Resettle*. Available at: http://www.dspdprogramme.gov.uk/pages/what_we-re_doing/what_we_do4.php [Accessed April 2008]
- Ministry of Justice (2008a) *Reoffending of Adults: Results from the 2006 Cohort. England and Wales*. London: Statistics Ministry of Justice, Statistics bulletin.
- Ministry of Justice (2008b) *Reoffending of Juveniles: Results from the 2006 Cohort. England and Wales*. London: Statistics Ministry of Justice, Statistics bulletin.
- Monahan, J. (1981) *The Clinical Prediction of Violent Behavior*. Washington, D.C.: United States Department of Health and Human Service.
- Monahan, J., Steadman, H. J., Silver, E., *et al.* (2001) *Rethinking Risk Assessment. The MacArthur Study of Mental Disorder and Violence*. Oxford: Oxford University Press.
- Moffitt, T. E., Caspi, A., Harrington, H., *et al.* (2002) Males on the life-course-persistent and adolescence-limited antisocial pathways follow-up at 26 years. *Development and Psychopathology*, 14, 179–207.
- Moore, C. & Freestone, M. (2006) Traumas of forming: the introduction of community meetings in the Dangerous and Severe Personality Disorder (DSPD) environment. *Therapeutic Communities: The International Journal for Therapeutic and Supportive Organizations*, 27, 193–210.
- Moran, P. & Hagell, A. (2001) *Intervening to Prevent Antisocial Personality Disorder: a Scoping Review. Home Office Research Study 225*. London: Home Office. Available at: <http://www.homeoffice.gov.uk/rds/pdfs/hors225.pdf>
- Moran, P., Jenkins, R., Tylee, A., *et al.* (2000) The prevalence of personality disorder among UK primary care attenders. *Acta Psychiatrica Scandinavica*, 102, 52–57.
- Morris, A., Gibbon, S. & Duggan, C. (2007) Complex case: ‘Sentenced to hospital’ — A cause for concern? *Personality and Mental Health*, 1, 74–79.
- Morrissey, C., Hogue, T., Mooney, P., *et al.* (2007) Predictive validity of the PCL-R in offenders with intellectual disability in a high secure hospital setting: institutional aggression. *The Journal of Forensic Psychiatry and Psychology*, 18, 1–15.
- Mossman, D. (1994) Assessing predictions of violence: being accurate about accuracy. *Journal of Consulting and Clinical Psychology*, 62, 783–792.
- Mrazek, P. & Haggerty, R. J. (1994) *Reducing Risks for Mental Disorders. Frontiers for Preventive Intervention Research*. Washington, DC: National Academy Press.
- Mulder, R. T. & Joyce, P. R. (1997) Temperament and the structure of personality disorder symptoms. *Psychological Medicine*, 27, 99–106.

References

- Mulder, R. T., Joyce P. R. & Luty, S. E. (2003) The relationship of personality disorders to treatment outcomes in depressed outpatients. *Journal of Clinical Psychiatry*, *64*, 259–264.
- Murphy, J. (1972) Moral death: a Kantian essay on psychopathy. *Ethics*, *82*, 284.
- Myers, M. G., Stewart, D. G., Brown, S. A. (1998) Progression from conduct disorder to antisocial personality disorder following treatment for adolescent substance abuse. *American Journal of Psychiatry*, *155*, 479–485.
- Myers, W. C., Burton, P. R., Sanders, P. D., *et al.* (2000) Project back-on-track at 1 year: a delinquency treatment program for early-career juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*, 1127–1134.
- Nathan, R. (1999) Scientific attitude to ‘difficult’ patients. *British Journal of Psychiatry*, *174*, 187–190.
- National Institute of Mental Health in England (2003) *The Personality Disorder Capabilities Framework*. Available from: http://www.spn.org.uk/fileadmin/SPN_uploads/Documents/Papers/personalitydisorders.pdf [Accessed April 2008]
- National Offender Management Service (2008) *Agency Framework Document*. Available at: <http://www.justice.gov.uk/publications/docs/noms-agency-framework.pdf> [accessed July 2008]
- National Research Council (1999) *Pathological Gambling: a Critical Review*. Washington, DC: Washington Academy Press.
- NCCMH (2005a) *Depression: Management of Depression in Primary and Secondary Care*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2005b) *Post-traumatic Stress Disorder (PTSD): The Management of PTSD in Adults and Children in Primary and Secondary Care*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2006) *Obsessive-compulsive Disorder: Core Interventions in the Treatment of Obsessive-compulsive Disorder and Body Dysmorphic Disorder*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2007a) *Drug Misuse: Psychosocial Interventions*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2007b) *Drug Misuse: Opioid Detoxification*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2009a) *Attention Deficit Hyperactivity Disorder: Diagnosis and Management of ADHD in Children, Young People and Adults*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- NCCMH (2009b) *Borderline Personality Disorder: Treatment and Management*. Leicester & London: The British Psychological Society and the Royal College of Psychiatrists.
- Nemeroff, C. B., Heim C. M., Thase, M. E., *et al.* (2003) Differential responses to psychotherapy versus pharmacotherapy in patients with chronic forms of major depression and childhood trauma. *Proceeds of the National Academy of Science United States of America*, *100*, 14293–14296.

- Neumann, C. S., Hare, R. D. & Newman, J. P. (2007) The super-ordinate nature of the Psychopathy Checklist-Revised. *Journal of Personality Disorders*, 21, 102–117.
- Newton-Howes, G., Tyrer, P., Johnston, T. (2006) Personality disorder and the outcome of depression: meta-analysis of published studies. *British Journal of Psychiatry*, 188, 13–20.
- NHS (2006) *NHS Employers and Pay Circular (AforC) 1/2006. Pay and Conditions for NHS Staff Covered by the Agenda for Change Agreement*. London: NHS.
- NICE (2006a) *The Guidelines Manual*. London: NICE. Available from: www.nice.org.uk
- NICE (2006b) *Parent-training/Education Programmes in the Management of Children with Conduct Disorders*. Technology Appraisal 102. London: NICE [replaced by 'Antisocial Behaviour and Conduct Disorders in Children and Young People', NICE clinical guideline 158].
- NICE (2007) *Drug Misuse: Psychosocial Interventions*. NICE Clinical Guideline 51. London: NICE.
- NICE (2008) *Attention Deficit Hyperactivity Disorder: Diagnosis and Management of ADHD in Children, Young People and Adults*. NICE Clinical Guideline 72. London: NICE.
- NICE (2009) *Borderline Personality Disorder: Treatment and Management*. NICE Clinical Guideline 78. London: NICE.
- NICHD Early Child Care Research Network (2003) Does amount of time spent in child care predict socioemotional adjustment during the transition to kindergarten? *Child Development*, 74, 976–1005.
- Nicholson, J. M. & Sanders, M. R. (1999) Randomized controlled trial of behavioural family intervention for the treatment of child behaviour problems in stepfamilies. *Journal of Divorce and Remarriage*, 30, 1–23.
- Nickel, M. K., Krawczyk, J., Nickel, C., *et al.* (2005) Anger, interpersonal relationships, and health-related quality of life in bullying boys who are treated with outpatient family therapy: a randomized, prospective, controlled trial with 1 year of follow-up. *Pediatrics*, 116, 247–254.
- Nickel, M. K., Nickel, C., Kaplan, P., *et al.* (2005b) Treatment of aggression with topiramate in male borderline patients: a double-blind, placebo-controlled study. *Biological Psychiatry*, 57, 495–499.
- Nickel, M. K., Muehlbacher, M., Kaplan, P., *et al.* (2006) Influence of family therapy on bullying behaviour, cortisol secretion, anger, and quality of life in bullying male adolescents: a randomized, prospective, controlled study. *Canadian Journal of Psychiatry*, 51, 355–362.
- Nickel, M., Luley, J., Krawczyk, J. (2006a) Bullying girls - changes after brief strategic family therapy: a randomized, prospective, controlled trial with one-year follow up. *Psychotherapy Psychosomatics*, 75, 47–55.
- Nielsen, A. L., Scarpitti, F. R. & Inciardi, J. A. (1996) Integrating the therapeutic community and work release for drug-involved offenders: the CREST program. *Journal of Substance Abuse Treatment*, 13, 349–358.

References

- Nixon, R. D. V., Erickson, D. B. & Touyz, S. W. (2003) Parent-child interaction therapy: a comparison of standard and abbreviated treatments for oppositional defiant preschoolers. *Journal of Consulting and Clinical Psychology*, 2, 251–260.
- Nock, M. K. & Kazdin, A. E. (2005) Randomized controlled trial of a brief intervention for increasing participation in parent management training. *Journal of Consulting and Clinical Psychology*, 73, 872–879.
- Nordic Cochrane Centre (2006) *Review Manager (RevMan) Version 4.0*. Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration. [Computer programme]
- Nores, M., Belfield, C., Barnett, W. S., *et al.* (2005) Updating the economic impacts of the High/Scope Perry Preschool Program. *Educational Evaluation and Policy Analysis*, 27, 245–261.
- O'Donnell, J., Hawkins, J. D., Catalano, R. F., *et al.* (1995) Preventing school failure, drug use, and delinquency among low-income children: long-term intervention in elementary schools. *American Journal of Orthopsychiatry*, 65, 87–100.
- Office for National Statistics (2008) *Retail Prices Index (all items)*. Available at: http://www.statistics.gov.uk/downloads/theme_economy/RP02.pdf [Accessed October 2008]
- Ogden, T. & Halliday-Boykins, C. A. (2004) Multisystemic treatment of antisocial adolescents in Norway: replication of clinical outcomes outside of the US. *Child and Adolescent Mental Health*, 9, 77–83.
- Ogloff, J. R. P. (2006) The psychopathy/antisocial personality disorder conundrum. *Australian and New Zealand Journal of Psychiatry*, 40, 519–528.
- Olds, D. L. (2002) Prenatal and infancy home visiting by nurses: from randomized trials to community replication. *Prevention Science*, 3, 153–172.
- Olds, D. L., Eckenrode, J., Henderson, Jr., C. R., *et al.* (1997) Long-term effects of home visitation on maternal life course and child abuse and neglect: fifteen-year follow-up of a randomized trial. *Journal of the American Medical Association*, 278, 637–643.
- Olds, D., Henderson, C. R., Jr., Cole, R., *et al.* (1998) Long-term effects of nurse home visitation on children's criminal and antisocial behaviour: 15 year follow-up of a randomized controlled trial. *Journal of the American Medical Association*, 280, 1238–1244.
- Olds, D. L., Robinson, J., O'Brien, R., *et al.* (2002) Home visiting by paraprofessionals and by nurses: a randomized, controlled trial. *Pediatrics*, 110, 486–496.
- Olds, D. L., Hill, P., O'Brien, R., *et al.* (2003) Taking preventive intervention to scale: the Nurse-Family Partnership. *Cognitive and Behaviour Practice*, 10, 278–290.
- Olds, D. L., Kitzman, H., Cole, R., *et al.* (2004) Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial. *Pediatrics*, 114, 1550–1559.
- Olds, D. L., Sadler, L. & Kitzman, H. (2007) Programs for parents of infants and toddlers: recent evidence from randomized trials. *The Journal of Child Psychology and Psychiatry*, 48, 355–391.
- Omizo, M. M., Hershberger, J. M. & Omizo, S. A. (1988) Teaching children to cope with anger. *Elementary School Guidance and Counseling*, 22, 241–245.

- O'Rourke, M., & Hammond, S. (2000) *Risk Management: Towards Safe, Sound and Supportive Practice*. Available at: <http://www.ramas.co.uk/report1.pdf> [Accessed June 2008]
- Ostrom, T. M., Steele, C. M. Rosenblood, L. K., *et al.* (1971) Modification of delinquent behavior. *Journal of Applied Social Psychology*, *1*, 118–136.
- Pakiz, B., Reinherz, H. Z. & Giaconia, R. M. (1997) Early risk factors for serious antisocial behaviour at age 21: a longitudinal community study. *American Journal of Orthopsychiatry*, *67*, 92–101.
- Paris, J. (2003) *Personality Disorders Over Time: Precursors, Course, and Outcome*. Arlington, VA: American Psychiatric Publishing.
- Parsons, B., Quitkin, F. M., McGrath, P. J., *et al.* (1989) Phenelzine, imipramine and placebo in borderline patients meeting criteria for atypical depression. *Psychopharmacology Bulletin*, *25*, 524–534.
- Patrick, C. J. (2008) Psychophysiological correlates of aggression and violence: an integrative review. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *363*, 2543–2555.
- Patterson, G. R., Chamberlain, P. & Reid, J. B. (1982) A comparative evaluation of a parent-training program. *Behaviour Therapy*, *13*, 638–650.
- Patterson, J., Barlow, J., Mockford, C., *et al.* (2007) Improving mental health through parenting programmes: block randomised controlled trial. *Archives of Disease in Childhood*, *87*, 472–477.
- Pepler, D. J., King, G., Craig, W., *et al.* (1995) The development and evaluation of a multisystem social skills group training program for aggressive children. *Child and Youth Care Forum*, *24*, 297–313.
- Porporino, F. J. & Robinson, D. (1995) An evaluation of the Reasoning and Rehabilitation programme with Canadian federal offenders. In *Thinking Straight: The Reasoning and Rehabilitation Program for Delinquency Prevention and Offender Rehabilitation* (eds. R. R. Ross & R. D. Ross), pp. 155–192. Ontario, Canada: Air Training and Publications.
- Powell, B. J., Campbell, J. L., Landon, J. F., *et al.* (1995) A double-blind, placebo-controlled study of nortriptyline and bromocriptine in male alcoholics subtyped by comorbid psychiatric disorders. *Alcoholism: Clinical and Experimental Research*, *19*, 462–468.
- Prichard, J. C. (1835) *Treatise on Insanity*. London: Sherwood Gilbert and Piper.
- Pullen, S., English, K., Woodward, B., *et al.* (1996) *Evaluation of the Reasoning and Rehabilitation Cognitive Skills Development Program as Implemented in Juvenile ISP in Colorado*. Colorado: U.S. Department of Justice.
- Quinsey, V. L. E., Harris, G. T., Rice, M. E., *et al.* (1998) *Violent Offenders: Appraising and Managing Risk*. 1st edition. Washington: APA.
- Raine, A., Brennan, P. & Mednick, S. A. (1994) Birth complications combined with early maternal rejection at age 1 year predispose to violent crime at age 18 years. *Archives of General Psychiatry*, *51*, 984–988.
- Raine, A., Lencz, T., Bihrlé, S., *et al.* (2000) Reduced prefrontal gray matter volume and reduced autonomic activity in antisocial personality disorder. *Archives of General Psychiatry*, *57*, 119–127.

References

- Ramey, C. T. & Campbell, F. A. (1991) Poverty, early childhood education, and academic competence: the Abecedarian experiment. In *Children in Poverty: Child Development and Public Policy* (ed. A. C. Huston), pp. 190–221. Cambridge, MA: Cambridge University Press.
- Rapoport, R. N. (1960) *Community as Doctor: New Perspectives on a Therapeutic Community*. London: Tavistock Publications.
- Rawlings, B. & Yates, R. (2001) *Therapeutic Communities for the Treatment of Drug Users*. London: Jessica Kingsley.
- Reich, J. H. & Vasile, R. G. (1993) Effect of personality disorders on the treatment outcome of Axis I conditions: an update. *Journal of Mental and Nervous Diseases*, 181, 475–484.
- Reynolds, A. J. (1991) Early schooling of children at risk. *American Educational Research Journal*, 28, 392–422.
- Reynolds, A. J. (1994) Effects of a preschool plus follow-up intervention for children at risk. *Developmental Psychology*, 30, 787–804.
- Reynolds, A. J. & Temple, J. A. (2006) Economic benefits of investments in preschool education. In *A Vision for Universal Prekindergarten* (eds. E. Zigler, W. Gilliam & S. Jones). New York: Cambridge University Press.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., et al. (2001) Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: a 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285, 2339–2346.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., et al. (2002) Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis*, 24, 267–303.
- Rice, M. E. & Harris, G. T. (1997) Cross validation and extension of the violence risk appraisal guide for child molesters and rapists. *Law and Human Behavior*, 21, 231–241.
- Risk Management Authority Scotland (2006) *Risk Assessment Tools Evaluation Directory*. Scotland: Risk Management Authority.
- Ritter, J., Stewart, M., Bernet, C., et al. (2002) Effects of childhood exposure to familial alcoholism and family violence on adolescent substance use, conduct problems and self-esteem. *Journal of Traumatic Stress*, 15, 113–122.
- Robertson, A. & Gunn, J. (1987) A ten-year follow-up of men discharged from Grendon prison. *The British Journal of Psychiatry*, 151, 674–678.
- Robertson, A., Grimes, P. & Rogers, K. (2001) A short-run cost-benefit analysis of community-based interventions for juvenile offenders. *Crime and Delinquency*, 47, 265–284.
- Robins, L. N. (1987) The epidemiology of antisocial personality disorder. In *Psychiatry*, Vol. 3 (eds R. O. Michels & J. O. Cavenar), pp. 1–14. Philadelphia, PA: J. B. Lippincott.
- Robins, L. N., Tipp, J. & Przybeck, T. (1991) Antisocial personality. In *Psychiatric Disorders in America* (eds L. N. Robins & D. A. Regier), pp. 258–290. New York: Free Press.
- Rohde, P., Jorgensen, J. S., Seeley, J. R., et al. (2004) Pilot evaluation of the coping course: a cognitive-behavioral intervention to enhance coping skills in

- incarcerated youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 669–676.
- Rolnick, A. & Grunwald, R. (2003) *Early Childhood Development: Economic Development with High Public Return*. Minneapolis, MN: Federal Reserve Bank of Minneapolis.
- Romeo, R., Knapp, M. & Scott, S. (2006) Economic cost of severe antisocial behaviour in children - and who pays for it. *British Journal of Psychiatry*, 188, 547–553.
- Ross, R. R., Fabiano, E. A. & Ewles, C. D. (1988) Reasoning and Rehabilitation. *International Journal of Offender Therapy and Comparative Criminology*, 32, 29–35.
- Roth, A. D. & Pilling, S. (2008) *A Competence Framework for the Supervision of Psychological Therapies*. Available from: http://www.ucl.ac.uk/clinical-psychology/CORE/Supervision_Competences/supervision_comptences_background_paper.rtf [Accessed July 2008]
- Rowland, M. D, Halliday-Boykins, C. A., Henggeler, S. W., *et al.* (2005) A randomized trial of multisystemic therapy with Hawaii's Felix class youths. *Journal of Emotional and Behavioral Disorders*, 13, 13–23.
- Royal College of Psychiatrists (2008a) *Court Work: Final Report of a Scoping Group* (College Report CR147). London: Royal College of Psychiatrists.
- Royal College of Psychiatrists (2008b) *Community of Communities: National Report 2005–2007*. London: Royal College of Psychiatrists.
- Ryan, S., Moore, E., Taylor, P., *et al.* (2002) The voice of detainees in a high security setting on services for people with personality disorder. *Criminal Behaviour and Mental Health*, 12, 254–268.
- Sacks, S., Sacks, J. Y., McKendrik, K., *et al.* (2004) Modified TC for MICA offenders: crime outcomes. *Behavioural Science Law*, 22, 477–501.
- Saks, E. R. (2003) *Refusing Care: Forced Treatment and the Rights of the Mentally Ill*. Chicago, IL: University of Chicago Press.
- Salekin, R. T. (2002) Psychopathy and therapeutic pessimism: clinical lore or clinical reality? *Clinical Psychology Review*, 22, 79–112.
- Salekin, R. T., Rogers, R., Ustad, K. L., *et al.* (1998) Psychopathy and recidivism among female inmates. *Law and Human Behavior*, 22, 109–128.
- Sanders, M. R. (1992) *Every Parent: A Positive Approach to Children's Behaviour* Sydney: Addison-Wesley.
- Sanders, M. R. (1994) *Every Parent's Workbook: A Practical Guide to Positive Parenting*. Queensland, Australia: Australian Academic Press.
- Sanders²⁶, M. R. & McFarland, M. (2000) Treatment of depressed mothers with disruptive children: a controlled evaluation of cognitive behavioral family intervention. *Behavior Therapy*, 31, 89–112.
- Sanders, M. R., Montgomery, D. T. & Brechman-Toussaint, M. L. (2000) The mass media and the prevention of child behavior problems: the evaluation of a television series to promote positive outcomes for parents and their children. *Journal of Child Psychology and Psychiatry*, 41, 939–948.

²⁶This is the full reference for Study ID SANDERS2000B.

References

- Sanders, M. R., Markie-Dadds, C., Tully, L. A., *et al.* (2000a) The Triple Positive Parenting Program: a comparison of enhanced, standard, and self-directed behavioral family intervention for parents of children with early onset conduct problems. *Journal of Consulting and Clinical Psychology*, 68, 624–640.
- Santisteban, D. A., Coatsworth, J. D., Perez-Vidal, A., *et al.* (2003) Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology*, 17, 121–133.
- Sarkar, S. P. & Adshear, G. (2005) Black robes and white coats: who will win the new mental health tribunals? *The British Journal of Psychiatry*, 186, 96–98.
- Satterfield, J. H. & Schell, A. (1997) A prospective study of hyperactive boys with conduct problems and normal boys: adolescent and adult criminality. *Journal of American Child and Adolescent Psychiatry*, 36, 1726–1735.
- Sayger, T., Horne, A., Walker, J., *et al.* (1988). Social learning family therapy with aggressive children: treatment outcome and maintenance. *Journal of Family Psychology*, 1, 261–285.
- Schlichter, K. F. & Horan, J. J. (1981) Effects of stress inoculation on the anger and aggression management skills of institutionalized juvenile delinquents. *Cognitive Therapy and Research*, 5, 359–365.
- Schneider, K. (1923) *Die Psychopathischen Personallichkeiten*. Berlin: Springer.
- Schuhmann, E. M., Foote, R. C., Eyberg, S. M., *et al.* (1998) Efficacy of parent-child interaction therapy: interim report of a randomized trial with short-term maintenance. *Journal of Clinical Child Psychology*, 27, 34–45.
- Schweinhart, L. J. (2007) Crime prevention by the High/Scope Perry Preschool Program. *Victims and Offenders*, 2, 141–160.
- Schweinhart, L. J. & Weikart, D. P. (1993) Success by empowerment: the High/Scope Perry Preschool Study through age 27. *Young Children*, 49, 54–58.
- Schweinhart, L. J., Berrueta-Clement, J. R., Barnett, W. S., *et al.* (1985) Effects of the Perry Preschool Program on youths through age 19: a summary. *Topics in Early Childhood Special Education*, 5, 26–35.
- Schweinhart, L. J., Barnes, H. & Weikart, D. P. (1993) *Significant Benefits. The High/Scope Perry School Study Through Age 27*. Ypsilanti, MI: High/Scope Press.
- Scott, S. (2007) Conduct disorders in children. *British Medical Journal*, 334, 646.
- Scott, S., Spender, Q., Doolan, M., *et al.* (2001) Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice. *British Medical Journal*, 323, 1–7.
- Scott, S., Knapp, M., Henderson, J., *et al.* (2001a) Financial cost of social exclusion: follow-up study of antisocial children into adulthood. *British Medical Journal*, 323, 191–194.
- Scott, S., O'Connor, T. & Futh, A. (2006) *What Makes Parenting Programmes Work in Disadvantaged Areas? The PALS Trial*. London: Joseph Rowntree Foundation.
- Semmens, N. (2007) Towards an understanding of 'fear' as an intangible cost of crime. *International Review of Victimology*, 14, 219–236.
- Shapland, J. & Hall, M. (2007) What do we know about the effects of crime on victims? *International Review of Victimology*, 14, 175–217.

- Sheard, M. H., Marini, J. L., Bridges, C. I., *et al.* (1976) The effect of lithium on impulsive aggressive behavior in man. *American Journal of Psychiatry*, *133*, 1409–1413.
- Shechtman, Z. (2000) An innovative intervention for treatment of child and adolescent aggression: an outcome study. *Psychology in the Schools*, *37*, 157–167.
- Shine, J. (1997) Appraisal and coping processes used by staff, in a prison based therapeutic community, to deal with occupational stress. *Therapeutic Communities*, *18*, 271–283.
- Shivrattan, J. L. (1988) Social interactional training and incarcerated juvenile delinquents. *Canadian Journal of Criminology/Revue Canadienne de Criminologie*, *30*, 145–163.
- Shure, M. B. (1992) *I Can Problem Solve: An Interpersonal Cognitive Problem-Solving Program*. Champaign, IL: Research Press.
- Simonoff, E., Elander, J., Holmshaw, J., *et al.* (2004) Predictors of antisocial personality disorder. Continuities from childhood to adult life. *The British Journal of Psychiatry*, *184*, 118–127.
- Singleton, N., Melzer, H., Gatward, R., *et al.* (1998) *Psychiatric Morbidity Among Prisoners in England and Wales*. London: The Stationary Office.
- Skodol, A. E., Buckley, P. & Charles, E. (1983) Is there a characteristic pattern to the treatment history of clinic outpatients with borderline personality? *Journal of Nervous and Mental Disease*, *171*, 405–410.
- Skodol, A. E., Gunderson, J. G., Shea, M. T., *et al.* (2005) The Collaborative Longitudinal Personality Disorders Study (CLPS). *Journal of Personality Disorders*, *19*, 487–504.
- Smith, L. A., Gates, S. & Foxcroft, D. (2006) Therapeutic communities for substance related disorder. *Cochrane Database of Systematic Reviews 2006*, Issue 1, CD005338.
- Snell, H. K. (1962) H. M. Prison, Grendon. *British Medical Journal*, *22*, 789–792.
- Soloff, P. (1998) Symptom-orientated psychopharmacology for personality disorders. *Journal of Practical Psychiatry and Behavioral Health*, *4*, 3–11.
- Soloff, P. H., George, A., Nathan, R. S., *et al.* (1986a) Progress in pharmacotherapy of borderline disorders. *Archives of General Psychiatry*, *3*, 691–687.
- Soloff, P. H., George, A., Nathan, S., *et al.* (1986b) Amitriptyline and haloperidol in unstable and schizotypal borderline disorders. *Psychopharmacology Bulletin*, *22*, 177–182.
- Sourander, A., Elonheimo, H., Niemela, S., *et al.* (2006) Childhood predictors of male criminality: a prospective population based follow up study from age 8 to late adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*, *45*, 578–586.
- Spence, S. H. & Marziller, J. S. (1981) Social skills training with adolescent male offenders - II. Short term, long term and generalized effects. *Behavior Research and Therapy*, *19*, 349–368.
- Stalker, K., Ferguson, I. & Barclay, A. (2005) 'It is a horrible term for someone': service user and provider perspectives on 'personality disorder'. *Disability and Society*, *20*, 359–373.

References

- Stanford, M. S., Helfritz, L. E. & Conklin, S. M. (2005) A comparison of anticonvulsants in the treatment of impulsive aggression. *Experimental and Clinical Psychopharmacology*, *13*, 72–77.
- Stein, D. J., Simeon, D., Frenkel, M., *et al.* (1995) An open trial of valproate in borderline personality disorder. *Journal of Clinical Psychiatry*, *56*, 506–510.
- Steiner, H. & Dunne, J. E. (1997) Summary of the practice parameters for the assessment and treatment of children and adolescents with conduct disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, *36*, 1482–1485.
- Stevenson, J. & Goodman, R. (2001) Association between behavior at age 3 years old and adult criminality. *British Journal of Psychiatry*, *179*, 197–202.
- Stewart-Brown, S., Patterson, J., Mockford, C., *et al.* (2007) Impact of a general practice based group parenting programme: quantitative and qualitative results from a controlled trial at 12 months. *Archives of Disease in Childhood*, *89*, 519–525.
- Stolk, M., Mesman, J., Van Zeijl, J., *et al.* (2008) Early parenting intervention: family risk and first-time parenting related to intervention effectiveness. *Journal of Child and Family Studies*, *17*, 55–83.
- Strawson, P. F. (1968) Freedom and resentment. In *Studies in the Philosophy of Thought and Action*, pp. 71–96. Oxford: Oxford University Press.
- Strayhorn, J. M. & Weidman, C. S. (1989) Reduction of attention deficit and internalizing symptoms in preschooler through parent-child interaction training. *Journal of the American Academy of Child and Adolescent Psychiatry*, *28*, 888–896.
- Strike, C., Rhodes, A. E., Bergmans, Y., *et al.* (2006) Fragmented pathways to care: the experience of suicidal men. *Crisis*, *27*, 31–38.
- Sukhodolsky, D. G., Solomon, R. M & Perine, J. (2000) Cognitive-behavioral, anger-control intervention for elementary school children: a treatment-outcome study. *Journal of Child and Adolescent Group Therapy*, *10*, 159–170.
- Swanson, M. C., Bland, R. C. & Newman, S. C. (1994) Epidemiology of psychiatric disorders in Edmonton. Antisocial personality disorders. *Acta Psychiatrica Scandinavica, Supplementum*, *376*, 63–70.
- Szapocznik, J., Rio, A., Murray, E., *et al.* (1989) Structural family versus psychodynamic child therapy for problematic Hispanic boys. *Journal of Consulting and Clinical Psychology*, *57*, 571–578.
- T³ Associates (2003) *Reasoning and Rehabilitation Revised: a Handbook for Teaching Cognitive Skills*. Ottawa, Canada: T3 Associates Inc.
- Taylor, T. K., Schmidt, F. & Pepler, D. (1998) A comparison of eclectic treatment with Webster-Stratton's parents and children series in a children's mental health center: a randomized controlled trial. *Behavior Therapy*, *29*, 221–240.
- Tennant, G., Tennant, D., Prins, H., *et al.* (1990) Psychopathic disorder – a useful clinical concept? *Medicine, Science, and Law*, *30*, 39–44.
- Timmons-Mitchell, J., Bender, M. B., Kishna, M. A., *et al.* (2006) An independent effectiveness trial of multisystemic therapy with juvenile justice youth. *Journal of Clinical Child and Adolescent Psychology*, *35*, 227–236.

- Tong, L. S. J. & Farrington, D. P. (2006) How effective is the 'Reasoning and Rehabilitation' programme in reducing re-offending? A meta-analysis of evaluations in three countries. *Psychology, Crime and Law*, *12*, 3–24.
- Torgensen, S., Kringlen, E. & Cramer, V. (2001) The prevalence of personality disorders in a community sample. *Archives of General Psychiatry*, *58*, 590–596.
- Tremblay, R. E., Pihl, R. O., Vitaro, F., *et al.* (1994) Predicting early onset of male antisocial behaviour from preschool behavior. *Archives of General Psychiatry*, *51*, 732–739.
- Tremblay, R. E., Nagin, D. S., Seguin, J. R., *et al.* (2004) Physical aggression during early childhood: trajectories and predictors. *Pediatrics*, *114*, 43–50.
- Trickett, E. J., Dahiya, C. & Selby, P. M. (1994) *Primary Prevention in Mental health: An Annotated Bibliography 1983–1991*. Rockville, MD: National Institute of Mental Health.
- Tupin, J. P., Smith, D. B., Clanon, T. L., *et al.* (1973) Long-term use of lithium in aggressive disorders. *Comprehensive Psychiatry*, *14*, 311–317.
- Turner, K. M. T. & Sanders, M. R. (2006) Help when it's needed first: a controlled evaluation of brief, preventive behavioral family intervention in a primary care setting. *Behavior Therapy*, *37*, 131–142.
- Turner, K. M. T., Richards, M. & Sanders, M. R. (2007) Randomised clinical trials of a group parent education programme for Australian indigenous families. *Journal of Paediatrics and Child Health*, *43*, 429–437.
- Tyrer, P., Mitchard, S., Methuen, C., *et al.* (2003) Treatment-rejecting and treatment-seeking personality disorders: type R and type S. *Journal of Personality Disorders*, *17*, 268–270.
- Tyrer, P., Coombs, N., Ibrahim, F., *et al.* (2007) Critical developments in the assessment of personality disorder. *The British Journal of Psychiatry, Suppl.* *49*, S51–59.
- Urbaniok, F., Endrass, J., Rossegger, A., *et al.* (2007) Violent and sexual offences: a validation of the predictive quality of the PCL: SV in Switzerland. *International Journal of Law and Psychiatry*, *30*, 147–152.
- Van Manen, T. G., Prins, P. J. M. & Emmelkamp, P. M. G. (2004) Reducing aggressive behavior in boys with a social cognitive group treatment: results of a randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*, 1478–1487.
- Vannoy, S. D. & Hoyt, W. T. (2004) Evaluation of an anger therapy intervention for incarcerated adult males. *Journal of Offender Rehabilitation*, *39*, 39–57.
- Vanstone, M. (2000) Cognitive-behavioural work with offenders in the UK: a history of influential endeavour. *Howard Journal of Criminal Justice*, *39*, 171–183.
- Van Voorhis, P. V., Spruance, L. M., Ritchey, P. N., *et al.* (2004) The Georgia cognitive skills experiment: a replication of Reasoning and Rehabilitation. *Criminal Justice and Behavior*, *31*, 282–305.
- Viding, E., Blair, R. J., Moffitt, T. E., *et al.* (2005) Evidence for substantial genetic risk for psychopathy in 7-year-olds. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *46*, 592–597.

References

- Viding, E., Larsson, H. & Jones, A. P. (2008) Quantitative genetic studies of antisocial behaviour. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 363, 2519–2527.
- Walker, H. M., Stieber, S. & Bullis, M. (1997) Longitudinal correlates of arrest status among at-risk males. *Journal of Child and Family Studies*, 6, 289–309.
- Walters, G. D. & Mandell, W. (2007) Incremental validity of the psychological inventory of criminal thinking styles and psychopathy checklist: screening version in predicting disciplinary outcome. *Law and Human Behavior*, 31, 141–157.
- Walters, G. D., Duncan, S. A. & Geyer, M. D. (2003) Predicting disciplinary adjustment in inmates undergoing forensic evaluation: a direct comparison of the PCL-R and the PAI. *Journal of Forensic Psychiatry and Psychology*, 14, 382–393.
- Warren, F., McGauley, G. Norton, K., *et al.* (2003) *Review of Treatment for Severe Personality Disorder: Home Office Report 30/03*. London: Home Office.
- Warren, J. I., South, S. C., Burnette, M. L., *et al.* (2005) Understanding the risk factors for violence and criminality in women: the concurrent validity of the PCL-R and HCR-20. *International Journal of Law and Psychiatry*, 28, 269–289.
- Watt, B., Hoyland, M., Best, D., *et al.* (2007) Treatment participation among conduct problem children and the role of telephone reminders. *Journal of Child and Family Studies*, 16, 522–530.
- Webster, C. D., Douglas, K. S., Eaves, D., *et al.* (1997) *HCR-20: Assessing Risk of Violence (version 2)*. Vancouver, Canada: Mental Health Law & Policy Institute, Simon Fraser University.
- Webster-Stratton, C. (1984) Randomized trial of two parent-training programs for families with conduct-disordered children. *Journal of Consulting and Clinical Psychology*, 52, 666–678.
- Webster-Stratton, C. (1990) Enhancing the effectiveness of self-administered videotape parent training for families with conduct-problem children. *Journal of Abnormal Psychology*, 18, 479–492.
- Webster-Stratton, C. (1992) Individually administered videotape parent training: ‘who benefits?’ *Cognitive Therapy and Research*, 16, 31–35.
- Webster-Stratton, C. (1994) Advancing videotape parent training: a comparison study. *Journal of Consulting and Clinical Psychology*, 62, 583–593.
- Webster-Stratton, C. & Hammond, M. (1997) Treating children with early-onset conduct problems: a comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology*, 65, 93–109.
- Webster-Stratton, C. & Hancock, L. (1998) Training for parents of young children with conduct problems: content, method and therapeutic processes. In: *Handbook of Parent Training*, 2nd edn (eds J. M. Briemeister & C. E. Schaefer). New York: Wiley.
- Webster-Stratton, C., Kolpacoff, M. & Hollinsworth, T. (1988) Self-administered videotape therapy for families with conduct-problem children: comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology*, 56, 558–566.
- Weissman, M. M. (1993) The epidemiology of personality disorders: a 1990 update. *Journal of Personality Disorders, Spring Suppl.*, 44–62.

- Welsh, B. C., Loeber, R., Stevan, B. R., *et al.* (2008) Cost of juvenile crime in urban areas: a longitudinal perspective. *Youth Violence Juvenile Justice*, 6, 3–27.
- Westen, D. & Arkowitz-Westen, L. (1998) Limitations of Axis II in diagnosing personality pathology in clinical practice. *American Journal of Psychiatry*, 155, 1767–1771.
- Wexler, H. K., De Leon, G., Thomas, G., *et al.* (1999) The Amity prison TC evaluation. *Criminal Justice and Behavior*, 26, 147–167.
- White, H. R., Bates, M. E. & Buyske, S. (2001) Adolescent-limited versus persistent delinquency: extending Moffitt's hypothesis into adulthood. *Journal of Abnormal Psychology*, 110, 600–609.
- WHO (1992) *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. Geneva: WHO.
- Widiger, T. A. & Corbitt, E. M. (1993) Antisocial personality disorder: proposals for DSM-IV. *Journal of Personality Disorders*, 7, 63–77.
- Wiesner, M. & Capaldi, D. M. (2003)²⁷ Relations of childhood and adolescent factors to offending trajectories of young men. *Journal of Research in Crime and Delinquency*, 40, 231–262.
- Wiesner, M. & Silbereisen, R. K. (2003)²⁸ Trajectories of delinquent behaviour in adolescent and their covariates: relations with initial and time-averaged factors. *Journal of Adolescence*, 26, 753–771.
- Wilcox, J. A. (1995) Divalproex sodium as a treatment for borderline personality disorder. *Annals of Clinical Psychiatry*, 7, 33–37.
- Wilson, D. B., Bouffard, L. A. & Mackenzie, D. L. (2005) A quantitative review of structured, group-oriented, cognitive-behavioral programs for offenders. *Criminal Justice and Behavior*, 32, 172–204.
- Wing, J. K. & Brown, G. W. (1970) *Institutionalism and Schizophrenia*. London: Cambridge University Press.
- Wölwer, W., Burtscheidt, W., Redner, C., *et al.* (2001) Out-patient behaviour therapy in alcoholism: impact of personality disorders and cognitive impairments. *Acta Psychiatrica Scandinavica*, 103, 30–37.
- Woody, G. E., Luborsky, L., McLellan, A. T., *et al.* (1983) Psychotherapy for opiate addicts: does it work? *Archives of General Psychiatry*, 40, 639–645.
- Woody, G. E., McLellan, T., Luborski, L., *et al.* (1985) Sociopathy and psychotherapy outcome. *Archives of General Psychiatry*, 42, 1081–1086.
- Wright, K., Haigh, K. & McKeown, M. (2007) Reclaiming the humanity in personality disorder. *International Journal of Mental Health Nursing*, 16, 236–246.
- Yang, M. & Coid, J. (2007) Gender differences in psychiatric morbidity and violent behaviour among a household population in Great Britain. *Social Psychiatry and Psychiatric Epidemiology*, 42, 599–605.

²⁷This is the reference for study ID WIESNER2003A.

²⁸This is the reference for study ID WIESNER2003B.

11 ABBREVIATIONS

ADHD	attention deficit hyperactivity disorder
AGREE	Appraisal of Guidelines for Research and Evaluation Instrument
AMED	Allied and Complementary Medicine Database
APA	American Psychiatric Association
ASPD	antisocial personality disorder
AUC	area under the curve
C2-SPECTR	Campbell Collaboration's Social, Psychological, Educational, and Criminological Trials Register
CA	cost analysis
CAMHS	Child and Adolescent Mental Health Services
CBA	cost-benefit analysis
CCA	cost-consequences analysis
CBT	cognitive behavioural therapy
CEA	cost-effectiveness analysis
CENTRAL	Cochrane Central Register of Controlled Trials
CI	confidence interval
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CMA	cost-minimisation analysis
CSIP	Care Services Improvement Partnership
CUA	cost-utility analysis
DSM	<i>Diagnostic and Statistical Manual of Mental Disorders</i> (editions I, II, II, III-R, IV)
DSPD	dangerous and severe personality disorder
EMBASE	Excerpta Medica database
EEG	electroencephalography
ESMHCG	Eastern Specialised Mental Health Commissioning Group
FEDRIP	Federal Research in Progress
FN	false negative
FP	false positive
GDG	Guideline Development Group
GP	general practitioner

GRADE	Grade of Recommendations: Assessment, Development and Evaluation
GRP	guideline review panel
HCR-20	Historical, Clinical, Risk Management-20
HMIC	Healthcare Management Information Consortium
HMP	Her Majesty's Prison
HMSO	Her Majesty's Stationery Office
HTA	Health Technology Assessment
HRQoL	health-related quality of life
IBSS	International Bibliography of the Social Sciences
ICD (-10)	International Classification of Diseases, 10 th revision
ITT	intention to treat
LSI	Level of Service Inventory
M	mean
MEDLINE	A source of life sciences and biomedical bibliographic information compiled by the US National Library of Medicine (NLM) and published on the web by Community of Science
n	number of participants in a group
N	Total number of participants
NCCMH	National Collaborating Centre for Mental Health
NCJRS	National Criminal Justice Reference Service
NFP	Nurse-Family Partnership
NHS	National Health Service
NHS EED	National Health Service Economic Evaluation Database
NICE	National Institute for Health and Clinical Excellence
NICHD	National Institute of Child Health and Human Development
NNT	number needed to treat (H: harm; B: benefit)
NPV	negative predictive validity
NSF	National Service Framework
OGRS	Offender Group Reconviction Scale
OHE HEED	Office of Health Economics, Health Economics Evaluation Database
OR	odds ratio
p	probability
PCIT	parent-child interaction therapy

Abbreviations

PCL-R	Psychopathy Checklist - Revised
PCL-SV	Psychopathy Checklist - Screening Version
PICO	patient, intervention, comparison and outcome
PILOTS	Published International Literature on Traumatic Stress
PPV	positive predictive validity
PSS	personal social services
PsycINFO	An abstract (not full text) database of psychological literature from the 1800s to the present
PTSD	post-traumatic stress disorder
QALY	quality-adjusted life year
RAMAS	Risk Assessment Management and Audit systems
RCT	randomised controlled trial
RMO	responsible medical officer
ROC	receiver operator characteristic
RR	relative risk
SIGLE	System for Information on Grey Literature in Europe
SIGN	Scottish Intercollegiate Guidelines Network
SD	standard deviation
SMD	standard mean differences
SMR	standardised mortality rate
SSRI	selective serotonin reuptake inhibitor
STAXI	Spielberger State-Trait Anger Expression Inventory
TAU	treatment as usual
TN	true negative
TP	true positive
VRAG	Violence Risk Appraisal Guide
WHO	World Health Organization
WMD	weighted mean difference

Abbreviations used in the tables and forest plots on the CD

BOSPT	Breyer's Behavior Observation Schedule for Pupils and Teachers
CBCL (-TRF, -YSR)	Child Behaviour Checklist (-Teacher's Report Form, -Youth Self-Report)
CD	conduct disorder
CM	contingency management

CPRS	Conners' Parent Rating Scales
CT	child training
DC	drug court
DPICS	Dyadic Parent-Child Interaction Coding System
DYS	Department of Youth Services
EBFI	Enhanced Behavioural Family Intervention
ECBI	Eyberg Child Behaviour Inventory
EQUIP	Education and Quality Intervention Programs
FACES-III	Family Adaptation Cohesion Scales-III
FFT	functional family therapy
GDVM	group discussion videotape modelling training
HCSBS	Home and Community Social Behavior Scales
INVOLVE-T	Involvement Questionnaire-Teacher
IVM	individually administered videotape modelling training
IVMC	individually administered videotape modelling training plus therapist consultation
KIDDIE-SADS	Kiddie Schedule for Affective Disorders and Schizophrenia
LTFU	long-term follow-up
MCVSI	McArthur Community Violence Screening Inventory
MESSY	Matson Evaluation of Social Skills in Youngsters
MMPI-A	Minnesota Multiphasic Personality Inventory-Adolescent
MST	multisystemic therapy
MTFC	multidimensional treatment foster care
NAS-PI	Novaco Anger Scale and Provocation Inventory
OAS	Overt Aggression Scale
ODD	oppositional defiant disorder
PACS	Parental Account of Child Symptoms Questionnaire
PBQ	Preschool Behavior Questionnaire
PD	personality disorder
PDI-R	Psychiatric Diagnostic Inventory-Revised

Abbreviations

PDR	Parent Daily Reports
PLB	placebo
PPS-I CARE	Peer Problem-Solving Interaction Communication Affect Rating Coding System
PS	Parenting Scale
PS-I CARE	Problem-Solving Interaction Communication Affect Rating Coding System
PSI	Parenting Stress Index
PSST	problem-solving skills training
PT	parent training
R&R	Reasoning and Rehabilitation
RNA	risk/needs assessment
RT	relaxation training
SBFI	standard behavioural family intervention
SCID-II	Structured Clinical Interview for DSM-IV Personality Disorders-II
SDBFI	self directed behavioural family intervention
SDQ	Strengths and Difficulties Questionnaire
SESBI	Sutter-Eyberg Student Behaviour Inventory
SLT	social learning theory
SPST-R	Social Problem Solving Test-Revised
SSQ	Social Situation Questionnaire
TC	therapeutic community
TOCA-R	Teacher Observation of Child Adaptation-Revised
TRA	Theory of Reasoned Action
TRF	Teacher Report Form
WALLY	Wally Child Problem Solving Detective Game
WISC-R	Wechsler Intelligence Scale for Children - Revised
WL	wait list