Antisocial Personality Disorder (ASPD)

Antisocial Personality Disorder: Treatment, Management and Prevention

National Clinical Practice Guideline Number #

National Collaborating Centre for Mental Health
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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.agreecollaboration.org), 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 people and situations for which clinical guideline recommendations are not readily applicable. This guideline does not, therefore, override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual, in consultation with the person who misuses drugs or 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, 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 (College Research and Training 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 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 Healthcare 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, but key topics were led by a national expert in the relevant topics. 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 will be relevant for people with antisocial personality disorder.

The guideline covers the care provided by primary, community, secondary, tertiary, forensic and other healthcare 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. Where meta-analyses were conducted, the data are presented using forest plots in Appendix 16 (see Text Box 1 for details).

Text Box 1: **Appendices on CD-ROM**

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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 (ICD-10; WHO, 1992) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; 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' (Maudsley, 1874). 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 disorder 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 disorder (for example, 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 asocial 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), antisocial personality disorder (DSM-II onwards), dissocial personality disorder (ICD) and psychopathy (Hare, 1980).

In 1959, the term psychopathic disorder was incorporated into the UK Mental Health Act, 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 (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, 2007; Clark *et al*., 1997; 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 individual 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 innate 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.

Thus, 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.

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, 1997; Livelsey, 2007; Howard *et al*., in press). 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 (disorder)] 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).

At the present time, DSM is undergoing major revision into DSM-V, and it is hoped that this will involve a reduced emphasis on criminal behaviour and an increased emphasis on the interpersonal deficits to characterise the 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 to compare Robins' emphasis on the continuity of conduct disorder in childhood to adult antisocial personality disorder with the more trait-based personality criteria of the Psychopathy Checklist-Revised (PCL-R; see 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 as it is believed that no one else will do so.

ICD-10

In ICD-10, 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 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). 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 as this is seen as a concomitant, rather then a core feature, of psychopathy (Blackburn, 2007; Skeen & Cooke, in press). This disagreement on whether criminal behaviour is a core or concomitant feature of psychopathy was paralleled 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 will also meet criteria for antisocial personality disorder, only about 10% of those with antisocial personality disorder meet criteria for psychopathy as measured by PCL-R (Hare *et al*., 2000). 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 for this guideline in order to provide a primary diagnostic anchor point. In addition, the GDG justifies this choice as 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, dissocial personality disorder in ICD-10 (WHO, 1992) and 'psychopathy' (Hare, 1995) is used where relevant.

2.2.3 Course and prognosis

Gender affects both the prevalence of antisocial personality disorder 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 (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 in particular 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, not only to 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. For instance, 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). Conversely, 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, 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, the 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 that are genetically vulnerable to behaving in an antisocial manner are likely to also suffer from harsh and inconsistent parenting that, in turn, they may make worse 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, multi-systemic therapy, and so on). Knowledge of the genetic vulnerability may inform programme content and delivery and so increase its effectiveness. For instance, children with CU 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, and reduced levels of brain serotonin (Coccaro *et al*., 1996; 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, 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 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 *et al*., 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.'

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 health care 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 as 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 the issue of consent is covered further in Section 2.10 on ethics.

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 impact, not only immediate family members, but to 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, including the fact that many of those with the condition do not present for treatment except under duress (for example, if they require drug detoxification in prison) and because the condition is often not recognised when the person presents (for example, because they require emergency treatment for an alcohol-related physical health problem). 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.

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. Equally important, however, are the related costs that include increased use of healthcare facilities, 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). An example of the cost to public services of conduct disorder in childhood is provided by Scott and colleagues (2001). They compared the public costs of three groups (those without conduct disorder in childhood, those with some conduct disorder traits and those with conduct disorder) up to the age of 27, and found a ten-fold increase in the costs between those adults with and without conduct disorder in childhood.

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 (DH, 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.*, 2007, 2008). 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.*, 2007, 2008).

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 among those 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 (Liverley, 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 those 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, 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 People with 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 (DBT), 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 (Rappaport, 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 clearly are 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 People with Severe Personality Disorder (DSPD) initiative

A recent and important national initiative is the 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 of those with DSPD would 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.

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 multiagency 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 or vulnerability 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 by the mentally ill that have been the subject of enquiries 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 (Logan *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 4 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 families member 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 (NICE, 2004) 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

The content of this chapter so far 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, in psychology and psychiatry a debate has continued 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 called '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 Adshead (2002) has pointed out, the 'treatability' of any disorder relies on a number of factors, not all of which are 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 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 (Farringdon & 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 and any treatment interventions that are offered. Under the new Mental Capacity Act (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 is 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 (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 he/she is 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 considerably 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.*, 2008); while others argue that is it is not appropriate to use such measures to routinely inform clinical decisions (for example, Cooke *et al.*, 2007).

There is also the problem that the most risky 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) which could have serious side effects for the patient. Under the Mental Capacity Act, 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.

2.10.5 The ethics of public protection

A real ethical debate exists abut the extent to which healthcare professionals should be involved in public protection. On the one hand, there are psychiatrists 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 psychiatrists who take the view that their primary ethical duty is to 'make the care of the patient their first concern' (GMC, 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 (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 he/she has a duty to public safety, which overrides the duty to the patient's interests, then the patient may find that the doctor in whom he/she has confided is using those confidences against him/her 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 him/herself. 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 his/her 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 individual, 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 (2008) has submitted a report, 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 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 his/her 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 he/she is raised in an abusive environment, if nothing can be done to help the child, there may be little point in identifying him/her. Indeed, his/her chance of failure may be increased because the environment around him/her may be even more rejecting and suspicious of him/her.

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 his/her genes. For example, if we take the genetically

vulnerable child identified above, one intervention might be to place him/her in a secure home where he/she is not maltreated. This may mean: (a) taking the child away from the parents before 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 Method used to develop this guideline

3.1 Overview

The development of this guideline drew upon methods outlined by NICE (*The Guidelines Manual* [NICE, 2006]). A team of health 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 (ASPD). 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 The Guidelines Manual). 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 NCC 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, the Ministry of Justice and the Probation Service. The carer perspective was provided by a carer special advisor. 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 service user and carer concerns 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 Group 4 covered interventions for offending behaviour. These groups were designed to efficiently manage the large volume of evidence appraisal prior to 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 service user views and preferences, 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 advisor.

3.3.4 Special advisors

Special advisors, 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 advisors.

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 2).

Text Box 2: 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?

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.

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 (DH)/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 3. 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.

Text Box 3: Best study design to answer each type of question

Type of question	Best primary study design
Effectiveness or other impact of an intervention	Randomised controlled trial; 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 (e.g. 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 Systematic clinical literature review

The aim of the clinical literature review was to systematically identify and synthesise 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.

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, 2006) 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
- New Zealand Guidelines Group
- NHS Centre for Reviews and Dissemination
- Oxford Centre for Evidence-Based Medicine
- Scottish Intercollegiate Guidelines Network (SIGN)
- United States Agency for Healthcare Research and Quality
- Oxford Systematic Review Development Programme
- Grading of Recommendations: Assessment, Development and Evaluation (GRADE) Working Group.

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, 2006).

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.

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 of 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 randomised controlled trials (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 for other 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 published[1]. 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

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

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 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 filters

Search filters developed by the review team consisted of a combination of subject heading and free-text phrases. Specific filters 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 taken[2]:

1. When the number of studies with missing standard deviations was small and when the total number of studies was large, the average

[2] Based on the approach suggested by Furukawa et al. (2006).

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 4.2.7 (Cochrane Collaboration, 2004).

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

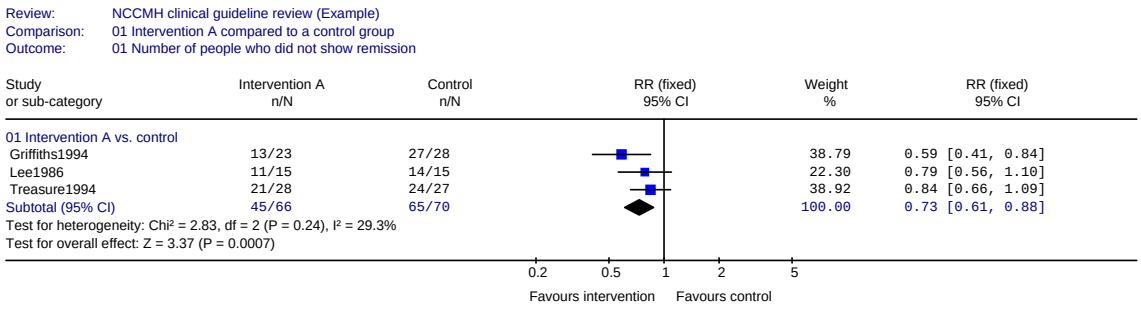
Where possible, meta-analysis was used to synthesise the evidence using Review Manager 4.2.8 (Cochrane Collaboration, 2005). If necessary, reanalyses of the data or sub-analyses were used to answer clinical questions not addressed in the original studies or reviews.

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%.

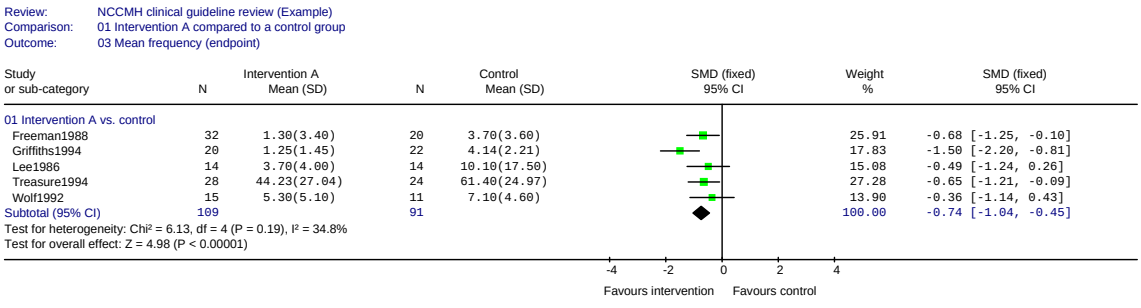
The CI shows with 95% certainty the range within which the true treatment effect should lie and can be used to determine statistical significance. If the CI does not cross the 'line of no effect', the effect is statistically significant.

Figure 1: Example of a forest plot displaying dichotomous data



Continuous outcomes were analysed as weighted mean differences (WMD), or as a standardised mean difference (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 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 follow 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 (i.e. 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 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.

Table 1: Example of GRADE evidence profile

Quality assessment							Summary of findings				
							No of patients		Effect		
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other consider-ations	Intervention	control	Relative (95% CI)	Absolute	Quality
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)	⊕⊕⊕O MODERA
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)	⊕⊕⊕O MODERA
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)	⊕⊕⊕O MODERA
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)	⊕⊕⊕O MODERA

[1] The upper confidence limit includes an effect that, if it were real, would represent a benefit that, given the downsides, would still be worth it.
[2] The lower confidence limit crosses a threshold below which, given the downsides of the intervention, one would not recommend the intervention.
[3] Random-effects model.
[4] 95% CI crosses the minimal importance difference threshold.

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 (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.

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 group's awareness of practical issues (Eccles *et al*., 1998).

3.5.7 Method 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 of 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 the health economics was to contribute to the guideline's development by providing evidence on the cost effectiveness of interventions for antisocial personality disorder covered in the guideline, in areas with likely major resource implications. This was achieved by:

- Systematic literature review of existing economic evidence
- Economic modelling, in areas where economic evidence was lacking or was considered inadequate to inform decisions.

3.6.1 Key economic issues

The following economic issues relating to antisocial personality disorder were identified by the GDG in collaboration with the health economist as primary key issues that should be considered in the guideline:

- parent training for parents of children with conduct problems
- family interventions for children with conduct problems
- interventions targeted at offending behaviour associated with antisocial personality disorder.

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

3.6.2 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 filter for antisocial personality disorder. 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, the general filter for antisocial personality disorder was used. OHE HEED was searched using a shorter, database-specific strategy. Initial searches were performed in 2007. The searches were updated regularly, with the final search between 6 and 8 weeks before the consultation period.

In parallel to 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.

The systematic search for economic evidence resulted in 8 potentially relevant studies. Full texts of all potentially eligible studies (including those for which relevance/eligibility was not clear from the abstract) were obtained. These publications were then assessed against a set of standard inclusion criteria by the health economists, and papers eligible for inclusion were subsequently assessed for internal validity. The quality assessment was based on the checklists used by the *British Medical Journal* to assist referees in appraising full and partial economic analyses (Drummond & Jefferson, 1996) (Appendix 12).

3.6.3 Selection 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 based on types of clinical conditions and patients were identical to 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 in principle excluded; however, they were included if they reported utility data required for a cost-utility analysis, when no other data were available
- Full and partial economic evaluations that compared two or more relevant options (that is, costing analysis, cost–consequence analysis, cost-effectiveness analysis, cost–utility analysis or cost–benefit analysis) were included in the review.

3.6.4 Data extraction

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

3.6.5 Presentation of economic evidence

The economic evidence identified by the health economics 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 relevant 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 health care 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 individuals, 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 the shaping later classifications of sociopathy (DSM-I), antisocial personality disorder (DSM-II 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 United Kingdom Mental Health Act, 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' (Mental Health Act, 1959). While the definition presented some problems when used in routine clinical care, the 1959 Act did explicitly introduce the idea that individuals were suffering from 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 (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 (Brown & Wing, 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 the most notable of these in the UK being Grendon Underwood (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 sector developed a therapeutic community approach where the focus on treatment was as much on the individual'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; Crawford *et al*., 2008). 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 extend community follow-up (for example, Wexler, 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 (2003) document *Personality*

Disorder: No Longer a Diagnosis of Exclusion, very few individuals 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 would suggest that this is still the case even in services with a specific focus on personality disorder (Crawford *et al*., 2008). 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 to considerable public concern (for example, Fallon *et al*., 1999). A recent development in the UK has been the development of specialist services for people classified as Dangerous People with Severe Personality Disorder (DSPD) (Home Office, 2005a). The programme has aimed to protect the public from some of the most dangerous people in society, but also to improve their mental health outcomes and to understand better what treatment works amongst 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 which focuses more explicitly on reducing re-offending (Vanstone, 2000). This has seen a move towards 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

As may be expected from a review of the development of services for antisocial personality disorder, the current provision of care 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 input 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 (NIMHE, 2003a). Approximately a quarter of attendees to GP practices fulfil diagnosis for personality disorder, often presenting with comorbid common mental health problems (Moran *et al.*, 2000). Of these, 5.2% will have an ICD-10/DSM-IV diagnosis of dissocial 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 (NIMHE, 2003a; Hellin, 2006). 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 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 with 28% providing no identified service and 32% returning no data (NIMHE, 2003a). The report also found a disparity of therapeutic approaches and mode of service delivery (NIMHE, 2003a). The most common therapies included psychodynamic psychotherapy, CBT, dialectical behaviour therapy or cognitive analytic therapy, delivered on both an outpatient and day patient basis (NIMHE, 2003a).

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 (NIMHE, 2003a). 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 spoke of the concerns that people with antisocial personality disorder might be unresponsive to psychological treatment; however service 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 deal with 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 the Community Risk Assessment and Case Management Service [CRACMS] in northwest England (Ministry of Justice, 2007).

The roles of forensic services are to provide treatment interventions, address offending behaviour and reduce the level risk associated with antisocial behaviour (NIMHE, 2003a). A crucial component of forensic services is to develop a working partnership with criminal justice agencies including multi-agency public protection panels (MAPPPs; NIMHE, 2003a). 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 People with 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 (CPA); 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 high security DSPD unit can be considered for any person that 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 need of prisoners has long been recognised as being substantial but also, in many cases, poorly met (HMIP, 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 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 specialist 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)
- 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 because these will increase the validity of the assessment. For specialist services, the use of measures such as the Psychopathy Checklist–Revised (PCL-R) or Psychopathy Checklist–Screening Version (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 (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 it is suspected and the person is seeking help, staff should consider referral to a specialist mental health service.

Access to services

4.2.4.4 People with antisocial personality disorder should not be excluded from services because of their diagnosis or history of antisocial or offending behaviour.

4.2.4.5 Services should seek to minimise disruption to therapeutic interventions for people with antisocial personality disorder by:

- avoiding unnecessary transfers between institutions wherever possible during an intervention
- ensuring that in the initial planning and delivery of treatment, transfers from institutional to community settings take into account the need to continue treatment.

4.2.4.6 Staff should ensure that people with antisocial personality disorder from black and minority ethnic groups have equal access to culturally appropriate services based upon individual need.

4.2.4.7 When language or literacy is a barrier to accessing or engaging with services for people with antisocial personality disorder, staff should provide:

- information in the person's preferred language and/or in an accessible format
- psychological or other interventions in person's preferred language
- independent interpreters.

4.2.4.8 When a diagnosis of antisocial personality disorder is made, healthcare professionals should discuss the implications of the diagnosis with the service user, and where appropriate with the carer, and relevant staff involved in their care. Staff should also:

- acknowledge the issues around stigma and exclusion that have characterised care for people with antisocial personality disorder
- emphasise that the diagnosis does not preclude access to a range of treatments for comorbid mental health disorders.

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:

- have established thresholds at transition points that are agreed locally and are made known to service users
- specify the various interventions that are available at each point in the pathway

- enable effective communication among clinicians and organisations at all points of the pathway and provide the means to resolve differences and disagreements.

4.2.4.10 Services should consider the establishment of antisocial personality disorder networks, where possible linked to wider personality disorder networks. These may be organised at the level of Strategic Health Authorities. These networks, which should be multi-agency and involve service users, should:

- take a significant role in training, including of staff in specialist and general mental health services, and in the criminal justice system
- have resources to provide specialist support and supervision
- perform 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 (Carr-Walker *et al*., 2005) found the latter to be 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 were 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 amongst staff surrounding 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 at their job. 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 method 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), 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, due to 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 broader a 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* (NIMHE, 2003a) 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 (NIMHE, 2003a). 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 and was not based on the required competencies or any underlying theoretical models (Duggan, 2002). There was also a gap in 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' 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 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 (NIMHE, 2003b); 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) 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 often 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 and 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 competencies

4.3.6.1 All staff working with people with antisocial personality disorder should be familiar with the Ten Essential Shared Capabilities for Mental Health Practice 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 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 specific treatment interventions and management strategies used in the service.

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, 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 direct monitoring and evaluation of programme adherence, for example through examination of service records
- routine direct monitoring and evaluation of staff adherence, for example through the use of video and audio tapes
- regular auditing of programme and staff adherence, involving external 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, properly resourced within local systems and monitored. Supervision, which may be provided by staff external to the service, should aim to:

- support adherence to the specific intervention
- promote general therapeutic consistency and reliability

- counter negative attitudes.

4.3.6.5 Specialist 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, which encourages reflective practice, and honesty about individual difficulties and areas where individual staff or the service may be open to compromise
- 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, with consideration given to the provision of support and supervision by staff external to the unit in which those staff work.

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.

Table 3: Databases searched an 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

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 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; 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, 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, contained 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 were fully aware 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 due to 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 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; healthcare 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 CMHT 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 treatment (Haigh, 2002). They also stressed the importance of early intervention in adolescence to prevent the deterioration of symptoms in adulthood.

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

In a survey of 12 male patients of a highly specialist personality disorder hospital treatment unit (McMurran & 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 receiving 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 (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 responsible medical officers 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 advisors 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 form 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 intermixing 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 was 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 prior that he should not have been transferred to hospital but 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). 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 that 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 uncertain 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); 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.

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. Beyond that 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 where the primary treatments provided by the service are group based.

4.4.6.2 Staff working with women with antisocial personality disorder should be aware of the higher incidences of comorbid Axis I and II disorders in such women, and the need to adjust and adapt interventions in light of this.

People with antisocial personality disorder and disabilities or acquired cognitive impairments

4.4.6.3 For people with learning or physical disabilities or acquired cognitive impairments who present with symptoms and behaviour suggestive of 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 may 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 Staff should work in partnership with people with antisocial personality disorder with the aim of developing their autonomy and encouraging choice by:

- empowering people to remain actively involved in finding solutions to their problems, even during crises
- encouraging people 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 service users in treatment. Staff should:

- explore treatment options in an atmosphere of hope and optimism, explaining that recovery is possible and attainable
- build up 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, attention should be paid to motivating service users to attend and engage with treatment. This should be done at initial assessment and be an integral and continual 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 admission of people with antisocial personality disorder for crisis management or for the treatment of comorbid conditions; admission should be brief and have a defined purpose and end point.

4.4.6.9 Admission 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 specialist forensic personality disorder services
- rarely, if ever, under a hospital order under a Section of the Mental Health Act for a person with antisocial personality disorder alone and should involve the advice of a specialist service.

4.5 Carer experience

4.5.1 Introduction

The Care Services Improvement Partnership (CSIP, 2006) summarised the findings of the 'Carers and Families of People with a Diagnosis of Personality Disorder Conference' held in October 2005. 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 due to 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 Staff should ask the person with antisocial personality disorder directly whether they wish their families and carers to be involved in their care, and, subject to the service user's consent and rights to confidentiality:

- encourage carers to be positively involved where the service user has agreed to this
- ensure that the involvement of carers does not lead to a shift in the burden of care and the withdrawal of or lack of access to services.

4.5.6.2 Staff should consider the needs of families and carers of people with antisocial personality disorder, paying 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.

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. 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; 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 but 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, has led to an increasing focus on interventions with 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 an individual 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 the evidence regarding the effectiveness of early interventions. 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, sometimes in early childhood, sometimes in infancy, and sometimes during pregnancy (see Section 5.2). The chapter will then consider separately the evidence regarding particular preventive interventions (see Section 5.3), including interventions that directly target the child (for example, Kazdin, 1995), interventions addressed towards 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 Early interventions

5.2.1 Introduction

The primary aim of these interventions is preventative, and as such, for the interventions to have any value, mechanisms must be in place to identify those children, and their families, that 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 (IOM) 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 individuals 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.*, 1994), found that an early intensive nurse home visitation intervention worked well to prevent child maltreatment in the early years and delinquency on 15-year 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 patients 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 anti-social personality disorder, since conduct disorder is part of the diagnostic criteria for antisocial personality disorder, although it can also be regarded as a selected preventive intervention, since conduct disorder can be thought of as a risk factor for antisocial personality disorder. Looked at in more detail, it is often hard to identify an intervention as selected or indicated based on the therapeutic activity that is involved. In the above example, conduct disorder interventions can also be regarded as selected prevention interventions for antisocial personality disorder, since conduct disorder, as well as being a precursor of antisocial personality disorder, can also be thought of as a risk factor. Cognitive behaviour therapy, for example, might be used as a treatment strategy in both selected and indicated prevention interventions of 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 pre-school children exhibiting behavioural problems will subsequently develop severe mental health disorders, disorders such as conduct disorder, 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). In Section 5.3, we shall consider the evidence in support of management approaches to behavioural problems, approaches including individual psychotherapy and parenting programmes. The latter 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 severity and/or prevalence of antisocial personality disorder.

There have been many thousands of studies, although fewer randomised controlled trials (Buckner *et al.*, 1985; Durlak, 1997; Mrazek & Haggerty, 1994; Trickett *et al.,* 1994), evaluating the effectiveness and benefits of preventive interventions for conduct disorder. 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 preventive intervention with asymptomatic children.

Current practice

Children's services practitioners in the United Kingdom have become increasingly interested in focusing on prevention in their effort to treat emotional and behavioural problems, including conduct disorder and related problems, in children and adolescents. A major initiative, the Sure Start initiative, began in 1998 to address a wide range of childhood emotional problems by targeting at risk children and the families of these children. According to the current prevailing view, this programme has had only limited success, and this is generally attributed to the fact that no measures have been taken to target the neediest families (Belsky *et al.*, 2006). Where targeting has occurred, benefits have been significant, but with families overall, the results have been equivocal (Melhuish *et al.*, 2007).

More recently, there has been an interest in developing and implementing programmes on the model of those developed by David Olds (see above). Such programmes, targeting vulnerable parents and children, are currently being carried out and evaluated in pilot form (Barnes *et al.*, 2008). Programmes in this area have often lacked a clear focus, and in the United Kingdom, although there is considerable interest in, and willingness to, more tightly define treatment goals, it is probably right to say that, at present, such services lack an overall structure, and are not uniformly directed towards any standard early intervention goal.

5.2.2 Definition and aim of review

The aim of this review is to assess early intervention treatments for behaviour problems and antisocial personality, interventions targeting children at risk of developing these disorders 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).

5.2.3 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. 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.

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	RCT
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

5.2.4 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. All were published in peer-reviewed journals and books between 1988 and 2007. 54 studies were excluded from the analysis. The most common reason for exclusion was inadequate follow up period.

5.2.5 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). 985 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 comprised of infants weighing less than or equal to 2,000g and a low birth-weight group comprised of infants weighing between 2,001 and 2,500g (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 2001-2500g 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

Several studies on nurse home-visiting programmes have reported significant programme 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 of 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 steps taken to link families with needed health and human services. The nurses receive detailed visit-by-visit programme guidelines to structure their work with families (Olds *et al*., 2003).

The NFP model was 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 followed up data on families up to the point that the child turned 15 (Olds *et al*., 1997, 1998). The other two studies, one in Memphis with a sample of 1138 low-income and primarily African American families (Kitzman *et al*., 1997, 2000) and the other and most recent 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 beyond 6 years. High rates of adherence to the evaluation protocol were achieved in the studies, with between 81 and 86% of mothers randomized 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 socio-economic 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 in the present context, 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 behaviour problems in the borderline or clinical range and expressed less aggression and incoherence in response to story stems compared to 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 10 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 (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 (NEET and never employed/had no qualifications or no stable relationship with baby's father). In the first year, in all pilot sites, a total of 1,217 young mothers (average age 17.9, range 13-24), 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 was 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. Although long-term child outcomes have not yet been collected, the health related changes that have already been observed in mothers as a result of treatment participation (for example, reduced smoking) can be reasonably expected to enhance child health and reduce negative child outcomes (for example, asthma).

In England, as in the USA, 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 weekly 2½ hour long special classes for 30 weeks, as well as weekly teacher home visits. 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, were 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. 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). 55% 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). 48% percent 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 to 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 daycare 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 para-professionals, the role of the parent as primary teacher for the child was emphasised. One learning game was played at each visit. Employment, referral, and family relations support 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 child-care for infants from 6–15 months and full-day care for infants from 15–60 months.

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

The intervention continued until the infant reached the age of 5. A quarter (24%) of the children in the programme did not complete all 5 years of intervention, and only 50–60% completed the follow-up at age 15. At follow-up, girls that 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 found 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 be taken with caution. It is reasonable to speculate that delinquency rates in families that couldn't be located for follow up were actually quite high, since, of those families that were located for followed-up, the families with a child involved in juvenile delinquency proved the most difficult to find.

The Abecedarian Project

The Abecedarian Project (AP) 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). 111 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. 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 kindergarten entry 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 neither pre-school nor kindergarten to 2nd grade intervention. The bulk of this difference appeared to be due to the pre-school intervention. There was a further follow-up at ages 12–15 (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 kindergarten to 2nd grade intervention did not endure.

105 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 since 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 (CPC) Programme for more then 1,500 children born in 1979 or 1980. Beginning in pre-school, 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 pre-school plus 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 ½ 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 which were involved in child and parent centres in pre-school 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 pre-school to primary grades was essential for the achievement test superiority to be maintained to grade 5. Primary grade intervention (1–3 years) resulted in significant improvement in both school achievement and school adjustment. Participation in the CPC 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. 1,368 cases, 888 programme cases and 480 control were available for the 22-24-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 to 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 effected 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% vs 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 of 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.

School based projects

This section reviews studies of school age children with a mean age of seven years of age. Typically these interventions consist of a combination of training teachers, training parents, 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 the strengthening of the child's bonds to their family and school, thus engendering a high level of adherence to the standards set by both these institutions. 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, child social and emotional skills development and parent training. The interventions included proactive classroom management, cooperative learning strategies as well as 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 comparison of experimental and control schools with both random and non-random assignment in a complex design.

Beginning in 1981, the intervention was initiated among grade 1 (7 years of age) students in classrooms randomly assigned to receive the intervention in 8 public schools serving high crime areas. These children were followed prospectively until 1985 when the study was extended to include grade 5 (11 years of age) students in 10 additional schools. There were ultimately 4 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; # available for follow-up) 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 antisocial peers and appeared to be somewhat less likely to be involved in delinquency. In girls the major benefit was in a reduced likelihood of substance use. At 18 years of age the intervention group reported less lifetime violence, less heavy alcohol use, less school misbehaviour and improved school achievement compared to 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 were less likely to be involved in a high variety of crime (3% vs. 9%, RR=0.33, 95% CI: 0.11, 0.93), to have sold illegal drugs (4% vs. 13%, RR=0.30, 95% CI: 0.12, 0.74), to have abused substances (74% vs. 82%, RR=0.90, 95% CI: 0.80, 1.01) and to have a court record at the age of 21 (42% vs. 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.

5.2.6 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, and reduced maltreatment as well as what is our central concern here, lower rates of delinquency and crime. Early childhood interventions are quite unique in this regards, there are no other interventions to our knowledge 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 wellbeing 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.

The evidence for pre-school interventions, in contrast, show more moderate effects on later offending, with some programmes found not to be effective. A similar picture emerges with school based interventions, where the evidence for effectiveness is again modest and weaker than that of earlier interventions.

5.2.7 From evidence to recommendations

The GDG considered the evidence available on early interventions. It noted that the majority of the interventions were developed in non-UK settings and this raised some questions about the generalisability. However, the GDG were impressed by the consistent impact of these programmes often with quite disadvantaged families and took the view that the evidence for the most effective interventions were those that were targeted to families at risk. They

noted also that early indications from pilot studies conducted in the UK suggest that it may be feasible to deliver these programmes in the UK. They 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 were likely to be significantly reduced and therefore not cost effective.

5.2.8 Recommendations

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

5.2.8.1 Services should establish robust methods to identify children at risk of developing conduct problems. These should focus on identifying vulnerable parents, where appropriate antenatally, including:

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

5.2.8.2 When identifying vulnerable parents, staff should take care not to enhance 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

5.2.8.3 Early interventions aimed at reducing the risk of the development of conduct problems, and potentially subsequent antisocial personality disorder, may be considered for children identified to be of high risk. These should be targeted at parents of children with identified high-risk factors and include:

- non-maternal care (such as nursery care) for children aged younger than 1 year
- interventions to improve poor parenting skills for the parents of children aged younger than 3.

5.2.8.4 Early interventions should usually be provided by health and social care professionals over a period of 6 to 12 months, and should:

- consist of high-fidelity, well-structured, manualised programmes
- target multiple risk factors (such as parenting, school behaviour, parental health and employment).

5.3 Interventions for children with conduct problems

5.3.1 Introduction

Current practice

The treatment and management of conduct disorder and related problems in the UK has been significantly expanded in recent years. The impact of the NICE technology appraisal on parent training programmes (NICE, 2006) has been significant, and parent training programmes are now generally widely available within the UK, based on models developed by, for example, Webster-Stratton (Webster-Stratton *et al.*, 1988). In addition, 2008 saw the development of a major pilot programme of multi-systemic therapy which is currently being rolled out in 10 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 developments that may potentially be of 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, 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 4 – 10 age range. Evidence based programmes for adolescents, where parent training programmes may be less effective, are not well developed. Beyond the mainstream provision in the NHS in child and adolescent mental health services, there are also some specialist services, for example youth offending teams where these programmes may serve as effective indicated 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).

5.3.2 Aim of topic 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), multi-component (targeting the family and the wider social environment).

Child interventions

Cognitive problem-solving skills training (CPSS)

Emphasis on thought processes in which the child engages to guide responses to interpersonal situations. 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, reinforcement (Kazdin, in press).

Anger control training

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

Social problem skills training

This is a specialist form of cognitive problem-solving training which 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 his or her own emotional responses (see Fonagy *et al.*, 2002).

Parent interventions

Parent training

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 the Triple P (Sanders *et al.*, 2000) 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, 2008).

Family interventions

Structural or systemic family therapy

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 behaviour problems. Additionally, the aim is to

change the nature of the interactions so that they may develop relationships that are more supportive and have less conflict (NICE, 2004).

Functional family therapy (FFT)
A family-based psychological intervention which 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, finally seeking to generalise change from specific behaviours to impact interactions both within the family and with community agencies such as schools (see for example Gordon *et al.*, 1995).

Brief strategic family therapy (BSFT)
A psychological intervention which 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).

Multi-component interventions

Multisystemic therapy (MST)
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, school performances) for children or adolescents (Henggeler *et al*., 1992).

Multidimensional treatment foster care (MTFC)
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, school performances) 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).

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 5.

Table 5: 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

5.3.4 Studies considered[3]

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 96 trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 6,571 participants. Of these, one trial was a report from the Joseph Rowntree Foundation (Scott *et al*., 2004), one trial was a report of the Washington Institute of Public Policy (Barnoski *et al.,* 2004), and 94 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).

Of the included trials, 35 involved a comparison of parent training with control, five compared parent training plus an additional intervention for children with parent training, six compared parent training plus an additional intervention for parents with parent training, five compared cognitive problem-solving skills (CPSS) training with control, five compared social skills training with control, 13 compared anger control training with control, 11 compared family interventions with control, 10 compared multi-systemic therapy (MST) with control, two compared multidimensional treatment foster care (MTFC) with control, four compared other multi-component interventions with control, 8 compared cognitive and behavioural interventions with control and 2 compared cognitive and behavioural plus other interventions.

5.3.5 Clinical evidence for interventions targeted at children

Evidence from the important outcomes and overall quality of evidence are presented in Table 6 and Table 7. The full evidence profiles and associated forest plots can be found in Appendix 16 and Appendix 17.

[3] 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).

1

Table 6: Study information table for trials of interventions targeted at children and/or for the treatment of conduct problems

	CPSS 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)	13 RCTs (N = 1,167)
Study ID	KAZDIN1989 KENDALL1990 MICHELSON 1983 VANMANEN 2004 WEBSTER-STRATTON 1997	DEFFENBACHER 1996 DESBIENS2003 ISON2001 PEPLER1995 VANMANEN2004	BARKLEY2000 DEFFENBACHER 1996 FEINDLER1984 LIPMAN2006 LOCHMAN1984 LOCHMAN2002 LOCHMAN2004 NICKEL2005A OMIZO1988 SHECHTMAN2000 SNYDER1999 SUKHODOLSKY2000 VANDEWIEL2007
Diagnosis	Conduct disorder and/or behaviour problems	Behaviour problems	Behaviour problems
Baseline severity	Diagnosis of conduct disorder/ oppositional defiant disorder: KENDALL1990 VANMANEN 2004 WEBSTER-STRATTON 1997 Reported behaviour problems in the clinical range on a behaviour problem scale: KAZDIN1989 Referred for behaviour problems: MICHELSON 1983	Diagnosis of conduct disorder/ oppositional defiant disorder: ISON2001 VANMANEN 2004 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 VANDEWIEL2007 Reported behaviour problems in the clinical range on a behaviour problem scale: DEFFENBACHER1996 LOCHMAN1984 LOCHMAN2004 SNYDER1999 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

2

Table 7: Evidence summary for interventions targeted at children and/or adolescents with conduct problems (only important outcomes reported)

CPSS compared with control for children and adolescents with conduct problems

Patient or population: Children and adolescents with conduct problems
Settings: Schools, psychiatric outpatients
Intervention: CPSS
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)	⊕⊕⊕O **moderate**[1]	SMD -0.54 (-0.96 to -0.12)

[1] I-squared >50%

Anger control training compared with control for children with behaviour problems

Patient or population: Children and adolescents with conduct problems
Settings: Schools
Intervention: Anger control training
Comparison: Control

Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Total behaviour problems	357 (7)	⊕⊕⊕O **moderate**[1]	SMD -0.37 (-0.58 to -0.16)

[1] Possible issue of reactivity of outcome measure

Anger control training + parent training compared with no treatment for children with behaviour problems

Patient or population: Parents with children with behaviour problems
Intervention: Anger control training + parent training
Comparison: No treatment

Outcomes	No. of participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Child behaviour - Total behaviour problems (follow-up: 0-1 years)	423 (4)	⊕⊕OO **low**[1,2]	SMD -0.06 (-0.25 to 0.13)

[1] Possible issue of reactivity of outcome measure
[2] CIs compatible with benefit and no benefit

Social problem-solving skills training compared with no treatment 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)	⊕⊕OO **low**[1,2]	SMD -0.35 (-0.73 to 0.03)

[1] I-squared >50%
[2] CIs compatible with benefit and no benefit

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 (CPSS) training

There were five trials on CPSS. At end of treatment there was a small-to-medium effect favouring CPSS (SMD -0.35; -0.59 to -0.10) and this effect was sustained and actually improved at 1-year follow-up (SMD -0.54; -0.96 to -0.12).

Anger control training

There were 13 trials on anger control training. Trials that only included interventions for individuals 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 problem-solving 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.

Clinical evidence summary

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.

5.3.6 From evidence to recommendations

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

However, the evidence for anger control and social problem-solving skills 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, 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.

5.3.7 Recommendations for child interventions

5.3.7.1 For children aged 8 years and older with conduct problems, cognitive problem-solving skills training may be considered.

5.3.7.2 Cognitive problem-solving skills training should be delivered individually over a period of 10 to 16 weeks and typically focus on cognitive strategies to enable the child to:

- generate a range of alternative solutions to interpersonal problems
- analyse the intentions of others
- understand the consequences of their actions
- set targets for desirable behaviour.

5.3.7.3 For children who have residual problems following cognitive problem-solving skills training, anger control or social problem-solving skills training should be considered, depending on the nature of the residual problems.

5.3.7.4 Anger control should usually be conducted in groups over 10 to 16 weeks, and typically focus on strategies to enable the child to:

- build capacity to improve the perception and interpretation of social cues
- manage anger through coping and self-talk
- generate alternatives 'non-aggressive' responses to interpersonal problems.

5.3.7.5 Social problem-solving skills training should usually be conducted in groups over 10 to 16 weeks, and typically focus on strategies to enable the child to:

- modify and expand their interpersonal appraisal processes
- develop a more sophisticated understanding of beliefs and desires in others
- improve their capacity to regulate their emotional responses.

5.3.8 Clinical evidence for interventions targeted at parents

Evidence from the important outcomes and overall quality of evidence are presented in Table 8 and Table 9. The full evidence profiles and associated forest plots can be found in Appendix 16 and Appendix 17, respectively.

Table 8: 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)	35 RCTs (N = 2,455)	6 RCTs (N = 366)	5 RCTs (N = 346)	1 RCT (N = 39)
Study ID	ADAMS2001 BANK1991 BARKLEY200 BEHAN2001 BRADLEY2003 CONNELL1997 FEINFIELD2004 GARDNER2006 HUTCHINGS2007 IRVINE1999 JOURILES2001 KACIR1999 KAZDIN1987 LOCHMAN2004 MAGEN1994 MARKIE-DADDS2006 MARTIN2003 NICHOLSON1999 NIXON2003 PATTERSON2007 SANDERS2000 SANDERS2000A SCOTT2001 SCOTT2004 STEWART-BROWN2007 STOLK2008 STRAYHORN1989 TAYLOR1998 TURNER2006 TURNER2007 WEBSTER-STRATTON1984 WEBSTER-STRATTON 1988 WEBSTER-STRATTON 1990 WEBSTER-STRATTON 1992 WEBSTER-STRATTON 1997	DADDS1992 IRELAND2003 NOCK2005 SANDERS2000A SANDERS2000B WEBSTER-STRATTON 1994	BARKLEY 2002 DISHION1995 DRUGLI2006 KAZDIN1992 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 KAZDIN1987 NIXON2003 SCOTT2001	Diagnosis of conduct disorder/oppositional defiant disorder: DADDS1992 SANDERS2000B WEBSTER-	Diagnosis of conduct disorder/oppositional defiant disorder: KAZDIN1992 KAZDIN2003	Not relevant

	WEBSTER-STRATTON1984 WEBSTER-STRATTON 1997 Reported behaviour problems in the clinical range on a behaviour problem scale: GARDNER2006 FEINFIELD2004 HUTCHINGS2007 IRVINE1999 KACIR1999 LOCHMAN2004 MAGEN1994 MARKIE-DADDS2006 MARTIN2003 PATTERSON2007 SANDERS2000 SANDERS2000A STEWART-BROWN2007 STOLK2008 WEBSTER-STRATTON 1988 WEBSTER-STRATTON 1990 WEBSTER-STRATTON 1992 Referred for behaviour problems: ADAMS2001 BRADLEY2003 BEHAN2001 STRAYHORN1989 TAYLOR1998 TURNER2006 TURNER2007 Offending history: BANK1991	STRATTON1994 Reported behaviour problems in the clinical range on a behaviour problem scale: SANDERS2000A Referred for behaviour problems: IRELAND 2003	Reported behaviour problems in the clinical range on a behaviour problem scale: DISHION1995 DRUGLI2006	
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

1

Table 9: Summary of evidence 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	2455 (35)	⊕⊕⊕O **moderate**[1]	SMD -0.36 (-0.50 to -0.22)
Conduct disorder/oppositional defiant disorder specific behaviour (end of treatment) Conduct problems	1403 (14)	⊕⊕⊕O **moderate**[1]	SMD -0.26 (-0.48 to -0.03)
Behaviour (follow-up) Total behaviour problems (follow-up: 12 months)	489 (7)	⊕⊕OO **low**[1,2]	SMD -0.21 (-0.56 to 0.14)

[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)	⊕⊕⊕O **moderate** [1]	SMD -0.12 (-0.35 to 0.11)
Enhanced parent training (attrition) - number of sessions attended	76 (1)	⊕⊕⊕O **moderate**[2]	SMD -0.38 (-0.84 to 0.07)

[1] CIs compatible with benefit and no benefit
[2] only one study

There were a large number of trials on parent training, with 35 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; -0.50 to -0.20). Heterogeneity was high in the meta-analysis (I2 = 63.3%), which is explained to some extent by age and level of risk. A sub-group 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 -0.56; -0.78 to -0.35; young people: SMD -0.32; -0.64 to 0.00) although there is still overlap in confidence intervals. In addition, a sub-group 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 = -0.41; -0.52 to -0.30). 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, cognitive behavioural therapy for depression in the mother; SMD = -0.12; -0.35, 0.11).

Clinical evidence summary

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; sub-group analyses suggest that differences in the ages of the children and in level of risk may explain, to some extent, some of the inconsistency.

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.

5.3.9 Health economic evidence for interventions targeted at parents

A recent technology appraisal was conducted by NICE on the cost-effectiveness of parent training for children with conduct disorders (NICE, 2006). Parent training was found to be cost-effective and was recommended for implementation in health and social care settings.

Economic analysis in the NICE guidance on parent-training/education programmes for children with conduct disorders

The NICE technology appraisal on parent-training/education programmes in the management of children with conduct disorders (NICE, 2006) 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 Health Related Quality of Life (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 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, 2006]), 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 ones, because the two modes of delivery did not differ in terms of clinical effectiveness, while the intervention costs of group-based programmes were spread to a large number of treated families.

The additional economic analysis undertaken to support NICE guidance 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 disorders to a better state (either conduct problems or normal behaviour) was £90, £1,380, and £2,400 for a group community-based programme, an individually delivered clinic-based programme, and an individually delivered home-based programme, respectively; the group clinic-based programme proved to be overall cost saving. 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.

5.3.10 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.

5.3.11 Recommendations for parent interventions

5.3.11.1 For parents of children aged between 5 and 12 years with conduct problems, parent training programmes should be offered.

5.3.11.2 For parents of children aged between 13 and 18 years with conduct problems, parent training programmes may be considered.

5.3.11.3 Parent training programmes should be delivered in a group format by health or social care professionals such as psychologists or social workers. The intervention should focus on the training of parents in skills that help them manage their children's behaviour, including:

- communicating (such as active listening, giving and receiving support)
- problem-solving (both for the parent and in helping to train their child to solve problems)
- promoting positive behaviour (for example, through support, use of praise and reward)
- reducing inappropriate behaviour (for example, establishing rules and routines, discipline, parental monitoring).

5.3.11.4 For children aged 8 years and older with conduct problems, cognitive problem-solving skills training focused on the child may be considered in addition to parent training programmes where additional factors, such as callous and unemotional traits in the child, may reduce the likelihood of the child benefiting from parent training programmes.

5.3.11.5 Additional interventions targeted specifically at the parents of children with conduct problems (such as interventions for parental marital or interpersonal problems) should not be provided routinely alongside parent training programmes, as they are unlikely to have an impact on the child's conduct problems.

5.3.12 Clinical evidence for interventions targeted at families

Evidence from the important outcomes and overall quality of evidence are presented in Table 10 and Table 11. The full evidence profiles and associated forest plots can be found in Appendix 16 and Appendix 17, respectively.

1

Table 10: 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 offending	Family interventions versus CBT
Total no. of trials (total no. of participants)	7 RCTs (N =237)	2 RCTs 2 quasi-experimental studies (N=894)	1RCT (N=56)
Study ID	NICHOLSON1999 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: SZAPOCZNIK 1989 Reported behaviour problems in the clinical range on a behaviour problem scale: NICHOLSON 1999 SANTISTEBAN 2003 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

2

Table 11: 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)	⊕⊕⊕O **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)	⊕⊕⊕O **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)	⊕⊕⊕O **moderate**[1, 2]	RR 0.62 (0.42 to 1.07)

[1] I-squared >50%
[2] Quasi-experimental studies

11 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 = 0.63; 0.37 to 1.07).

The heterogeneity observed in the risk of re-offending was explained by problems with therapist competence in BARNOSKI2004. A sub-group analysis found a large difference when including only competent (RR = 0.57; 0.42 to 0.78) or non-competent therapists (RR = 0.97; 0.77 to 1.32).

The heterogeneity observed in the behaviour scales outcome appeared to be due to NICKEL2005 and NICKEL2006A. A sub group 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).

Clinical evidence summary

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.

5.3.13 Health economic evidence for interventions targeted at families

Systematic literature review

In a systematic search of the economic literature, one effectiveness study of functional family therapy (FFT) was found that reported a cost-benefit analysis (Barnoski, 2004). It showed that in the US context, FFT generates cost savings in avoided crime costs. No studies have been identified that considered the costs and 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.

Economic modelling

Objective

The costing analysis aims to estimate the direct costs to the NHS of implementing an FFT programme in the UK in relation to societal savings from reduced crime.

Interventions examined

Components of the FFT programme

FFT 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. FFT programmes have been successfully delivered in home-based, clinic-based and school-based settings. In Washington where FFT was evaluated, trained therapists had caseloads of 10 to 12 families (Barnoski, 2004). (Note, there is good evidence to suggest that the effectiveness of therapy in reducing recidivism may be directly related to the competence of the therapist (Barnoski, 2004). Implementation of FFT therefore, focuses particularly on developing therapist competence rather than simply teaching skills.)

Methods

Costs and benefits include in the analysis

Two major categories of costs were assessed: the costs of the intervention, borne by the NHS, and any cost-savings to the society owing to the expected reduction in recidivism, following. Health service costs consisted solely of intervention cost (the cost of FFT). The measure of benefit was the cost saving to society as a result of crimes avoided.

The time horizon in this cost analysis is 12 months. However, outcomes in the three effectiveness studies were not calculated at 12 months, and rates calculated from 18-month and 5-year follow-ups must be used. These long-term recidivism rates are likely to approximate rates covering a shorter

period, and where these long-term rates diverge from recidivism rates over shorter periods of time, that divergence is likely to be an increase. Consequently, by using these long-term (and larger) recidivism rates, the resulting effectiveness data will underestimate programme benefits compared to the benefits that would be found were 12 month recidivism rates used instead.

Effectiveness data

This cost analysis uses data from three effectiveness studies of FFT, two of which followed up young people for 18 months after the intervention (ALEXANDER1973; BARNOSKI2004) and one of which followed up young people for 5 years (GORDON1995). Outcomes were given as reconviction rates in the follow-up period.

BARNOSKI2004 (n = 387 for the intervention and n = 313 controls) was a quasi-experimental study. Young people were pre-screened by the courts and designated low, medium or high risk of re-offending based on established criteria. Only moderate- to high-risk young people were eligible for FFT. When the intervention reached capacity the remaining eligible young people were assigned to the control group and received usual juvenile court services. The procedures for assigning participants varied from court to court, ranging from quasi-random (using the last digit of their juvenile number), to a 'first come first served' basis, to discretion in assignment. Multivariate statistical techniques were used in the analysis to control for group differences on key characteristics (gender, age, risk and protective factor scores).

BARNOSKI2004 comprised the first statewide FFT programme to be implemented in the US, so that while therapists, in the large numbers needed for the programme, were being trained in and conducting FFT, the state was simultaneously learning how to train on a large scale and to manage this large therapist group. Therapist assessment was conducted after the programme was underway, and therapists were classified as competent or non-competent. As there was a significant difference in reconviction rates between families who received therapy from competent therapists and from non-competent therapists, a subgroup analysis was undertaken by competence of therapists.

In ALEXANDER1973, 99 families were randomly assigned to either FFT (n = 46), client-centred family groups treatment (n = 19), eclectic psychodynamic family treatment (n = 11) or a no-treatment control (n = 10). Therapists consisted of graduate-level students in clinical psychology students who were participating in a clinical practicum series emphasising family treatment. Each therapist (with a few exceptions) saw two families.

In GORDON1995, 27 juvenile offenders were court-ordered to the programme as a condition of probation. The comparison group (n = 27) were randomly selected from a population of delinquents adjudicated during the same period as the treatment group but not referred for family therapy. Therapists were graduate-level clinical psychology students who had limited training and experience with individual therapy.

Effectiveness data (intent-to-treat) from the three studies are summarised in Table 12.

Table 12: Summary of effectiveness results

Study	**Follow-up**	**Total reconviction events (%)**	
		Intervention	***Control***
ALEXANDER1973	18 months	12/46 (26%)	9/19 (47%)
BARNOSKI2004 *All therapists* *Competent therapists only*	18 months	 94/387 (24%) 30/181 (17%)	 85/313 (27%) 85/313 (27%)
GORDON1995	5 years	6/27 (22%)	14/27 (52%)
Total (all therapists)		**112/460 (24%)**	**108/359 (30%)**
Total (competent therapists)		**48/254 (19%)**	**108/359 (30%)**

Resource utilisation and cost data

Resource use data are taken from a variety of sources that describe how the programme is implemented in the US (ALEXANDER1973; BARNOSKI2004; GORDON1995; National Center For Mental Health Promotion and Youth Violence Prevention, 2007). Two of the earlier US studies trained clinical psychology graduates to provide FFT, while in the larger Washington State FFT programme, no details were given about the nature of the therapists' grades or qualifications (BARNOSKI2004). In the UK where a pilot FFT project is being developed, experienced family therapists have been chosen to deliver the service (Moira Doolan, personal communication).

In the absence of good unit-cost estimates for family therapists, this analysis adopted published national average cost estimates for clinical psychologists (Curtis, 2007). At grades which would be required for delivering FFT, salaries would be similar for both professions (Moira Doolan, personal communication). The unit cost value for a clinical psychologist in 2006/7 is based on the mid-point of Agenda for Change (AfC) salaries Band 7 of the April 2006 pay scale according to the National Profile for Clinical Psychologists, Counsellors & Psychotherapists (NHS, 2006). The full unit cost estimate includes salary, salary oncosts, overheads and capital overheads. It also takes account of the ratio of professional outputs to support activities and the ratio of face to face contacts to all activity (Curtis, 2007). Costs have been uplifted to 2007 prices using published estimates of the Retail Prices Index (Office for National Statistics, 2007).

Details of costs and resources for delivering FFT for 100 families over a 1-year period are given in Appendix 18a. A summary of cost estimates is shown in Table 13. BARNOSKI2004 reports that therapists have a caseload of 10 to 12 families and the intervention involves about 12 visits during a 90-day period. Each session lasts 1 hour for mild problems but in more complex situations a therapist can spend up to 30 hours with a family, although there is no information available on the proportion of mild or complex cases seen in any of the studies. However, one study (ALEXANDER1973) reported the mean time spent with each family as 1.5 hours per week. If therapists spend an average of 1.5 hours per week with each family and each therapist has a caseload of 10 then he/she could complete therapy for 40 families in 1 year (4 x 12-week programmes in 1 year). For one therapist this would result in 720 hours per year (1.5 hrs x 12 weeks x 40 families). To deliver FFT to 100 families would require 2.5 therapists and a total of 1,800 hours.

Training costs were obtained from a systematic training and implementation protocol for community agencies hoping to implement FFT as a clinical model (National Center For Mental Health, 2007). The training components involve:

- two 2-day clinical training for all FFT therapists in a working group (one on-site and one off-site)
- externship training for one working group member, who will become the clinical lead for the working group
- three follow-up visits per year (2 days each, on -site)
- supervision consultations (4 hours of monthly phone consultations)
- supervision training for the site supervisor.

Given that the investment in training would produce benefits outlasting their costs (more than the 12 month period of the intervention), this analysis assumes a 5-year life for the training investment. Consequently the initial costs of training have been spread equally over 5 years.

Table 13: Summary of annual cost estimates for FFT for 100 families in the UK (2007 prices)

Cost estimates	£ (2007 prices)
Training costs in total	£9,213
Training costs per year[1]	£1,845
Annual ongoing costs for FFT programme	£125,775
Total costs of FFT programme per year	£127,618

Notes:
1. Costs of training spread over 5 years.

Estimating number of crimes avoided

In order to estimate the cost savings that would result from crimes avoided, it is necessary to estimate the mean number of crimes committed by those

reoffending. In a US study, Farrington and colleagues (2003) compared data from official records with self-report data for eight types of offences (burglary, vehicle theft, larceny, robbery, assault, vandalism, cannabis use, and drug selling) among offenders aged 11 to 16 years. The average number of offences per offender per year was 4.6 using data from court records and 49.2 using data from self-report (Farrington *et al.*, 2003). This cost analysis uses the former conservative estimate to calculate number of crimes committed.

Based on the effectiveness data from Table 12, if 100 families receive FFT then on average six convictions will be avoided (30% - 24%), for the study participants. Assuming each conviction relates to 4.6 offences on average, then the number of crimes avoided in 1 year will be 27.6 (6 convictions x 4.6 offences). If only competent therapists are included then FFT delivered to 100 young people will result in 11 avoided convictions (30% - 19%) and 51 avoided crimes (11 x 4.6) per year.

Estimating costs of crime

To estimate the costs of crimes committed by study participants ideally we would have data on the type of crime committed by each offender. However, the distribution of crime types committed by the intervention and control groups in the three effectiveness studies is unknown. For this reason, the weighted average cost of a crime in the UK was calculated using Home Office (2005) data on the average cost of a crime by category of offence (violence against the person, sexual offences, common assault, robbery, burglary in a dwelling, theft and criminal damage) and the volume of crimes in each category (Appendix 18b). The average cost for crimes against individuals and households takes into account costs:

- in anticipation of crime, for example: defensive expenditure and insurance administration
- as a consequence of crime, for example: value of property stolen, physical and emotional impact on direct victims, lost output and health services
- in response to crime (criminal justice system).

At 2007 prices, the weighted average cost of a crime against individuals and households was £4,002.

Sensitivity analysis

1. Barnoski (2004) performed an additional sub-group analysis on results for competent FFT therapists. This was because therapists were being assessed while providing FFT services and it was found, after the state-wide programme was underway, that more than half of them were not competent. It is presumed that if such a programme were to run in the UK that all therapists would be considered competent after training

and before delivering the service to families. A sensitivity analysis will assess the rate of crimes avoided if only competent therapists were included.

2. We have chosen to use official court record estimates of the average number of offences per offender (4.6). By contrast self report gives a much higher average number of offences (49.2; Farrington *et al.*, 2003). As discussed above the former is likely to be an underestimate while the latter number might be an overestimate of the true average. A sensitivity analysis will assess the impact on costs avoided if a higher average of 6 offences per offender were used.

Results

Costs (of the FFT programme) and benefits (cost savings from crimes avoided) are listed in Table 14 with scenario 1 being the base case against which other scenarios, as part of a sensitivity analysis, can be compared. When the least effective programme is implemented; that is, when all therapists, competent and incompetent, deliver the programme, there is a net cost to society of £171 per offender.

The alternative scenario (Scenario 2) which assumes that only competent therapists are allowed to deliver the programme results in a net saving per offender of £765.

However, Scenario 3 which uses a higher estimate of the average number of offences per offender (6 instead of 4.6), even though incompetent as well as competent therapists deliver the programme, results in a net saving of £165 per offender.

Table 14: Summary of costs of FFT programme compared with costs avoided as a result of reduced crime

Scenario	Assumptions	Programme costs	Cost savings	Net cost (saving)	Net cost (saving) per offender
1 (base case)	All therapists included Estimated average number of offences per offender = 4.6	£127,618	£110,538	£17,080	£171
2	Only competent therapists included Estimated average number of offences	£127,618	£204,102	(£76,484)	(£765)

	per offender = 4.6				
3	All therapists are included Estimated average number of offences per offender = 6	£127,618	£144,072	(£16,454)	(£165)

Discussion

In this cost-benefit analysis, FFT would result in a net cost to society of £171 per offender in the base case analysis where both competent and incompetent therapists were allowed to practice. The base case took this conservative approach because in the statewide FFT implementation programme in Washington, more than half of therapists were found to be not competent (Barnoski, 2004). However, given that in the UK both clinical psychologist and family therapist training has moved towards competence-based models of training (British Psychological Society, 2002; Association for Family Therapy, 2002, Roth and Pilling, 2008) it is unlikely that those deemed not sufficiently competent would be involved in implementation of FFT. 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 (NOMS, 2006).

This analysis has erred on the side of caution by making the choices that yield the most conservative results when different options were available. For example, we chose to use court records to determine mean number of offences per offender, yielding a mean of 4.6, compared to the far higher average (over 40) derived from self report. Neither is likely to provide a true picture of offending rates. However, our analysis shows that if the true number of offences per offender was even slightly higher than the court records average (6 instead of 4.6). FFT would be cost effective even if it was delivered by a mix of competent and non-competent therapists.

In other ways, it is likely that the results of this analysis reflect a very conservative estimate of programme benefits. The analysis has estimated benefits, as well as costs, using a single year as the time frame. However, a reduction in re-offence rates can carry lifetime benefits for the offender, and can therefore generate long-term savings for society. Gordon and colleagues (1995) note that no attempt was made to estimate the benefits to society of the programme in their study in terms of a reduction in substance misuse or an increase in educational attainment among youths that received the intervention. There is evidence that, with each subsequent recidivism, the probability of continued offences increases, reaching approximately 70% to 80% after three offences (Wolfgang *et al.*, 1972). Furthermore, one FFT study showed a substantial reduction in the recidivism rates of siblings participating in FFT, with rates for siblings of referred delinquents in the FFT

group 50% lower than those of siblings in the control groups (Klein *et al*., 1977). Because the intervention focuses on the family system as a whole, it is indeed quite possible that rates of juvenile and adult offence would be affected for the siblings of offenders as well as for the offenders themselves (Gordon *et al*., 1995). Therefore, it is likely that, by choosing a timeframe of 12 months, our analysis underestimated the overall benefits of the intervention.

5.3.14 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 may also 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.

5.3.15 Recommendations for family interventions

5.3.15.1 For children aged 13 to 18 years with conduct problems, specific family interventions (brief strategic family therapy or functional family therapy) should be considered if the family is unable to or chooses not to engage with parent training programmes or where the severity of the conduct problems is such that they will be less likely to benefit from parent training programmes.

5.3.15.2 Brief strategic family therapy should be considered for children aged 13 to 18 years, particularly those with severe conduct and drug-related problems. It should consist of at least fortnightly meetings over 3 months and focus on:

- engaging and supporting the family
- engaging and using the support of the wider social and educational system
- identifying maladaptive family interactions (including areas of power distribution, conflict resolution)
- promoting new more adaptive family interactions (including open and effective communication).

5.3.15.3 Functional family therapy should be considered for children aged 13 to 18 years with severe conduct problems and a history of offending. It should be conducted over a period of 3 months by health or social

care professionals and focus on improving the interactions within the family, including:

- engaging and motivating the family in treatment (enhancing perception that change is possible, positive reframing and establishing a positive alliance)
- problem-solving and behaviour change, through parent training and communication training
- promoting generalisation of change in specific behaviours to broader contexts, both within the family and within the community (such as schools).

5.3.16 Clinical evidence for multi-component interventions

Evidence from the important outcomes and overall quality of evidence are presented in Table 15 and Table 16. The full evidence profiles and associated forest plots can be found in Appendix 16 and Appendix 17, respectively.

Some researchers have combined two or more psychological and/or psychosocial interventions, provided concurrently or consecutively, in 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.

Table 15: Study information table for trials of multi-component interventions for adolescents at risk of offending

	Multi-systemic therapy (MST) versus control	Multidimensional treatment foster care (MTFC) 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 HENGGELER 1992 HENGGELER 1997 HENGGELER 1999 HENGGELER 2006 LESCHIED2002 OGDEN2004 ROWLAND 2005 TIMMONS-MITCHELL 2006	CHAMBERLAIN1998 CHAMBERLAIN2007	BARRETT2000 (family therapy + anger control + problem solving skills) CAVELL2000 (problem solving skills + mentoring) FRASER2007 (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: FRASER2007
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

1

Table 16: Evidence summary of multi-component interventions (only important outcomes reported)

MST compared with control for adolescents with conduct problems at risk of offending			
Patient or population: Adolescents with conduct problems at risk of offending **Intervention:** MST **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)	⊕⊕⊕O **moderate**[1]	SMD -0.44 (-0.82 to -0.06)
Offending (follow-up: 0-14 years)	813 (5)	⊕⊕⊕O **moderate**[1]	RR 0.64 (0.45 to 0.91)

[1] I-squared >50%

MTFC compared with control for adolescents with conduct problems at risk of offending			
Patient or population: Adolescents with conduct problems at risk of offending **Intervention:** MTFC **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)

10 trials on MST 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 MST and treatment as usual on all primary outcomes. A possible explanation is that the majority of MST trials were conducted in the US by the founders Henggeler and colleagues, whereas LESCHIED2002 was a Canadian trial undertaken independently from the founders of MST. However, a study by OGDEN2004 on a Norwegian sample, which was also conducted independently, found positive effects for MST for slightly different outcomes.

Henggeler and colleagues (2006) argue the lack of effectiveness reported in LESCHIED2002 is probably due to problems with treatment fidelity and the challenges of setting up a new MST service. There were differences in effectiveness between sites, 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 MTFC. There was a medium effect favouring MTFC (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 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.

Clinical evidence summary

There is a relatively large evidence base concerning the effectiveness of MST. 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 MTFC, 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.

5.3.17 From evidence to recommendations

The evidence suggests that for children at risk of going into care multi-dimensional foster care is an effective intervention. For conduct disordered adolescents not appropriate for parent training, and who are at significant risk of offending, multi-systemic therapy is an effective intervention. It is important for both of these interventions that high fidelity to the model is preserved.

5.3.18 Recommendations for multi-component interventions

5.3.18.1 For children aged 13 to 18 years in foster care with conduct problems, multidimensional treatment foster care should be considered. It should be conducted over 6 months by a team of health and social care professionals able to provide case management, individual therapy and family therapy. This intervention should include:

- training foster care families in behaviour management and providing a supportive family environment
- the opportunity for the young person to earn privileges (such as time on the computer and extra telephone time with friends) when

engaging in positive living and social skills (for example, being polite and making their bed) and good behaviour at school
- individual problem-solving skills training for the young person
- family therapy for the birth parents in order to provide a supportive environment for the young person to return to after treatment.

5.3.18.2 For children aged 13 to 18 years with severe conduct problems, a history of offending and who are at risk of being placed in care or excluded from the family, multi-systemic therapy should be considered. It should be provided over 3 to 6 months by a dedicated professional with a low caseload. The intervention should:

- focus specifically on problem-solving approaches with the family
- involve and utilise the resources of peer groups, schools and the wider community.

5.4 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 progress to the development of ASPD significant mental health problems may continue into adult life. It is therefore very important that healthcare professionals working with children both effectively coordinate the care they provide, and also ensure an appropriate transition to adult services for those children who will require continuing care.

5.4.1 Recommendations

General principles when working with children and their families

5.4.1.1 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 applying to young people, including the Mental Capacity Act (2005), the Children Act (1989) and the Mental Health Act (2007).

Transition between child and adolescent services to adult services

5.4.1.2 Health and social care services should ensure that for vulnerable young people with a history of conduct disorder or contact with youth offending schemes, or who have been in receipt of

interventions for conduct and related disorders, consideration is given to referral to appropriate adult services for possible continuing assessment and treatment.

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 ONS 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 behavior, 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 17 sets out the model for the possible outcomes of violence risk prediction.

Table 17: 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 who score 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 who score in the predicted non-violence group on the risk assessment instrument, that is, specificity = TN/(FP+TN).

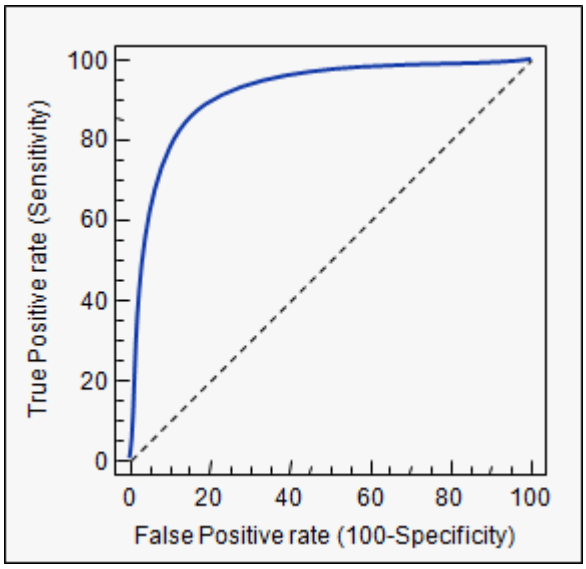
There is a trade-off between these measures. As the test or tool is made less stringent by lowering the cut-off score it picks up more true positives (sensitivity rises) but it also picks up more false positives (specificity falls). The ideal is to maximise sensitivity while keeping specificity high.

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), 1,000 women are given a test which has 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, whilst 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).

Figure 3. An example ROC curve



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.

Statistical prediction and healthcare

Whilst 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 as follows:

Statistics take no account of the values that are central to health care.
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, 1991). 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 he or she sees fit, and he or she can use his or her unfettered 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 not helped 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 the name

of excluding bias. This approach is derived from the insurance industry and it is surprisingly effective in predicting violence at the population level.

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.

There is also an objection in principle 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. Certainly they are open to the charge that they 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 (SORAG; 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 is a compromise. 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, Cox & Hare, 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 RAMAS (Risk Assessment Management and Audit Systems) (O'Rourke & Hammond, 2000). GRADE profiles could not be conducted as 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.

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 18.

Table 18: 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)

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 0.6-0.8 indicating a moderate level of prediction, 0.8-0.9 a high level of prediction and values greater than 0.9 indicating a very high level of prediction.

The required study design was observational studies. Finally, 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 studies 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 (further information about both included and excluded studies can be found in Appendix 15).

Of the 19 included studies, five assessed the HCR-20, 15 the Psychopathy Checklist-Revised Version (PCL-R), three the Psychopathy Checklist-Screening Version (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 10 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.

Although the HCR-20 is focused on risk assessment and management of individuals, all included studies assessed the scale's effectiveness at predicting violence and/or offending at the group level.

Five studies were identified that met the eligibility criteria of the review (Coid *et al.*, 2007; Dahle *et al.*, 2006; Grann *et al.*, 2000; Morrissey *et al.*, 2007; Warren *et al.*, 2005). A summary of the study information and data for each of these studies is provided in Table 19.

Table 19: Study information and data on the HCR-20

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Coid *et al.*, 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 *et al.*, 2006	N = 307 Mean age at baseline: 30 years (SD = 5.35) Gender: all male Setting: German prisons	10 years	Criminal convictions	Reimprison-ment 5 years post-release: AUC = 0.70, SD = 0.03 moderately predictive Reimprisonment 10 years post-release: AUC = 0.71, SD = 0.03	++
Grann *et al.*, 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 (retrospect-tive)	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 *et al.*, 2007	N = 73 (60 patients remained in institution at 12-month follow-up) Gender: all male Age: 43–76 (M = 38; SD = 8.9)	12 months	Institutional aggression	Interpersonal physical aggression: AUC = 0.68 (0.56-0.81; p<0.05) Verbal and property aggression: AUC= 0.77 (0.64-0.88;	+

	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% mood disorder (including dual diagnosis)			p<0.01)	
Warren *et al.*, 2005	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	High correlation with PCL-R (r =.80, p<.01) Did not predict violent crime: Violent crime – AUC = 0.49 (0.38, 0.59) Potentially violent crime – AUC = 0.60 (0.49, 0.72) Crimes against persons – AUC = 0.46 (0.36, 0.56) But predicted non-violent crime: AUC = 0.68 (0.56, 0.80)	+

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 0.6-0.8 in most studies indicating that the HCR-20 was moderately predictive of violence and/or offending. A pooled estimate was obtained from studies (Dahle et al., 2006; Grann et al., 2000; Warren et al., 2005; Morrisey 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.

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 the most researched of all the 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). 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 (Buffington-Vollum *et al*., 2002; Coid *et al*., 2007; Dahle *et al*., 2004; Edens *et al*., 2006; Grann *et al*., 1999; Harris *et al*., 1991; Kroner *et al*., 2001; Kroner *et al*., 2005; Loza *et al*., 2003; Morrissey *et al*., 2007; Salekin *et al*., 1998; Urbaniok *et al*., 2007; Walters et al., 2003; Walters *et al*., 2007; Warren *et al*., 2005). A summary of the study information and data for each of these studies is provided in Table 20.

Most studies were of the PCL-R, but three (Edens *et al*., 2004; Urbaniok, 2007; Walters *et al*., 2007) were of the PCL-SV.

Table 20: Study information and data on the PCL-R and PCL-SV

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Buffington-Vollum *et al*., 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	
Coid *et al.*, 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 *et al.*, 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 *et al.*, 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, 17% schizophrenia or schizoaffective disorder, 13% bipolar disorder, 24% substance abuse. 2% personality disorder and 4% other disorder	50 weeks	Violence	At least one violent act: 20 week follow-up: AUC = 0.78 50 week follow-up: AUC = 0.76	+
Grann *et al.*, 1999 (PCL-R)	N= 352 Age: 32 (range 16-72)	8 years (retrospecti ve)	Violent recidivism	Violent recidivism: 2 years – AUC = 0.72 (0.66-0.78)	+

	Gender: 316 men, 36 women Setting: Court ordered forensic psychiatric evaluations, Sweden Diagnosis: 100% personality disorder			5 years – AUC = 0.70 (0.63-0.76)	
Harris *et al.*, 1991 (PCL-R)	N = 176 (169 had the opportunity to recidivate) Gender: all male Age: under 25 Setting: maximum security psychiatric hospital	10 year follow- up	Violent recidivism	RIOC = 62.4% ($p < .001$)	+
Kroner *et al.*, 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 *et al.*, 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 reincarcera-tion)	New convictions: AUC = 0.67 Revocations: AUC = 0.67	+
Loza *et al.*, 2003 (PCL-R)	N =91 Mean age: 30 Gender: all male	5 years	Violent and general recidivism	Violent recidivism: AUC = 0.67 General recidivism: AUC = 0.67	+

	Setting: released from prison, Canada				
Morrissey *et al.*, 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% mood disorder (including dual diagnosis)	12-month	Institutional aggression	Interpersonal physical aggression: AUC = 0.54 (0.39-0.68) Verbal and property aggression: AUC = 0.49 (0.32-0.65)	+
Salekin *et al.*, 1998 (PCL-R)	N = 78 Gender: all female Age: 30.57 (SD = 7.69) Setting: prison in US	12 -16 months	Recidivism	Cut-off 29: sensitivity = 0.11, specificity = 0.91, PPV = 0.50, NPV = 0.55 AUC = 0.64	+
Urbaniok *et al.*, 2007 (PCL-SV)	N = 96 Age: 18-77 (M = 29.7, SD = 9.3) Gender: all make	18-32 years	Recidivism (combined = violent and sexual)	Cut-off 18– combined recidivism: AUC = 0.59 (0.49-0.68) Cut-off 15 – combined recidivism: AUC =	+

				0.61 (0.50-0.71) Cut-off 14 – combined recidivism: AUC = 0.69 (0.59-0.89) Cut-off 13 – combined recidivism: AUC = 0.64 (0.55-0.73) Cut-off 18 – violent recidivism: AUC = 0.56 (0.47-0.68) Cut-off 18 – sexual recidivism: AUC = 0.57(0.42-0.71)	
Walters *et al.*,, 2003 (PCL-R)	N = 185 Age: 36.55 (SD = 9.61) Setting: prison US Diagnosis: 20.0% no disorder, 1.1% adjustmet disorders, 2.7% anxiety disorders, 4.3% mood disorders, 5.9% other psychoses, 45.4% PD, 7.0% schizophrenic disorders, 4.3% sexual disorders, 9.2% substance abuse disorders	2 years	Institutional disciplinary offences	Any disciplinary offence – AUCs = .575	+
Walters *et al.*, 2007 (PCL-SV)	N = 136 Age: 20-65 years (M= 34.24, SD = 8.50) Gender: all males Setting: medium secure prison	2 years	Institutional incidents	Any incident – AUC = 0.522 (0.42-0.62) Major incident – AUC = 0.60 (0.49-0.71) Aggressive incident – AUC = 0.62 (0.48-0.77)	+

	US				
Warren *et al.*, 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 (0.56-0.79)	+

Follow-up ranged from 2 to 10 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 *et al*., 2007; Warren *et al*., 2005;) reported non-significant AUC statistics. Pooled estimates of AUC values for the PCL-R (Dahle et al., 2006; Grann et al., 1999; Warren et al., 2005) and PCL-SV (Nicholls et al., 2004; Urbaniok et al., 2002; Walters et al., 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 security 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 in particular 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 (Coid *et al*., 2007; Edens *et al*., 2006; Grann *et al*., 2000; Harris *et al*., 2003; Kroner *et al*., 2001; Kroner *et al*., 2005; Loza *et al*., 2003; Rice *et al*., 1997). A summary of the study information and data for each of these studies is provided in Table 21.

Table 21: Study information and data on the VRAG

Study	Population/ setting	Follow up	Outcome	Result	Quality
Coid *et al*., 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 *et al*., 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 *et al*., 2000 (only 10 history items used – with some modification)	Personality disorder: N = 358 (also schizophrenia: N = 202) Age: 32 years Gender: 322 men,	2 years post-release (retrospect-tive)	Violent crime	Personality disorder only: AUC = 0.68 (0.62-0.73) Cut-off 13: sensitivity = 0.57, specificity = 0.71, PPV =	+

	36 women Setting: retrospective follow-up of violent offenders receiving forensic psychiatric evaluation, Sweden			0.40, NPV = 0.83	
Harris *et al.*, 2003 (sub sample of Quinsey1998)	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)	+
Kroner *et al.*, 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 *et al.*, 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 *et al.*, 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 *et al.*, 1997	N = 288 (N=159 were not included	10 year follow-up	Recidivism	Violent recidivism:	+

	in the development of VRAG) Gender: all male Sex offenders	AUCs = 0.76 (N = 288) Sexual recidivism: AUCs = 0.77 (N= 159 sex offenders)

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 (Coid *et al*., 2007). Three studies were excluded as they consisted of samples with greater than 30% of participants having a diagnosis of schizophrenia. A summary of the study information and data for the included study is provided in Table 22. The AUC ranged from 0.69 to 0.72 indicating a moderately accurate prediction. However, the data are too sparse to be able to draw conclusions on the efficacy of this assessment tool for the target population of this review.

Table 22: Study information and data on the OGRS

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Coid *et al.*, 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	+

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 (Dahle *et al*., 2006; Kroner *et al*., 2005; Loza *et al*., 2003); all were focused on predicting criminal convictions either generally or more specifically on violent recidivism. A summary of the study information and data for each of these studies is provided in Table 23. 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 due to a lack of extractable data (only Dahle *et al*., 2006, provided sufficient detail).

Table 23: Study information and data for LSI

Study	Population/ setting	Follow-up	Outcome	Result	Quality
Dahle *et al*., 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 Reimprison-ment 10 years post release: AUC = 0.65, SD = 0.03	++
Kroner *et al*., 2005	N = 206 Age: 30 years Gender: all male Setting: prison, Canada		Post-release criminal convictions Revocations (violations of parole leading to reincarcer-ation)	New convictions: AUC = 0.69 Revocations: AUC = 0.71	+
Loza *et al*., 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	+

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, HCR-20 all had AUC values indicating a moderate level of prediction. Therefore there are a number of measures available that 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 which this data can be applied to 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 Evidence into recommendations

All of the risk assessment tools included in the review appeared to predict risk moderately well and there didn't 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, PCL-R, PCL-SV, 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

6.2.8.1 While the assessment of violence risk is not a routine activity in primary care, the following should be considered if such assessment is required:

- an account of any current or previous violence, including severity, circumstances and victims

- the presence of comorbid mental illness and/or substance misuse
- current life stressors, relationships and life events
- the use of additional information from written records or families and carers, as the service user may not always be a reliable source of information; this is subject to the service user's consent and right to confidentiality.

6.2.8.2 Healthcare professionals in primary care should consider contact with and/or referral to specialist 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 persons.

Secondary services

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

- an account of any 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 illness and/or substance misuse
- current life stressors, relationships and life events
- the use of additional information from written records or families and carers, as the service user may not always be a reliable source of information; this is subject to the service user's consent and right to confidentiality.

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 specialist services when there is:

- current violence or threat that suggest 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 persons.

Specialist or tertiary services

6.2.8.6 When assessing the risk of violence in specialist mental health services, healthcare professionals should take a detailed history of violence, and consider and record:

- an account of any 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 illness and/or substance misuse
- current life stressors, relationships and life events
- the use of additional information from written records or families and carers, as the service user may not always be a reliable source of information; this is subject to the service user's consent and right to confidentiality.

6.2.8.7 Healthcare professionals in specialist services should consider, as part of a structured clinical assessment, the routine use of:

- a standardised measure of the severity of antisocial personality disorder, for example the Psychopathy Checklist–Revised (PCL-R) or the Psychopathy Checklist–Screening Version (PCL-SV)
- a formal assessment tool such as the Historical, Clinical, Risk Management-20 (HCR-20) in order 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 to a minimum.

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, low or medium 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 24.

Table 24: 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

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 Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Appleby *et al*., 2008); professional consensus; the recommendations of inquiries following homicides (DH, 2007); and recommendations produced by other bodies including the Department of Health.

6.3.6 Essential features of a risk management plan

The GDG in considering the evidence for risk management drew heavily on the Department of Health (2007) 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 DH as

part of its National Mental Health Risk Management Programme. It includes 16 best practice points, which were viewed as an effective summary of the current best practice in risk management and are summarised below.

Table 25: Best practice in risk management (DH, 2007)

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.
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 multiagency 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 the current use in the UK and their ability to inform a risk management plan); other guidance on the treatment and management of antisocial personality disorder; and the expert opinion of the guideline development group. The guideline group 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 considered to be of high risk; the plan should involve other agencies in health and social care services and the criminal justice system. Probation should normally take the lead role, 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 their antisocial personality disorder (Salekin, 2002; Warren *et al.*, 2003; Duggan *et al.*, 2007).

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 personality disorder including a proportion with antisocial personality disorder (usually a relatively small proportion; for example, Warren *et al.*, 2003) and the impact of treatments for comorbid problems (such as drug misuse) in antisocial personality disorder populations (Duggan *et al.*, 2007). All three approaches are problematic in guiding treatment choice for antisocial personality disorder; including understanding causality (Salekin, 2002), generalisability (Warren *et al.*, 2003), and the lack of direct evidence for the treatment of the disorder itself (Duggan *et al.*, 2007).

In order to address these limitations, three approaches were adopted 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 a key to the difficulties associated with antisocial personality disorder.

The GDG recognised that the use of offending behaviour was potentially controversial and 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 specified 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, as mediating variables in the treatment process, other diagnostic criteria of antisocial personality disorder. 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 who are imprisoned and those with entrenched patterns of more serious offences. For example, a survey for the UK Office of 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, 1985; 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 been emerged but neither are supported by a strong evidence base (Duggan *et al.*, 2007). 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, 2004, 2005a, 2005b). 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 and 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 interventions 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.

In contrast to the limited development of specific treatment for antisocial personality disorder, there has been very 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 (DH, 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 personality 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 abuse 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 under developed. 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 (T^3 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 that they are under the care of, 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 desensitization; social skills training; problem-solving therapy; cognitive therapy; and moral reasoning or moral reconation 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. It has been reviewed in a number of meta-analytic reviews of the literature (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 without a diagnosis of antisocial personality disorder were considered.

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 26. (Further information about the search for health economic evidence can be found in Appendix 11).

Table 26: 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

The review team conducted a series of systematic searches for RCTs that assessed the efficacy and cost-effectiveness of psychological interventions specifically for the treatment of antisocial personality disorder, behaviours or symptoms associated with the antisocial personality disorder construct, and offending behaviour (see Table 26).

No trials 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 (see Section 7.1).

7.2.4 Studies considered[4]

A total of 19 trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 2,588 participants. Of these, two trials were reported in books (JOHNSON2001, PORPORINO1995), two were reports from the US Department of Justice (AUSTIN1997, PULLEN1996), and 15 were published in peer-reviewed journals between 1973 and 2008 (ARMSTRONG2003, DEMBO2000, ELROD1992, GREENWOOD1993, GUERRA1990, LEEMAN1993, LIAU2004, OSTROM1971, ROHDE2004, ROSS1988, SCHLICHTER1981, SHIVRATTAN1988, SPENCE1981, VANVOORHOIS2004, VANNOOY2004). 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 were no trials that met the eligibility criteria of the review.

[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).

For the treatment of people with symptoms or behaviour associated with the antisocial personality disorder construct, there was one trial comparing anger management with control.

For the treatment of offending behaviour in adults, there were seven trials comparing group-based cognitive and behavioural interventions with control.

For the treatment of offending behaviour in young people, eight trials compared group-based cognitive and behavioural skills interventions with control, and three trials compared multi-component interventions with control.

7.2.5 Clinical evidence for the treatment of antisocial personality disorder

The search identified no studies relating to the treatment of antisocial personality disorder.

Clinical evidence summary

No evidence meeting quality criteria for inclusion was identified on the use of psychological interventions specifically to treat antisocial personality disorder. This is consistent with other recent reviews (Duggan *et al.*, 2007; Salekin, 2002; Warren *et al.*, 2003).

7.2.6 Clinical evidence for the treatment of the constructs of antisocial personality disorder

One trial relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 31 participants. In addition, 32 studies were excluded from the review. The main reason for exclusion was a lack of extractable data.

The included study was of anger management versus waitlist in an offender population (VANNOY2004). This small study (n=31) 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).

Clinical evidence summary

The evidence for the treatment of the constructs of antisocial personality disorder is extremely limited and does not support the development of any recommendations.

7.2.7 Clinical evidence for the treatment of offending behaviour in adults

There were seven trials (see Table 27 and Table 28) comparing the effects of group-based cognitive and behavioural interventions to control on re-offending for adult offenders treated within the criminal justice system (institutional settings or in the community on probation/parole). Conviction was considered the most robust measure of re-offending but where this was not reported, other re-offending outcomes were extracted (for further details see Section 7.2.2).

Table 27: 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)	7 RCTs (N = 2032)
Study ID	ARMSTRONG2003 AUSTIN1997 JOHNSON1995 LIAU2004 POROPRINO1995 ROSS1988 VANVOORHIS2004
Population	Offenders
Setting	Institution (prison): ARMSTRONG2003 PORPORINO1995 Community (probation): AUSTIN1997 JOHNSON1995 VANVOORHIS2004 ROSS1988 In between institution and probation (halfway house): LIAU2004
Average treatment length	126 days
Length of follow-up	Mean: 7 months
Age	18 – 20 years: ARMSTRONG2003 20+ years: AUSTIN1997 JOHNSON1995 LIAU2004 POROPRINO1995 ROSS1988 VANVOORHIS2004

Table 28: Evidence summary for group-based cognitive and behavioural intervention for offenders

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	1504 (5)	⊕⊕OO **low**[1,2]	**RR 0.84** (0.72 to 0.96)
Re-offending [young male offenders, age range or mean 18-20] – ITT data only	212 (1)	⊕⊕OO **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] Wide confidence intervals

Group-based cognitive and behavioural interventions were found to provide a modest but statistically significant beneficial effect on reoffending (RR 0.84; 0.72 to 0.96). The population included in this analysis was predominantly adult male offenders; one study (JOHNSON1995) included both male and female offenders but the number of female offenders included in the total sample is negligible. In addition, LIAU2004 was not included in the meta-analysis as it was not possible to extract intention-to-treat data.

The effect sizes identified in the RCTs were in the direction expected by the GDG, but the magnitude of the effect was lower than expected. Given that there are a large number of non-randomised studies, the review team identified and analysed the data from 13 controlled studies. The analysis of these studies (RR 0.80, 0.72 to 0.89) showed considerable heterogeneity (I^2 = 71.9%) and was very similar to that of the RCTs with considerable overlap of the confidence intervals.

Clinical evidence summary

There appears to be modest but statistically significant evidence for the effectiveness of group-based cognitive behavioural skills interventions, delivered in community and institutional settings, in reducing offending for adults involved 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 18-20 indicates that young offenders do not respond to these interventions.

7.2.8 Health economic evidence for the treatment of offending behaviour

Systematic literature review

No studies were identified that reported on the cost-effectiveness of interventions to reduce offending behaviour among adults. Economic modelling was therefore conducted. Details on the methods used for the systematic search of the economic literature are described in Chapter 3.

Economic modelling

Objective

A costing analysis was undertaken to estimate the direct costs to the NHS of implementing a Reasoning and Rehabilitation programme, an example of a group-based cognitive behavioural skills intervention (Cann *et al*., 2003), in the UK in relation to societal cost-savings from reduced crime.

Intervention assessed

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 over approximately 8 to 12 weeks. Programmes are delivered to small groups of 8-10 participants (T^3 Associates, 2003).

Methods

Overall costs and benefits assessed in the analysis

The analysis examined the overall costs (or cost-savings) associated with provision of a Reasoning and Rehabilitation programme. Two major categories of costs were assessed: the costs of the intervention, borne by the NHS, and any cost-savings to the society owing to the expected reduction in recidivism, following implementation of the programme.

Intervention costs

Resource use estimates associated with provision of a Reasoning and Rehabilitation programme were adopted from T^3 Associates (2003) and were consistent with resource use described in studies providing the efficacy data for this analysis. According to these data, the evaluated intervention consisted of 38 sessions lasting 2 hours each, delivered to groups of 8 people with offending behaviour. Subsequently, treatment of 8 people would require 76 hours in total, and treatment of 100 people would require 950 hours of therapists' time.

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 correspond to a lower salary scale, and therefore the total intervention cost may have been overestimated. The national unit cost of clinical psychologists was 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 (AfC) salaries Band 7 of the April 2006 pay scale according to the National Profile for Clinical Psychologists, Counsellors & Psychotherapists (NHS, 2006). It includes salary, salary on costs, overheads and capital overheads but does not take into account qualification costs as the latter were not available.

Based on the above resource use estimates and the unit cost of clinical psychologists, the cost of providing Reasoning and Rehabilitation programme in 100 people with offending behaviour was estimated at £63,650 in 2006/7 prices.

Costs of crime/cost-savings owing to reduction in reoffending

In order to estimate the total cost-saving owing to reduction in recidivism (and therefore reduction in crime) following implementation of a Reasoning and Rehabilitation programme, the number of crimes committed by each person with offending behaviour and subsequent reoffending is needed. As described in the economic analysis of functional family therapy (see Section 5.3.13), Farrington and colleagues (2003) reported data on the number of offences among offenders aged 11 to 16 years in the US, using official records and self report. According to the authors, the average number of offences per offender per year was 4.6 using data from court records and 49.2 using data from self report. Although the number of offences per person may be different between adults and adolescents, it was decided to use the figure of 4.6 offences per offender per year as a rather conservative estimate in this analysis.

As discussed in Section 5.3.13, the weighted average cost of a crime in the UK was estimated to reach £4,000 in 2007 prices, based on data from the Home Office (Dubourg *et al.*, 2005).

By combining the above estimates of number of crimes per person with offending behaviour per year and the cost per crime in the UK in 2007, the total cost per case of reoffending is £18,400. This figure includes costs in anticipation of crime (e.g. defensive expenditure and insurance administration), costs as a consequence of crime (e.g. value of property stolen, physical and emotional impact on direct victims, lost output and health services) and costs in response to crime (criminal justice system).

Efficacy data

Data on reduction in reoffending following provision of Reasoning and Rehabilitation were taken from the guideline systematic review and meta-analysis of studies comparing Reasoning and Rehabilitation to control, for adults with offending behaviour. Table 29 shows the studies considered in the economic analysis, the reported outcomes, the follow-up times, as well as individual and combined results.

Table 29: Studies considered in economic analysis, reported outcomes, follow-up and results

Study ID	Outcome	Follow-up	Total events (n) in study sample (N)	
			Intervention (n/N)	Control (n/N)
AUSTIN1997	number of arrests	12 months	18/71	21/65
JOHNSON1995	number of revocations	4 months	12/47	15/51
PORPORINO1995	number of reconvictions	6 months	176/550	77/207
ROSS1988	cases of recidivism	5 months	4/22	16/23
VAN VOORHIS2004	number of re-arrests/revocations	9 months	88/232	99/236
TOTAL			**298/922 (32.32%)**	**228/582 (39.18%)**

It can be seen from the results that Reasoning and Rehabilitation results in a reduction in rate of recidivism (32.32%) compared to control condition (39.17%). The meta-analysis of studies showed that the treatment effect was significant, with relative risk of intervention to control equalling 0.84 (95% confidence intervals 0.72 to 0.96). It must be noted that rates of recidivism refer to different time frames, ranging between 4 and 12 months. However, if the treatment effect of Reasoning and Rehabilitation lasts for longer periods than the follow-up periods reported in the studies, then the estimated overall reduction in the rate of recidivism achieved by the intervention and used in the economic analysis may be a conservative estimate.

Details on the studies considered in the economic analysis are available on Appendix 15. The forest plots relating to the meta-analysis of these studies are provided in Appendix 16.

Results

Base-case analysis

The reduction in reoffending achieved by implementing Reasoning and Rehabilitation (reoffending rate of intervention 32.32% compared to recidivism rate of control condition 39.18%) yielded cost-savings from crimes avoided equalling £126,118 per 100 people with offending behaviour participating in the programme. Given that implementing the intervention incurs £63,650 per 100 people with offending behaviour attending the programme, provision of Reasoning and Rehabilitation results in an overall

net saving of £62,468 per 100 people or £625 per person with offending behaviour. Full results of the analysis are reported in Table 30.

Table 30: Results of costing analysis on Reasoning and Rehabilitation provided to 100 people with offending behaviour

Costs	Intervention	Control	Difference
Intervention cost	£63,650	0	£63,650
Cost of recidivism	£594,707	£720,825	-£126,118
Total cost	£658,357	£720,825	**-£62,468**

Sensitivity analysis

The above results are based on a relative risk of reoffending between the intervention and the control condition of 0.84 (mean relative risk). A sensitivity analysis was undertaken to explore the total cost (or saving) associated with implementation of Reasoning and Rehabilitation if, instead of the mean relative risk of intervention versus control, the 95% confidence intervals of this relative risk (0.72 to 0.96 as reported above) were used, multiplied by the rate of reoffending for the control condition to give a lower and upper rate of reoffending for the intervention. According to these calculations, the rate of reoffending characterising implementation of Reasoning and Rehabilitation ranged between 28.21% and 37.61%, using the lower and upper 95% confidence intervals of the relative risk, respectively. When these rates were applied to the economic model, the overall net cost (or saving) associated with provision of intervention ranged from a net saving of £1,382 to a net cost of £348 per person with offending behaviour.

An additional sensitivity analysis was carried out to investigate the impact on the results of a lower reoffending rate in control condition. When this rate was set at a conservative level of 20% (instead of 39.18% as in the base-case analysis), and the mean relative risk with its 95% confidence intervals as reported in the guideline meta-analysis were used, then the mean rate of recidivism in people under Reasoning and Rehabilitation was estimated at 16.80% (95% confidence intervals 14.40% to 19.20%) and the overall net cost associated with the provision of intervention equalled £48 per person with offending behaviour, ranging from a net saving of £394 to a net cost of £489 per person with offending behaviour.

Discussion - limitations of the analysis

The economic analysis showed that Reasoning and Rehabilitation is likely to be an overall cost-saving intervention as the intervention costs are offset by savings associated with a reduction in recidivism observed in people with offending behaviour attending the programme. Under the most conservative scenario explored in sensitivity analysis, which used the upper 95% confidence interval of the relative risk of recidivism between the intervention and the control condition, Reasoning and Rehabilitation produced a net cost

of £348 per person. However, 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.

In addition, it should be noted that other model assumptions were also conservative and disfavoured the intervention: the unit cost of therapists delivering the programme is likely to be lower than the unit cost of clinical psychologists that was used in this analysis owing to lack of other data. This means that the intervention cost of £637 per person is possibly lower. Moreover, the estimated annual number of crimes per person with offending behaviour and recidivism (that is, 4.6) was rather low. Self-reports from people with offending behaviour give an average annual number of crimes exceeding 40 (Farrington *et al.*, 2003). As discussed in Section 5.3.13, the true number of offences per year for every person in the number population is somewhere in between. Nevertheless, even considering the conservative figure of 4.6, Reasoning and Rehabilitation was shown to produce net cost-savings or to be cost-neutral under most scenarios explored in the analysis. Efficacy data were taken from 5 RCTs with follow-up times ranging between 5 and 12 months. If the treatment effect lasts for longer periods of time, then Reasoning and Rehabilitation is likely to produce higher cost-savings than those estimated in this analysis.

Conclusion

Group-based cognitive behavioural interventions delivered as Reasoning and Rehabilitation programmes are probably cost-effective in the UK setting, as besides the benefits to people with offending behaviour, they are likely to produce net cost-savings to the society, resulting from reduction in crime.

7.2.9 Evidence to recommendations

There is relatively robust clinical evidence indicating that cognitive and behavioural interventions are moderately effective for offenders. The economic analysis similarly showed that such interventions are likely to be cost-saving as the intervention costs are offset by savings associated with a reduction in reoffending.

The GDG judged that it would be reasonable to conclude 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 attempt to address problems with impulsivity, aggression and rule-breaking other than simple offending. 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 some adaptations would need to be made to the intervention in order to be beneficial for people with dangerous and severe personality disorder. The GDG also noted the recommendation in the borderline personality disorder guideline (NCCMH, in press) 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 adaptations would include extending the nature and duration of the intervention and providing close monitoring and supervision of staff.

7.2.10 Recommendations for offending behaviour in adults

7.2.10.1 People with antisocial personality disorder in community and mental health services may be offered group-based cognitive and behavioural interventions, in order to address problems such as impulsivity, interpersonal difficulties and antisocial behaviour.

7.2.10.2 People with antisocial personality disorder with a history of offending behaviour in community and institutional care should be offered group-based cognitive and behavioural interventions (for example, programmes such as Reasoning and Rehabilitation and Enhanced Thinking Skills) focused on reducing offending and other antisocial behaviour.

7.2.10.3 When providing cognitive and behavioural interventions, staff should:

- assess the level of risk and adjust the duration and intensity of the programme accordingly (note that participants at all levels of risk may benefit from these interventions)
- provide support and encouragement to help participants to attend and complete programmes, including those legally mandated to do so.

7.2.10.4 People who meet criteria for psychopathy or DSPD in community and institutional settings should be considered for 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.

7.2.11 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. Six trials on group based cognitive behavioural interventions met the inclusion criteria of the review where all but two trials were interventions delivered in an institutional setting in prison while OSTROM1971 and PULLLEN1996 were interventions delivered in probation (see Table 31).

Table 31: Study information table for trials of interventions targeted at adolescents in the criminal justice system

	Group based 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 = 193)
Study ID	GUERRA1990 LEEMAN1993 OSTROM1971 PULLEN1996 ROHDE2004 SCHLICHTER1981 SHIVRATTAN1988 SPENCE1981	ELROD1992 GREENWOOD1993 DEMBO2000
Diagnosis	Adolescents in the criminal justice system	Adolescents in the criminal justice system
Setting	Institution: GUERRA1990 LEEMAN1993 ROHDE2004 SCHLICHTER1981 SHIVRATTAN1988 SPENCE1981 Probation: OSTROM1971 PULLEN1996	Institution and probation (included after-care component): GREENWOOD1993 Probation: ELROD1992 DEMBO2000
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

1

Table 32: Evidence summary for group-based 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)	⊕⊕OO **low**[1,2,3]	**RR 0.65** (0.45 to 0.95)
Re-offending [ITT]	177 (4)	⊕⊕⊕O **moderate**[2]	**RR 0.62** (0.39 to 0.98)
Bad outcome	94 (2)	⊕⊕⊕O **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 33: 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)	⊕⊕OO **low**[1,2]	**RR 0.87** (0.65 to 1.16)

[1] Population is not directly ASPD
[2] No explanation was provided

The evidence suggests that group based cognitive behavioural interventions delivered primarily 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 except for GUERRA1990 which includes both male and female participants included only males.

Three trials on multi-component interventions for adolescent offenders were included in our review. Two trials (ELORD1992; DEMBO2000) tested the efficacy of interventions delivered in the community and one trial (GREENWOOD1993) in prison which included an after-care component in the community. The interventions that made up the multi-component interventions included group based cognitive and behavioural interventions and parent training (ELROD1992); group based cognitive and behavioural intervention and family therapy (GREENWOOD1993) and family therapy, parenting skills and cognitive problem-solving skills (DEMBO2000). These

studies found the intervention to have a modest but non-significant effect on reoffending (RR 0.87; 0.65 to 1.16). The populations in these studies are mixed such that two studies (ELROD1992; DEMBO2000) involved both male and female participants whilst one study involves only male participants (GREENWOOD1993). ELROD1992 was the least effective trial where in addition to parent training and group based cognitive and behavioural intervention included a wilderness experience program.

Clinical evidence summary for 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 lack of effect for multi-component interventions in adolescents, for example the evidence for efficacy of multi-systemic therapy. There is evidence from studies of implementation of MST, and other complex multimodal interventions, that maintaining fidelity to the model is strongly associated with positive outcome. It could be that the diminished effectiveness of the multi-component interventions for offending behaviour reflected a lack of overall intervention fidelity or integration.

7.2.12 Health economic evidence for intervention targeted at young people in the criminal justice system

Two studies were identified in the systematic evidence search that presented cost-benefit evaluations of interventions for young offenders (Caldwell *et al*., 2006; Robertson *et al*. 2001).

Caldwell and colleagues (2006) compared an intensive juvenile corrective service treatment programme with usual juvenile corrective service treatment in a secured juvenile facility in the US. The initial costs of the intensive programme were offset by improved treatment progress and lowered violent recidivism. The intensive treatment programme dominated usual treatment.

Robertson and colleagues (2001), also in the US, reported on the cost benefits of Intensive supervision and monitoring (ISM) compared to cognitive behavioural therapy (CBT) and regular probation. They demonstrated that, relative to those on probation, the CBT programme imposed fewer costs on the justice system during the 18 month investigation. No significant difference in justice system expenditures were demonstrated by the ISM group.

7.2.13 Evidence into recommendations

There was consistent evidence that cognitive and behavioural interventions were effective for the treatment of offending behaviour in young people. In addition, these may be cost effective. The use of such interventions for young people with offending behaviour is supported.

7.2.14 Recommendations

7.2.14.1 Young offenders aged 17 years or younger with a history of offending behaviour who are in institutional care should be offered group-based cognitive and behavioural interventions, provided in groups specifically for 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, 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 they are offered

treatment they may be more likely to drop out of or not comply with treatment (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 receiving treatment from specialist substance misuse services provided by or funded by the NHS. This is important as alcohol misuse is associated with increased violence in people with ASPD (Yang & Coid, 2007). An important issue is whether sufficient adaptation of drug and alcohol treatments 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 (DH, 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 in the care of forensic services with antisocial personality disorder is approximately 50% (Singelton *et al*., 1998). To date, Arnold Lodge, in Leicester, is the only specialist service for antisocial personality disorder that exists in forensic services in the UK.

Within the criminal justice system, there is considerable treatment of comorbid mental disorders, primarily with the prison system. This is comprised of two aspects; first, the management of inmates' general mental health 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 health care 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 disorder in people with antisocial personality disorder
c) Personality disorders in people with antisocial personality disorder.

Psychotic disorders were excluded from the review in large part because where comorbidity between antisocial personality disorder and a psychotic

disorder exist, the primary focus of treatment will be on the psychotic disorder.

Interventions were broadly defined to included all interventions for common mental disorders covered by the current NICE guidelines for those disorders (for example, NCCMH, 2004). For drug and alcohol misuse interventions NICE guidelines were also used (NCCMH, 2007a, b) along with other authoritative guidance (for example, DH, 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 34.

Table 34: 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 and comorbid disorders (including substance misuse, other personality disorders)
Interventions	Psychological interventions
Outcomes	Comordid symptoms, Offending

7.3.3 The treatment of comorbid substance misuse and alcohol dependence

Studies considered[5]

The review team conducted a new systematic search that assessed the efficacy of the treatment for comorbid disorders for people with antisocial personality disorder.

Only one psychosocial trial that reported data relating to the treatment of comorbid substance misuse in antisocial personality disorder and which met the eligibility criteria set by the GDG, providing data on 108 participants with cocaine dependence (MESSINA2003). This trial compared contingency management, cognitive behavioural therapy, contingency management and cognitive behavioural therapy with one another and a treatment as usual control. In addition, there were four RCTs that assessed in post hoc analyses the impact of antisocial personality disorder (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

[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).

misuse (WOODY1983, MCKAY2000) and a further two trials on alcohol dependence (WOLWER2001, HESSELBROCK1991). Five studies were excluded from the analysis. The most common reason for exclusion was either treatment of control group did not have antisocial personality disorder (further information about both included and excluded studies can be found in Appendix 15).

Clinical evidence for psychological interventions for the treatment of comorbid substance misuse

MESSINA2003 reported on a sub-group analysis of people with antisocial personality disorder receiving either contingency management, cognitive behavioural therapy, a combination of cognitive behavioural therapy 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).

WOODY1983 compared supportive-expressive psychotherapy against cognitive behavioural psychotherapy for the treatment of opioid dependence. They reported that participants with antisocial personality disorder had worse outcomes, whereas participants with depression and no antisocial personality disorder generally showed the better outcomes. Participants with antisocial personality disorder and depression generally fell in-between the two groups on a broad range of drug misuse outcomes. MCKAY2000 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).

WOLWER2001 compared cognitive behavioural therapy with coping skills training and treatment as usual for alcohol dependence, and found no significant differences between sub-groups of patients with or without antisocial personality disorder, as measured by abstinence at 3 or 6-months after detoxification. In contrast, HESSELBROCK1991 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.

Clinical evidence summary

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 the

evidence for this is only from one trial, it is consistent with a review of the drug misuse literature which suggests that contingency management has the strongest evidence for effectiveness (see NCCMH, 2007a, 2007b). Whilst 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 others without antisocial personality disorder.

7.3.4 From evidence to recommendations

The limited evidence reviewed above would suggest 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 would generalise to people who meet criteria for DSPD.

7.3.5 Recommendations

7.3.5.1 For people with antisocial personality disorder who misuse drugs, in particular opioids or stimulants, psychological treatments (in particular, contingency management programmes) should be offered in line with existing NICE guidance.

7.3.5.2 For people with antisocial personality disorder who misuse or are dependent on alcohol, psychological and pharmacological interventions should be offered in line with existing national guidance for the treatment and management of alcohol disorders.

7.3.5.3 People who meet criteria for psychopathy or DSPD should be offered treatment for any comorbid disorders in line with existing NICE guidance. This should be done irrespective of whether the person is receiving treatment for psychopathy or severe personality disorder because effective treatment of comorbid disorders may reduce the risk associated with the psychopathy or severe personality disorder.

7.3.6 The treatment of comorbid depression and anxiety disorders

There is considerable evidence that a personality disorder may have a negative impact of 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 and 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 major depression, alcohol dependence, and substance dependence and higher rates of suicide attempts compared to adults with antisocial personality disorder or anxiety disorders alone (Goodwin, 2002). This suggests that effective treatment for common mental disorders in antisocial personality disorder may be both 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 high-quality systematic reviews were searched for 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 reviews of a broad range of personality disorders and their impact on the treatment of depression and anxiety and reviews of personality variables (such as trait anxiety, impulsivity and aggression) which might have an impact on the outcome of treatment. The GDG also agreed to review the existing NICE guidelines for common mental disorders to determine what 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 subject to a quality assessment. The following reviews were considered (Dreessen & Arntz 1998; Mulder, 2003). In addition, the following NICE guidelines were also reviewed (NCCMH, 2004a, 2004b, 2005a, 2005b; NICE, in press).

From these reviews a number of common themes emerged. First, there is no evidence that demonstrates people with ASPD 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 review by Mulder, 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; NICE, in press.) 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 (Fournier *et al.*, 2008). There was also some evidence that more experienced therapists were more able to deal with Axis II comorbidity (Hollon, personal communication). Nemeroff and colleagues (2003), in a post hoc analysis of the Keller and colleagues' (2000)

trial of cognitive behavioural-analysis system of psychotherapy for chronic depression, found that patients with a significant history of abuse obtained better outcomes with psychological treatment, whilst those with no history of abuse obtained better outcomes with pharmacological treatments.

7.3.7 Clinical evidence summary

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 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 considerable clinical skill and experience.

7.3.8 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 wide range of personality disorders. 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.

7.3.9 Recommendations

7.3.9.1 People with antisocial personality disorder should be offered treatment for any comorbid disorders in line with existing NICE guidance. This should be done irrespective of whether the person is receiving treatment for antisocial personality disorder.

7.3.9.2 When providing psychological interventions for comorbid disorders to people with antisocial personality disorder, consider lengthening the duration of interventions 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 (Rappaport, 1960). The therapeutic community movement had a significant impact on mental health care 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)

Where therapeutic communities differ from other treatment approaches is 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 social learning theory-based therapeutic communities, 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, Community of Communities (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 directory describing themselves as therapeutic communities (NCCMH, 2008). In addition, of the 56 therapeutic communities surveyed by the Community of Communities, 15 were in prison settings (Royal College of Psychiatrists, 2008).

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 35.

Table 35: Databases searched and inclusion/exclusion criteria for clinical evidence

Electronic databases	MEDLINE, EMBASE, PsycINFO, Cochrane Library, NCJRS C2-SPECTR, NCJRS, IBSS, FEDRIP
Date searched	Database inception to June 2008
Study design	RCT
Patient population	People with ASPD, people with symptoms and behaviours associated with ASPD
Interventions	Therapeutic communities
Outcomes	Offending

7.4.4 Studies considered[6]

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.

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; WEXLER1999; SACKS2004) met the eligibility criteria set by the GDG, providing data on 1,682 participants. All were published in peer-reviewed journals.

In addition, nine 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).

7.4.5 Clinical evidence on therapeutic communities

Summary study information and evidence from the included trials are shown in Table 36. For further details on forest plots and full evidence profiles see Appendices 16 and 17.

[6] 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).

Table 36: Study information table for trials of therapeutic communities

	Therapeutic community + aftercare versus control
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 (WEXLER1999) Drug: 100% illicit drug use (NIELSEN1996, SACKS2004, WEXLER1999)
Treatment length	1 year prison TC and 1 year community-based aftercare: WEXLER1999 6 months NIELSEN1996 1 year prison TC and 6 months' community-based aftercare: WEXLER1999
Length of follow-up	1 to 5 years

Table 37: Evidence summary for therapeutic communities

Patient or population: people with antisocial personality disorder
Settings: Criminal justice system
Intervention: Prison TC
Comparison: Prison control

Outcomes	No of Participants (studies)	Quality of the evidence (GRADE)	Effect size (95% CI)
Offending (12-month follow up)	1682 (3)	⊕⊕⊕O **moderate**[1]	**RR 0.62** (0.49 to 0.78)

[1] I-squared > 50%

Three RCTs have been conducted in the prison setting evaluating the evidence for therapeutic communities. In two trials the intervention included treatment within prison followed by release to a residential community of 6 months' duration (WEXLER1999, SACKS2004). The third trial (NIELSEN1996) assessed a work-release therapeutic community programme.

Therapeutic community prison and aftercare programmes for offenders with drug misuse (many of whom had ASPD) 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).

7.4.6 Clinical evidence summary

The only RCT evidence available 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.

There was no RCT evidence included in the review that specifically targeted offending behaviour. However, there is evidence from non-RCTs suggesting this may not be as effective (for example, Lamb *et al*., 1974; Grant *et al*., 2005; Marshall *et al*., 1997).

7.4.7 From evidence to recommendations

The GDG concluded that therapeutic communities appeared to be effective for people in prison or 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 is 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.

7.4.8 Recommendations

7.4.8.1 For people with antisocial personality disorder who are in institutional care and who misuse or are dependent on drugs or alcohol, referral to a specialist therapeutic community focused on the treatment of drug and alcohol problems should be considered.

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 associated with neuro-chemical abnormalities of the central nervous system (Coccaro *et al.*, 1996; 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 a dysregulation of mood, there was some evidence for the use of selective serotonin reuptake inhibitors (SSRIs) (Cornelius *et al.*, 1990; Markovitz *et al.*, 1991) tricyclic antidepressants (Soloff *et al.*, 1986c), venlafaxine (Markovitz & Wagner, 1995) and the monoamine oxidase inhibitors (MAOIs) (Parsons *et al.*, 1989). For impulsive behavioural dyscontrol, most attention had been focused on the SSRIs (Cornelius *et al.*, 1990; Kavouissi *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 showed some positive outcomes.

Various features of antisocial personality disorder might be targets for a pharmacological intervention. Paranoia, for instance, emerge 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 stabilizers. This section therefore reviews the evidence in 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 other 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, comorbid use of alcohol and other illicit substances may diminish response rates to pharmacotherapy (Markovitz, 2001) and this is common in those with antisocial personality disorder. 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. 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).

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 38.

Table 38: 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 ASPD
Interventions	Pharmacological interventions
Outcomes	Reduction in symptoms or behaviours associated with the antisocial personality disorder construct

Eight trials relating to clinical evidence met the eligibility criteria set by the GDG, providing data on 623 participants. 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 our inclusion criteria for example, participants with schizophrenia (further information about both included and excluded studies can be found in Appendix 15).

There was no evidence of pharmacological interventions found for antisocial personality disorder.

Two trials were found that investigated pharmacological interventions for a sub-population of antisocial personality disorder with comorbid substance misuse. One trial compared amantadine and desipramine with placebo for participants with cocaine dependence (LEAL1994) and one trial compared nortriptyline and bromocroptine with placebo for participants with alcohol dependence (POWELL1995).

For the review on pharmacological evidence for antisocial personality disorder and associated symptoms or behaviour, eight trials were included. Six trials compared anticonvulsants with placebo, one on antidepressants with placebo and one with lithium versus placebo. The population in all the trials had an elevated level of impulsive aggression and/or anger while two trials looked specifically at offenders (SHEARD1976, GOTTSHALK1993). The age range for the trials were 19 to 67 years.

7.5.3 Clinical evidence for antisocial personality disorder

No evidence for the effectiveness of pharmacological treatments for antisocial personality disorder was identified.

7.5.4 Clinical evidence for antisocial personality disorder and comorbid substance misuse

Two trials (LEAL1994, POWELL1995) on the effects of antidepressants versus placebo (see Table 39).

Table 39: 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: 134 days
Length of follow-up	Not relevant	Not relevant
Age	Mean: 36.5 years	Mean: 36.5 years

For the 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 only on 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 in abstinence for participants with alcohol dependence (RR 0.79; 0.57, 1.10). This effect was small and based on sparse data.

7.5.5 Clinical evidence for antisocial personality disorder and associated symptoms or behaviour

Table 40 summarises the study information people with symptoms or behaviour associated with antisocial personality disorder. All trials were concerned with pharmacological interventions for aggression.

Table 40: 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 NICKEL2005 STANFORDABC	COCCARO1997A	SHEARD1976
Diagnosis	Offenders: GOTTSCHALK1973 Antisocial personality disorder construct - impulsive aggressive: HOLLANDER2003, MATTES2005, MATTES2008, Antisocial personality disorder construct - anger problems: NICKEL2005	Personality Disorder and antisocial personality disorder construct – impulsive aggressive	Offenders
Setting	Institution (Prison): GOTTSCHALK1973 Outpatient: HOLLANDER2003 MATTES2005 MATTES2008 NICKEL2005 STANFORDABC	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

1

Table 41: 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)	⊕OOO **very low**[1,2,3]	**SMD -0.13** (-0.35 to 0.09)
Leaving the study early due to adverse events	354 (4)	⊕OOO **very low**[1,2,3]	**RR 3.94** (1.92 to 8.11)
Aggression change score (end of treatment)	84 (2)	⊕⊕OO **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)	⊕OOO **very low**[1,2]	SMD -0.73 (-1.41 to -0.04)
Leaving the study early due to adverse events	40 (1)	⊕⊕OO **low**[1,2]	**RR 1.5** (0.07 to 34.51)

[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	Relative effect (95% CI)	No. of participants (studies)	Quality of the evidence (GRADE)	Comments
Aggression (end of treatment)		41 (1)	⊕⊕OO **low**[1]	SMD -0.6 (-1.23 to 0.03)
Leaving study early	**RR 1.2** (0.64 to 2.24)	66 (1)	⊕⊕OO **low**[1,2]	

[1] Population does not include antisocial personality disorder
[2] Few participants resulting in wide confidence intervals

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%).

SSRI antidepressant versus placebo

One trial compared fluoxetine (an SSRI) 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 with 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 that met the eligibility criteria. The trial showed a medium effect for treatment which was non-significant and low quality (SMD -0.60; -1.23, 0.03).

Clinical evidence summary

There was no consistent evidence, including that from uncontrolled studies quality, 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.

7.5.6 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.

7.5.7 Recommendations for pharmacological interventions

7.5.7.1 Pharmacological interventions should not be routinely used for the treatment of antisocial personality disorder or associated behaviours of aggression, anger and impulsivity.

7.5.7.2 Pharmacological treatments for comorbid mental disorders, in particular depression and anxiety, should be based on the recommendations in relevant NICE guidance. When initiating and reviewing medication, particular attention should be paid to issues of adherence and the risks of misuse or overdose.

7.5.8 Recommendations on general issues in the treatment of adults with antisocial personality disorder

7.5.8.1 When providing psychological or pharmacological interventions for antisocial personality disorder, offending behaviour or comorbid disorders to people with antisocial personality disorder, staff should 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 Appendices

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)

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). 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.

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 (ASPD) 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 ASPD. 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 ASPD 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 ASPD 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.

ASPD 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 ASPD cannot be diagnosed in those under 18 years of age, although a number of juvenile criteria (i.e. 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 ASPD include anxiety and depressive disorders, mood disorders, substance-related disorders, somatisation disorder, pathological gambling and other disorders of impulse 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 ASPD is described as Adult Antisocial Behaviour in DSM-IV, with the diagnosis of ASPD only applying to those whose antisocial personality traits are inflexible, maladaptive and persistent, and a cause of significant impairment or distress. ASPD is distinguished from criminal behaviour for gain where the characteristic features of ASPD are absent.

The aetiology of ASPD is uncertain. ASPD 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 ASPD (and is one of the diagnostic criteria in DSM-IV). Other childhood and adolescent risk factors for adult ASPD 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 ASPD 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 ASPD.

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. ASPD 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 ASPD 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 ASPD 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 ASPD 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 ASPD 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 ASPD in Great Britain was based on data gathered from a survey covering a range of locations.

ASPD is common among drug and alcohol misusers in both treatment and custodial settings. The prevalence of personality disorders, and ASPD 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 ASPD being 63% among male remand prisoners (just over half of whom have ASPD plus another personality disorder), 49% among sentenced male prisoners (two fifths of whom have ASPD plus another personality disorder) and 31% among female prisoners (two thirds of whom have ASPD 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 ASPD is difficult to treat and evidence on the effectiveness of therapeutic interventions is sparse.

The diagnosis of ASPD 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 ASPD, has led to a focus on preventative interventions with children and young people at risk of later ASPD. Early prevention during childhood may be desirable, but many individuals who go on to develop adult ASPD are not identified before adolescence.

It should be noted that a separate guideline on Antisocial Personality Disorder (ASPD) is being developed in parallel to the development of the BPD guideline. Beyond the differences in the diagnostic criteria for BPD and ASPD, 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 BPD tend to be treatment seeking and at high risk of self-harm and suicide, whereas people with ASPD 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 website (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). 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 ASPD in the NHS and prison system (including Dangerous and Severe Personality Disorder).
- Preventative interventions with children and adolescents at significant risk of developing ASPD.
- The treatment and management of common comorbidities in people with ASPD as far as these conditions affect the treatment of ASPD.

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 ASPD.

Healthcare setting

The guideline will cover the care provided by primary, community, secondary and specialist health care 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 ASPD.

Clinical management

Areas that will be covered by the guideline

- The assessment of people with ASPD both before and after diagnosis and the identification of the threshold for intervention.

- Identification of risk factors for adult ASPD in children and young people, including the early identification of child and adolescent behaviour disorders that are precursors or risk factors for ASPD.

- 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 ASPD.

- 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 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 ASPD 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 ASPD (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 ASPD, 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 guidance 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 post-traumatic stress disorder 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);
- The treatment and management of bipolar disorder (2006);
- Drug misuse: Opiate detoxification of drug misusers in the community and prison settings (expected publication 2007);
- Drug misuse: Psychosocial management of drug misusers in the community and prison settings (expected publication 2007);
- Attention deficit hyperactivity disorder: pharmacological and psychological interventions in children, young people and adults (expected publication 2008).
- Borderline personality disorder: treatment and management (expected publication 2008)

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.

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 health care 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 ASPD in the GDG, members were appointed because of their understanding and expertise in healthcare for people with ASPD 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 ASPD 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 ASPD 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 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	
Prof 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.
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	June 2007: Lecture on personality disorder at an educational conference organised by World Forum for Mental Health; £150. 2000-2004: with Prof Jonathan Glover. Moral reasoning in men with antisocial personality disorder. The Wellcome Trust; £60,000.
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Prof 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
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, Lincolnshire Partnership NHS Trust
Personal pecuniary interest	2006: Attended ECNP 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
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.
Prof 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
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	Research grants: 2008 – 2012: with Stephen Pilling. Randomised controlled trial to evaluate multi-systemic therapy. Department of Health, £1m. 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. 2005-2007: Peter Fonagy & Mary Target. Randomised controlled trial of parent-infant psychotherapy; Big Lottery Fund £206,000. 2005-2008: Peter Fonagy & Stewart Twemlow. Building Peaceful Communities Project; FHL Foundation, Inc.; US$10,000. 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. 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. 2002-2006. Randomised controlled trial of a nursery-based early intervention service; Diana, Princess of Wales Memorial Fund, £48,000.
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 in various conferences.
Prof 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
Prof Anthony Maden	
Employment	Professor of Forensic Psychiatry, Imperial Collge;

	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
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.
Prof 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	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. 2006-2009: with Prof. P. Salmon. Clinical Psychology Fellow in Addictions. Windsor Clinic, Mersey Care NHS Trust, £160,948. 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. 2008-2009: With Drs. R. Whittington, W. Barr & M. Leitner: Update and extensions and risk assessment and intervention systematic review; Department of Health, National Institure for Health Research, Research for Patient Benefit Programme, £159,133. 2008-2009: Evaluation of a Stepped Care Psychology Service in HM Prison Liverpool. Mersey Care NHS Trust, £30,000.
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 NW England. Jointly funded by the Home Office and the Department of Health.
Ms Carol Rooney	
Employment	Deputy Director of Nursing, St Andrew's 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, HMP Leeds
Personal pecuniary interest	GP advisor 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
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: Prof Peter Fonagy. Department of Health, £1m.
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 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 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
Dr Ifigeneia Mavranezouli	
Employment	Senior 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 Catherine Pettinari	
Employment	Senior Project 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 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 Peny Retsa	
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 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
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

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Appendix 3: Special advisors 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: Stakeholders who responded to early requests for evidence

None

Appendix 5: Stakeholders and experts who submitted comments in response to the consultation draft of the guideline

Stakeholders

Experts

Appendix 6: Researchers contacted to request information about unpublished or soon-to-be published studies

Dr Geoffrey Baruch
Prof Charlie Brooker
Prof Avshalom Caspi
Dr Patricia Chamberlain
Prof John F. Clarkin
Prof Kate Davidson
Prof Tom Fahy
Prof John G. Gunderson, MD
Prof Scott Henggeler
Prof Jonathan Hill
Prof Sheilagh Hodgins
Prof Alan Kazdin
Dr Niklas Langstrom
Prof Terrie Moffitt
Prof Roger Mulder
Prof David Olds
Prof Paul Pilkonis
Prof Peter Tyrer
Prof Richard Tremblay
Prof Michael H. Stone
Prof Brian Thomas-Peter
Prof Christopher Webster
Prof John Weisz
Prof Stephen Wong

Appendix 7: Analytic framework and clinical questions

	Topic area	Key question(s)
1	Assessment and referral	
2	Interventions for adults with ASPD	2. What interventions for people with ASPD improve outcomes?
3	Treatment of comorbid disorders	3. For people with ASPD with comorbid disorders, does treatment of comorbid disorders improve outcomes?
4	Interventions for offending behaviour	4. For people with ASPD, do interventions for offending behaviour improve outcomes?
5	Structures for the delivery of care and management of people with ASPD	5a. What service structures for the management of ongoing long-term care and the delivery of interventions for people with ASPD deliver the best outcomes?
		5b. What organisational structures and processes to support professionals and staff caring for and managing people with ASPD deliver the best outcomes?
6	Risk assessment and management for adults with ASPD	6. For people with ASPD, does formal risk assessment and management improve outcomes and reduce harm to others?
7	Early intervention in children and adolescents to prevent ASPD	7a. Are there early interventions for young at risk children that are effective at preventing ASPD?
		7b. Are interventions with children and adolescents with Conduct Disorder* effective at preventing ASPD?

Clinical questions

2. What interventions for people with ASPD improve outcomes?

2.1 Interventions in primary care for problems associated with ASPD

2.1.1 What identifies people who have the potential to benefit from, and meet the threshold for, primary care interventions for ASPD related problems?

2.1.2 What interventions to address problems and behaviour associated with ASPD, 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 ASPD?

2.1.5 Where people with ASPD have problems that are primarily social, are there non-healthcare services that improve outcomes?

2.1.6 What harms to people with ASPD are associated with their use of non-healthcare services?

2.2 Secondary care mental health interventions to treat 'symptoms' of ASPD

2.2.1 What identifies people who have the potential to benefit from, and meet the threshold for, interventions to treat ASPD symptoms?

2.2.2 What interventions are effective at treating symptoms of ASPD?

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 ASPD?

2.3 Interventions to treat ASPD 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 ASPD?

2.3.2 What interventions are effective at treating ASPD?

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 ASPD?

2.4 The therapeutic environment

2.4.1 For people with ASPD, what features of the environment in which interventions are delivered improve outcomes?

2.4.1 For people with ASPD, what features of the environment in which interventions are delivered cause harm?

3. For people with ASPD with comorbid disorders, does treatment of comorbid disorders improve outcomes?

3.1.1 Where people with ASPD have multiple comorbidities, what disorders/problems should be treated first?

3.1.2 Should people with ASPD who have been treated for comorbid disorders be referred for assessment and treatment of ASPD or ASPD symptoms?

3.2 Interventions for people with ASPD who have comorbid alcohol problems or dependence

3.2.1 What identifies people with ASPD 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 ASPD?

3.2.2a Are interventions for alcohol problems or dependence less effective for people with ASPD?

3.2.2b How should interventions for alcohol problems or dependence be adapted for people with ASPD?

3.2.3 For people with ASPD, what are the harms of treating alcohol problems or dependence?

3.3 Interventions for people with ASPD who have comorbid drug misuse or dependence

3.3.1 What identifies people with ASPD 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 ASPD?

3.3.2a Are interventions for drug misuse or dependence less effective for people with ASPD?

3.3.2b How should interventions for drug misuse or dependence be adapted for people with ASPD?

3.3.3 For people with ASPD, what are the harms of treating drug misuse or dependence?

3.4 Interventions for people with ASPD who have comorbid depression or anxiety

3.4.1 What identifies people with ASPD 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 ASPD?

3.4.3 For people with ASPD, what are the harms of treating depression or anxiety?

3.5 Interventions for people with ASPD who have comorbid personality disorders

3.5.1 What identifies people with ASPD 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 ASPD?

3.5.3 For people with ASPD, what are the harms of treating comorbid personality disorders?

4. For people with ASPD, do interventions for offending behaviour improve outcomes?

4a. Could any interventions for offending behaviour be used as interventions to treat people with ASPD in a healthcare setting?

4.1.1 What interventions are effective at reducing reoffending in the general offender population?

4.1.2 What harms to offenders are associated interventions to reduce offending behaviour?

4.1.3 In offender populations, what factors can be used as proxy indicators of ASPD and validate extrapolation to to people with ASPD?

4.1.4 What identifies people with ASPD 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 ASPD or offenders with proxy indicators of ASPD?

4.1.5a For each of these interventions, does the effectiveness differ for offenders with ASPD compared with the general offender population?

4.1.5b For each of these interventions, what factors favour and contraindicate referral?

4.1.6 What harms to people with ASPD are associated 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 ASPD deliver the best outcomes?

5.1.1 What identifies people with ASPD 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 ASPD improve outcomes?

5.1.3 What harms are associated with structures for providing care for people with ASPD?

5.1.4 What are the support needs of carers/people (including children) who live with people with ASPD?

5.1.5 How can services meet the support needs of carers/people (including children) who live with people with ASPD?

5.1.6 Does the delivery of care and interventions for the person with ASPD 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 ASPD conflict with the needs of the person with ASPD?

5b. What organisational structures and processes to support professionals and staff caring for and managing people with ASPD deliver the best outcome?

5.2.1 What are the potential harms to professionals and staff from working with people with ASPD?

5.2.1a Do harms to professionals and staff lead to harms to the people with ASPD they care for (e.g. by undermining treatment)?
5.2.2 How can services address the challenges of providing care for people with ASPD?
5.2.2a Support for staff including training, consultation/liaison, supervision, peer support, team based and collective working
5.2.2b Aspects of leadership and management (including clarity of roles and purpose, taking responsibility, case loads)
5.2.3 What are the harms of measures to address the challenges of providing care for people with ASPD?
5.2.4 Is there a conflict between what delivers better outcomes for people with ASPD 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 ASPD, 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 ASPD?
6.1.2a. What features of a risk assessment process make it more effective at predicting/improving of 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 ASPD?

7.1 Early interventions for young children at risk of developing ASPD prior to the development of behavioural symptoms

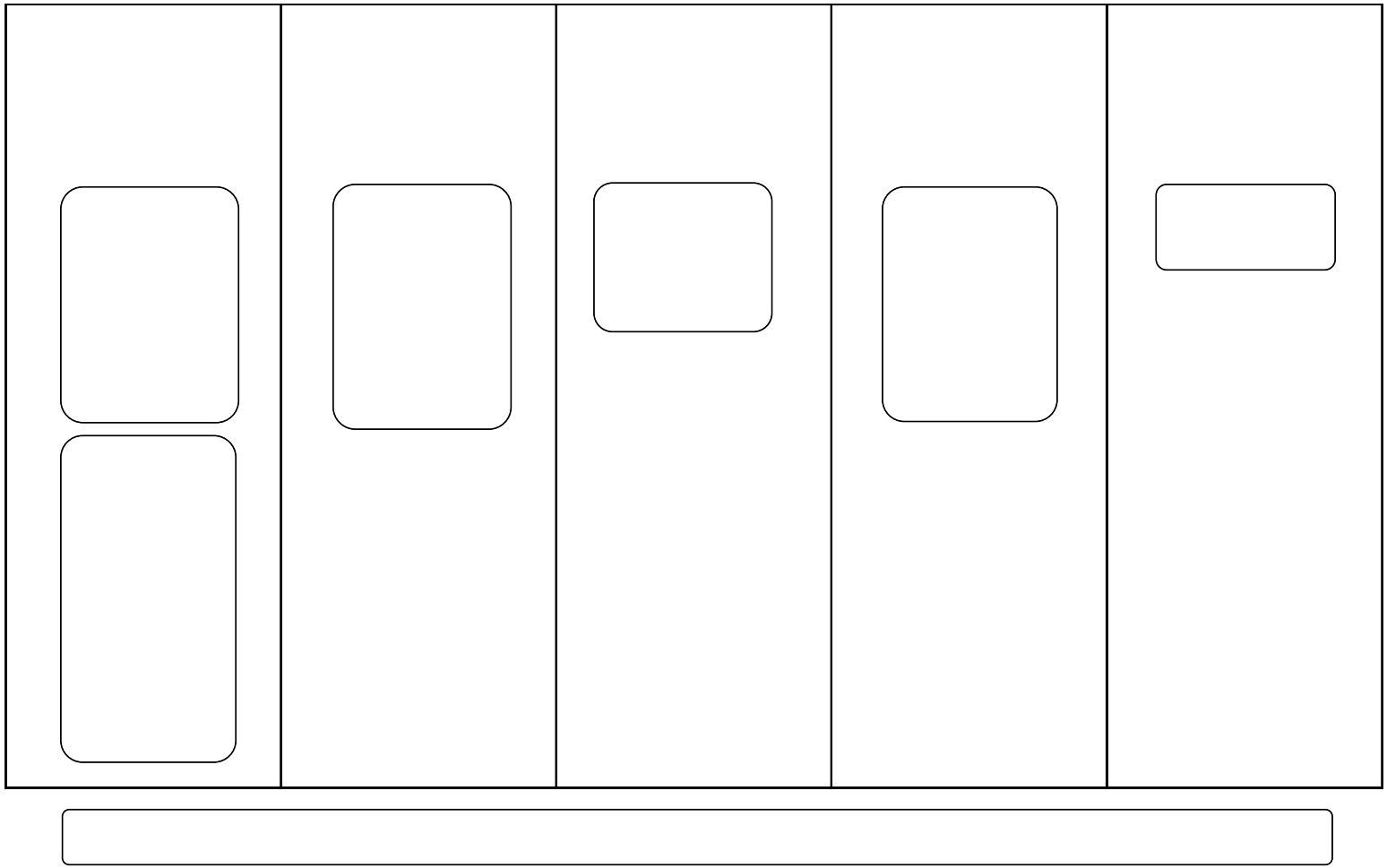
7.1.1 What identifies children at risk of developing ASPD before they develop behavioural disorders (with particular reference to developmental, psychosocial and family factors)?
7.1.1a What are key modifiable risk factors that can be targeted by interventions?
7.1.1b How can children who would benefit 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 ASPD (with particular consideration of harm from stigma/labelling)?
7.1.3 What proportion of young children with risk factors for ASPD will go on to develop Conduct Disorder*?
7.1.3a Where children have risk factors for ASPD, what is the likelihood that they will go on to develop ASPD?
7.1.4 What early interventions improve intermediate outcomes?
7.1.4a Following early intervention, what proportion of young children with risk factors for ASPD will go on to develop Conduct Disorder and meet criteria for interventions for Conduct Disorder*?
7.1.4b What early interventions prevent ASPD?
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 ASPD who develop Conduct Disorder* following early intervention, does early intervention make them more susceptible to interventions for Conduct Disorder*?

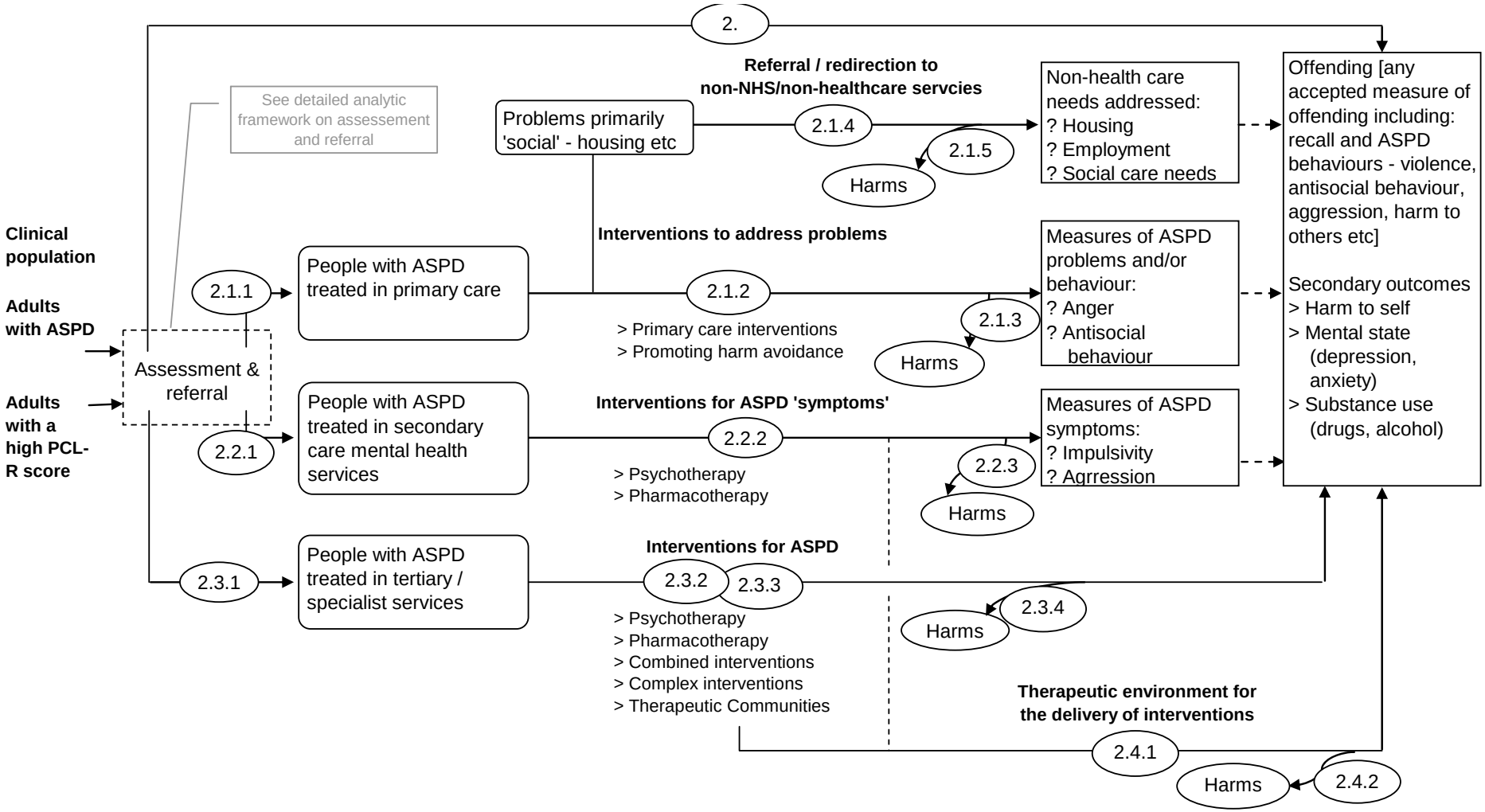
7b. Are interventions with children and adolescents with Conduct Disorder* effective at preventing ASPD?

7.2 Interventions for children and young people with Conduct Disorder*
7.2.1 What identifies young people who could benefit frorm 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 ASPD?
7.2.3a What other factors are most predictive of conversion to ASPD?
7.2.4 What interventions for Conduct Disorder* improve intermediate outcomes?
7.2.4a What interventions for Conduct Disorder* prevent ASPD?
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 and of care and interventions, promote beneficial treatment outcomes and minimise harms?

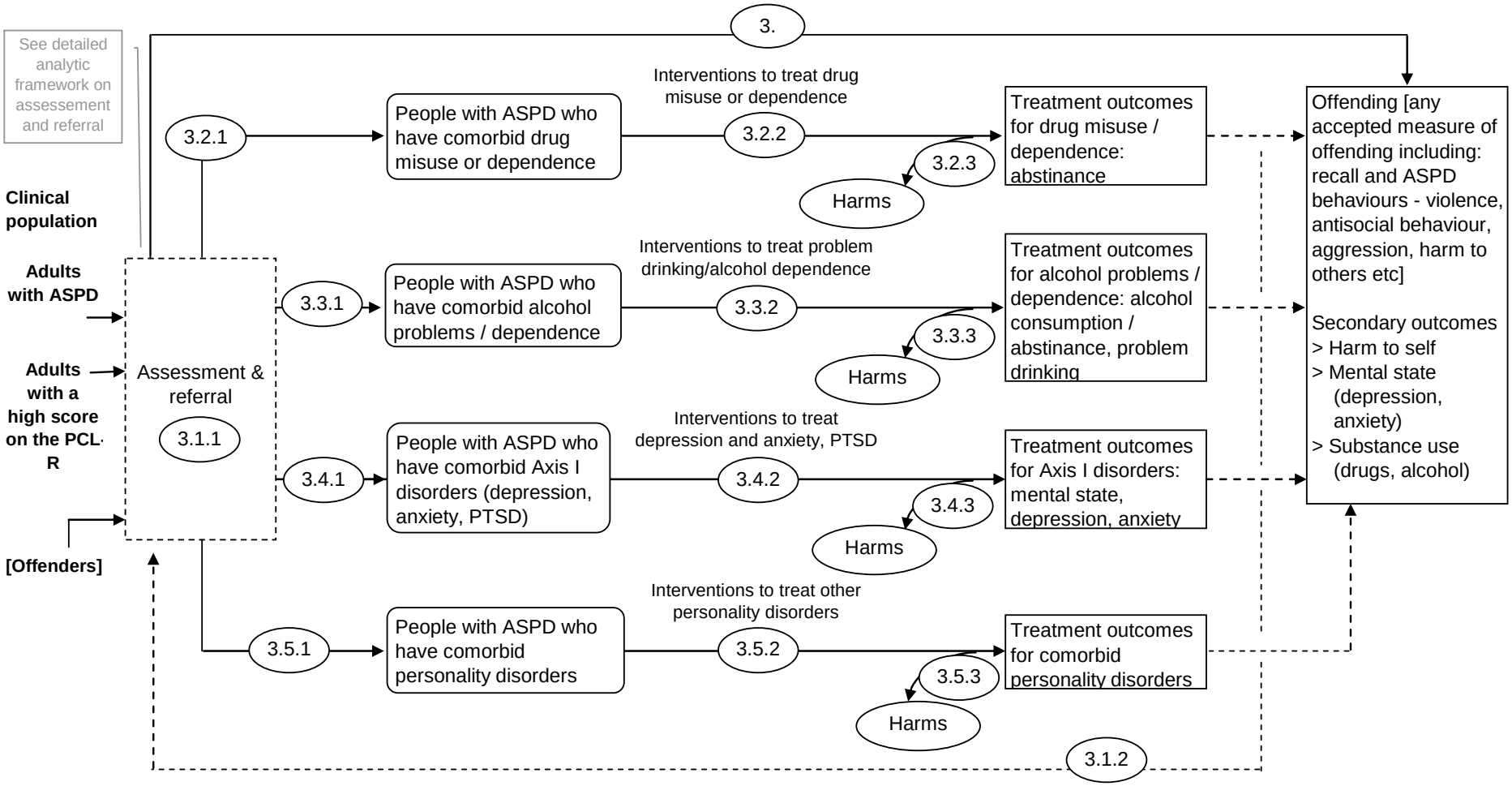
Analytic framework 1: Settings, assessment and referral



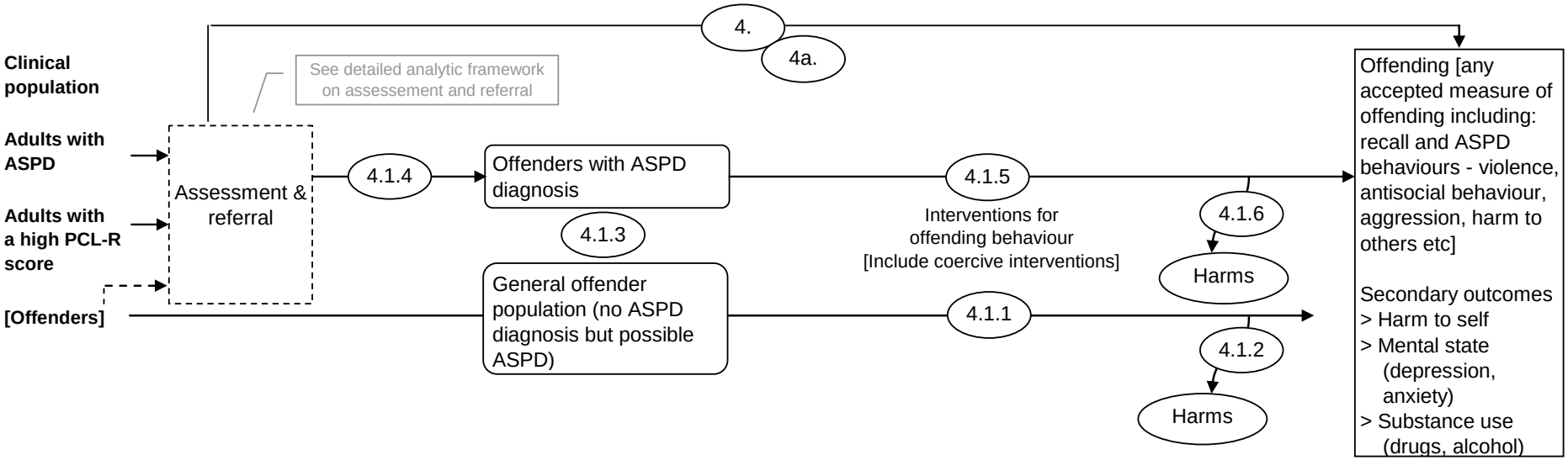
Analytic framework 2: Interventions for adults with antisocial personality disorder



Analytic framework 3: Interventions to treat comorbid disorders in people with antisocial personality disorder



1 Analytic framework 4: Interventions for offending behaviour



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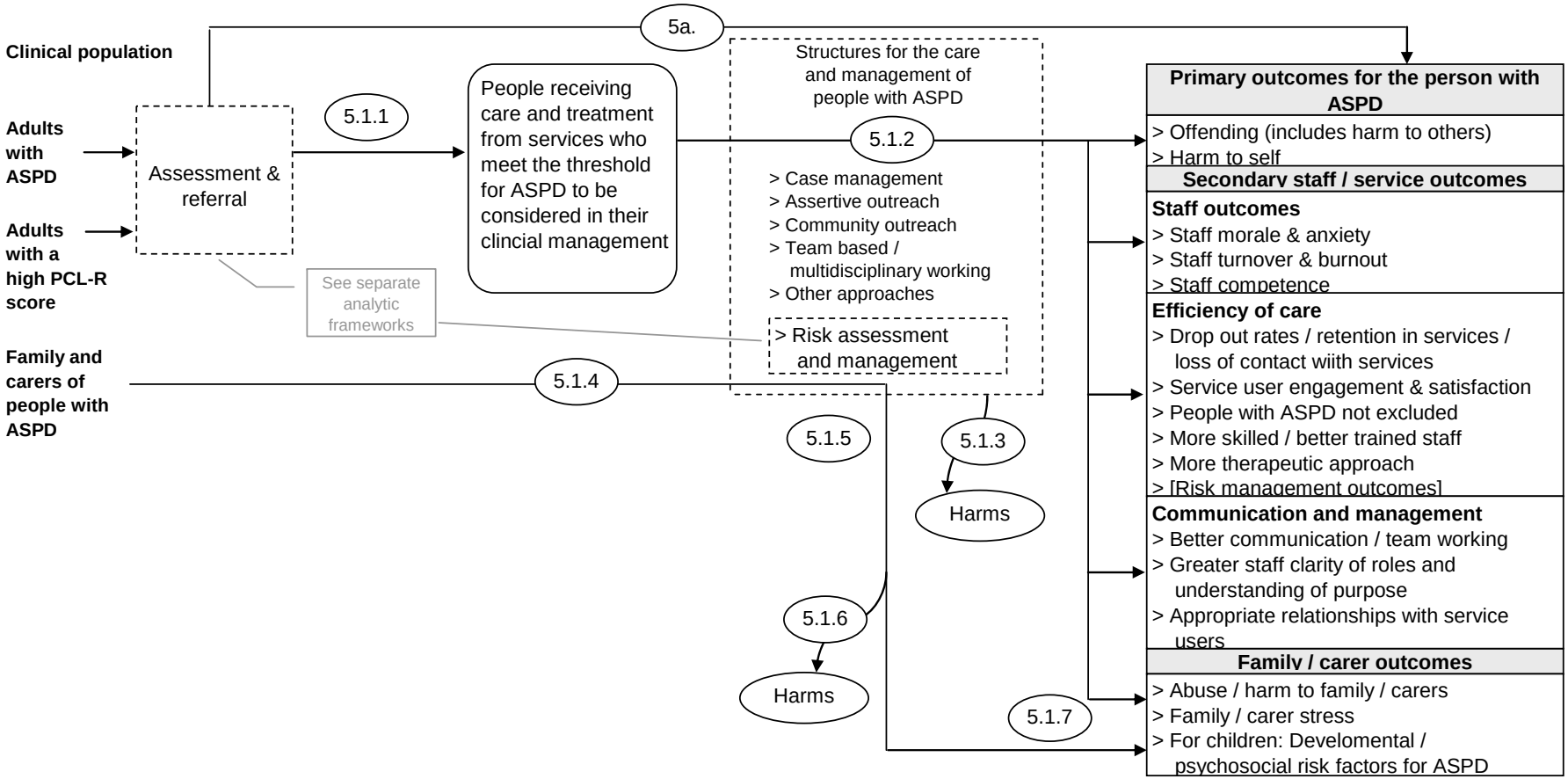
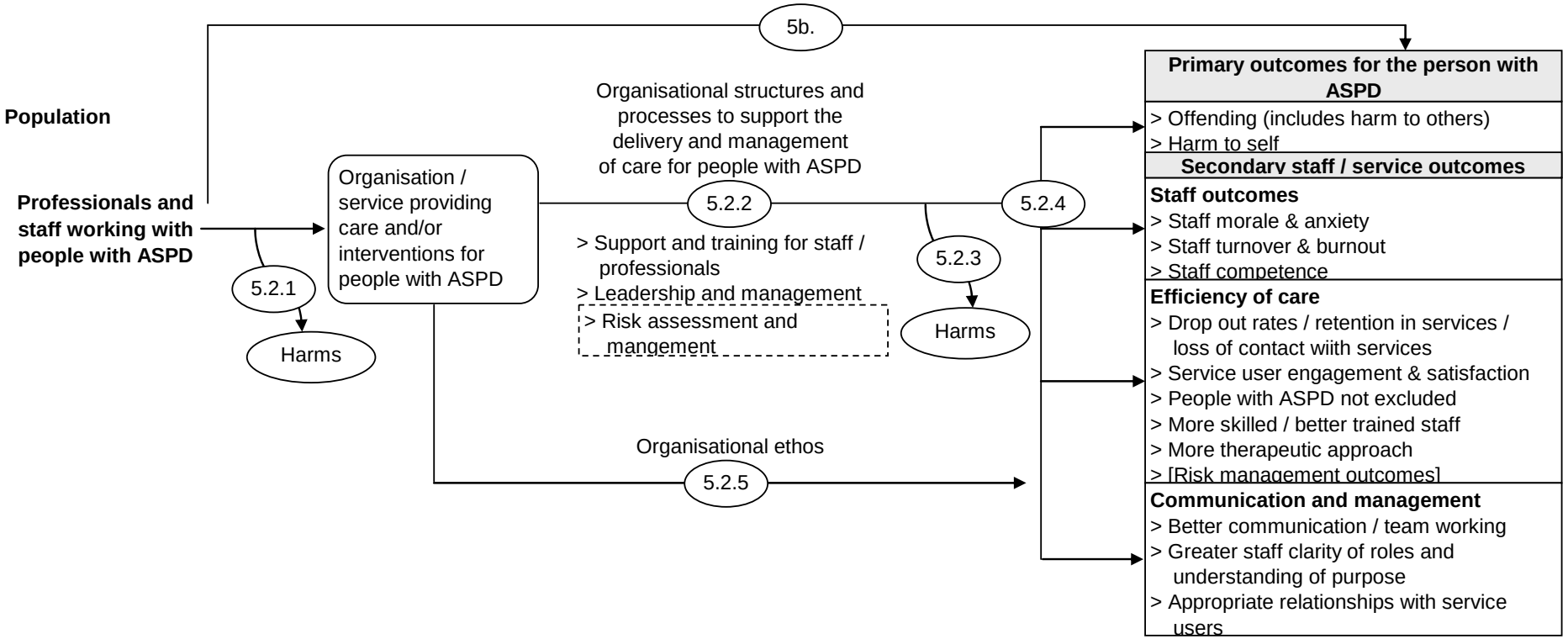
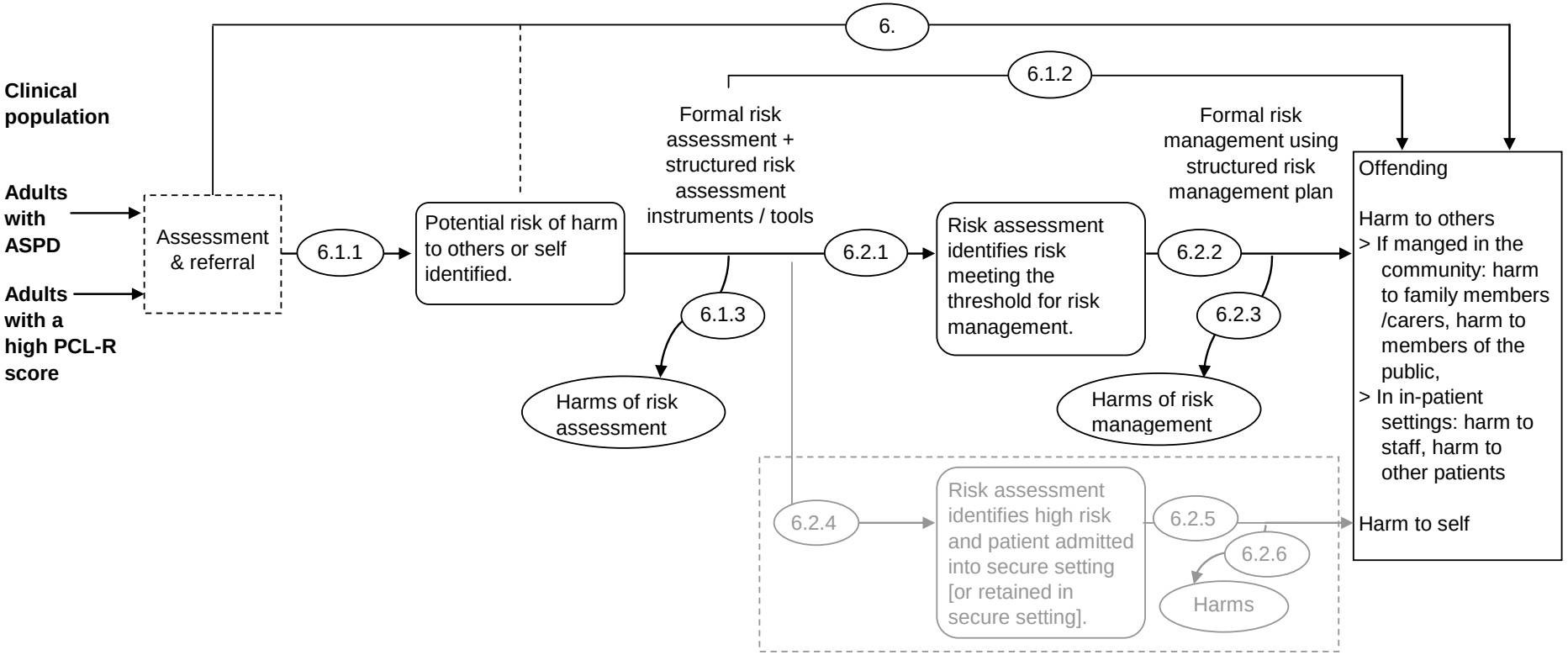
Analytic framework 5: Structures for the management of care and the delivery of interventions for people with ASPD



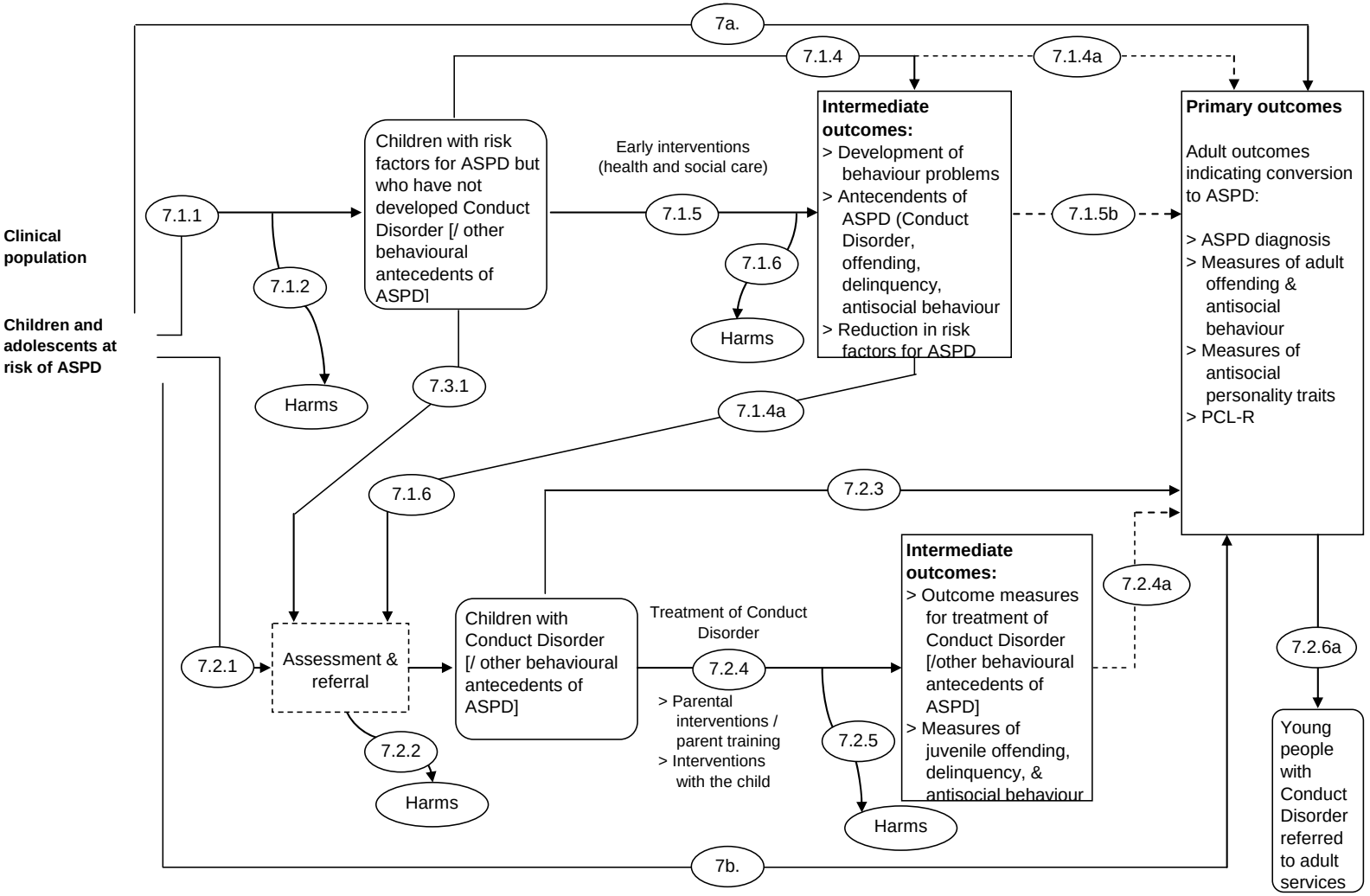
Analytic framework 6: Organisational structures and processes to support professionals and staff caring for and managing people with antisocial personality disorder



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 clinical studies

1. Guideline topic search filter

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 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 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
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

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/on CD-ROM.

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-nalysis as topic/
2 ((systematic or quantitative or methodologic$) adj5 (overview$ or review$)).mp.
3 (metaanaly$ or meta analy$ or metasynthesis or meta synethesis).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

2. Randomised controlled trial search filters

a. MEDLINE, EMBASE, PsycINFO, CINAHL, AMED, BNI – Ovid interface

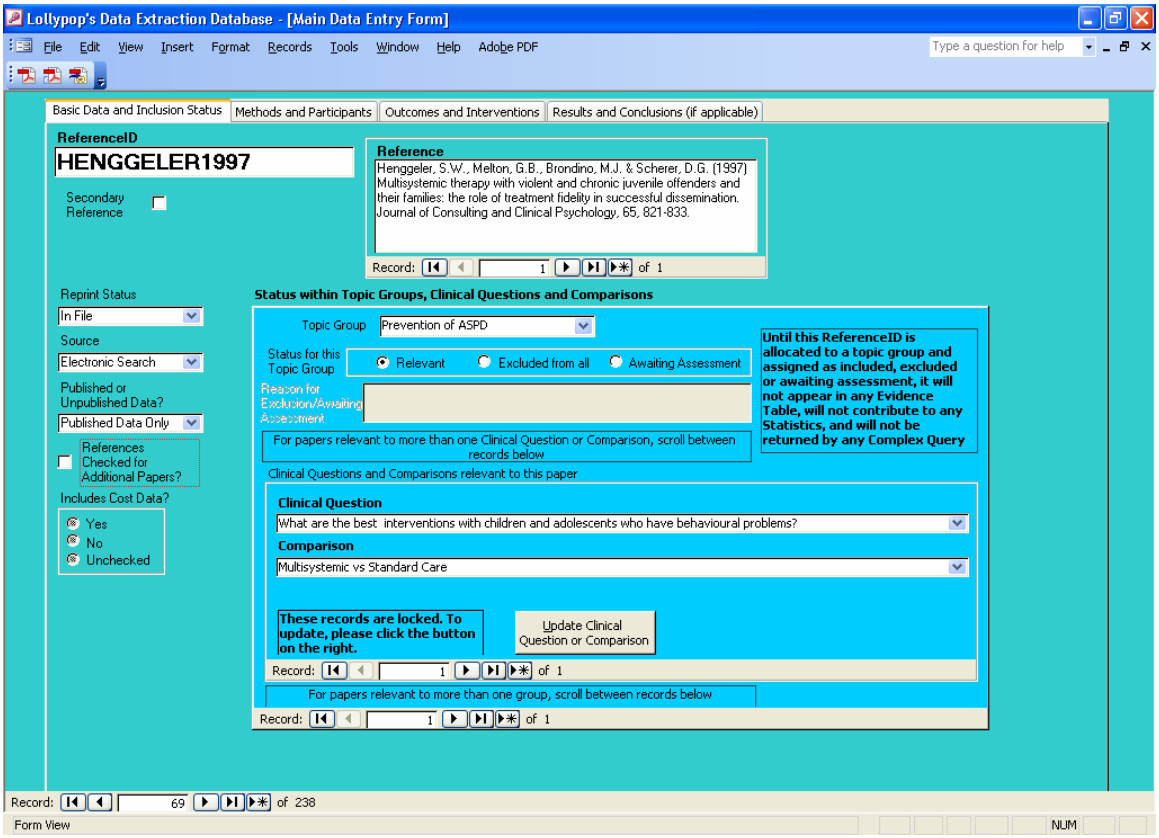
1 exp clinical trials/ or exp clinical trial/ or exp controlled clinical trials/

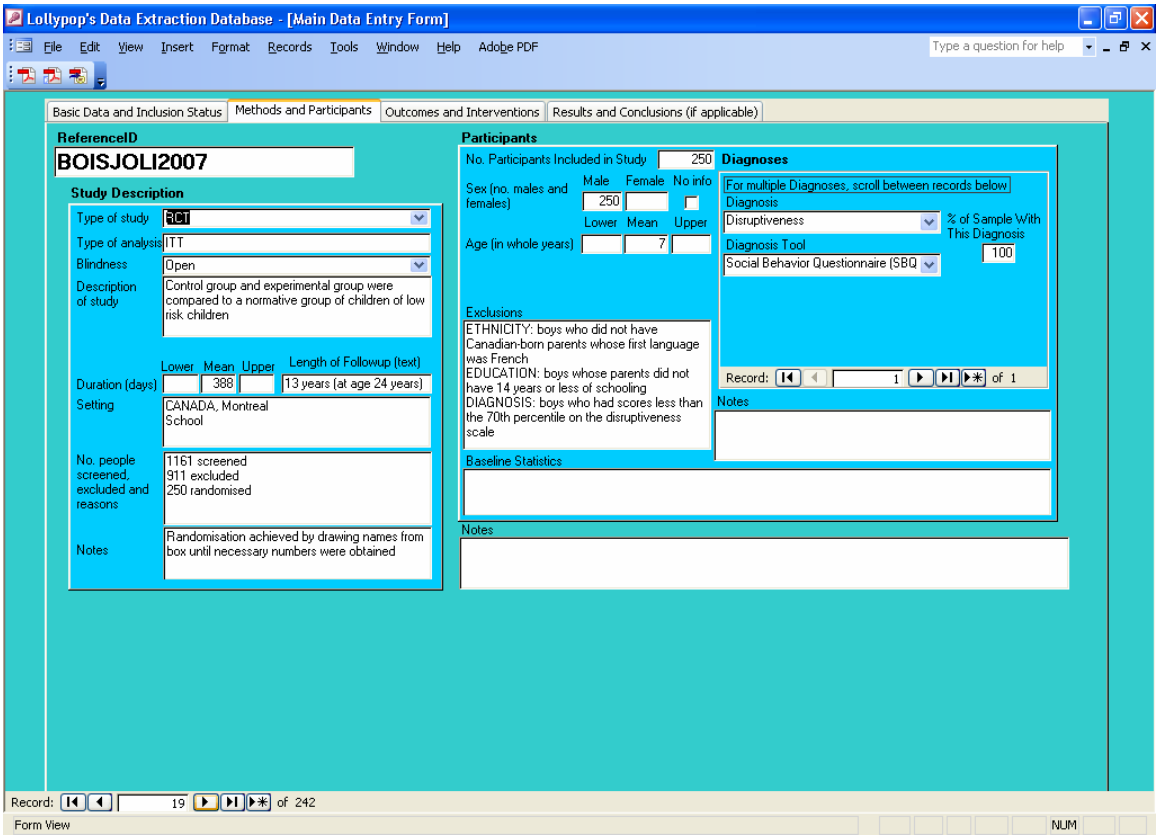
2 exp crossover procedure/ or exp cross over studies/ or exp crossover

```
1  design/
2  3  exp double blind procedure/ or exp double blind method/ or exp
3  double blind
4        studies/ or exp single blind procedure/ or exp single blind method/ or
5  exp single
6        blind studies/
7  4  exp random allocation/ or exp randomization/ or exp random
8  assignment/ or exp
9        random sample/ or exp random sampling/
10 5  exp randomized controlled trials/ or exp randomized controlled trial/
11 or
12       randomized controlled trials as topic/
13 6  (clinical adj2 trial$).tw.
14 7  (crossover or cross over).tw.
15 8  (((single$ or doubl$ or trebl$ or tripl$) adj5 (blind$ or mask$ or
16 dummy)) or
17       (singleblind$ or doubleblind$ or trebleblind$)).tw.
18 9  (placebo$ or random$).mp.
19 10 (clinical trial$ or random$).pt. or treatment outcome$.md.
20 11 animals/ not (animals/ and human$.mp.)
21 12 (animal/ or animals/) not ((animal/ and human/) or (animals/ and
22 humans/))
23 13 (animal not (animal and human)).po.
24 14 (or/1-10) not (or/11-13)
25
```

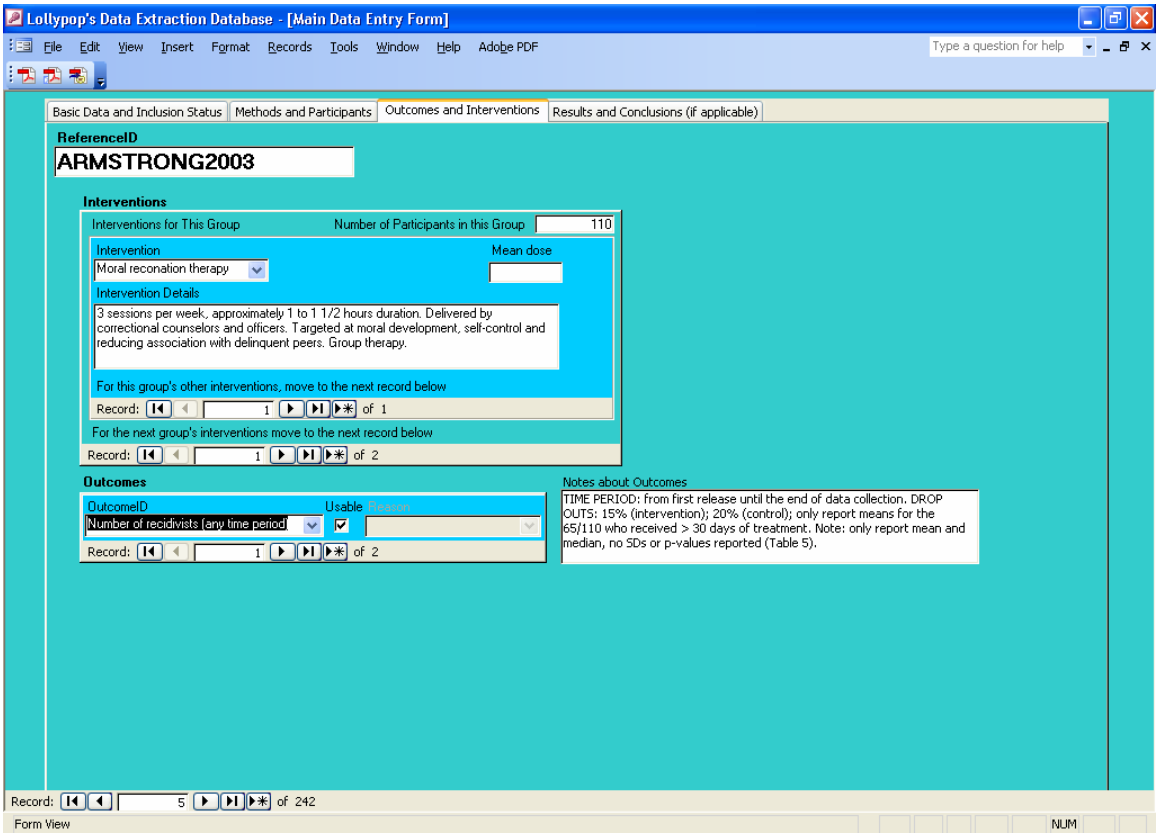
Appendix 9: Clinical study data extraction form

Figure 4: Screenshots of bespoke database for extraction of study characteristics.




Lollypop's Data Extraction Database - [Main Data Entry Form]
File Edit View Insert Format Records Tools Window Help Adobe PDF
Type a question for help
Basic Data and Inclusion Status
Methods and Participants
Outcomes and Interventions
Results and Conclusions (if applicable)
ReferenceID
BOISJOLI2007
Study Description
Type of study RCT
Type of analysis ITT
Blindness Open
Description of study Control group and experimental group were compared to a normative group of children of low risk children
Lower Mean Upper Length of Followup (text)
Duration (days) 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 box until necessary numbers were obtained
Participants
No. Participants Included in Study 250
Sex (no. males and females) Male 250 Female No info
Age (in whole years) Lower Mean 7 Upper
Exclusions
ETHNICITY: boys who did not have Canadian-born parents whose first language was French
EDUCATION: 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
Baseline Statistics
Notes
Diagnoses
For multiple Diagnoses, scroll between records below
Diagnosis Disruptiveness
% of Sample With This Diagnosis 100
Diagnosis Tool Social Behavior Questionnaire (SBQ
Record: 1 of 1
Notes
Record: 19 of 242
Form View
NUM

1


Lollypop's Data Extraction Database - [Main Data Entry Form]
File Edit View Insert Format Records Tools Window Help Adobe PDF
Type a question for help
Basic Data and Inclusion Status
Methods and Participants
Outcomes and Interventions
Results and Conclusions (if applicable)
ReferenceID
ARMSTRONG2003
Interventions
Interventions for This Group
Number of Participants in this Group 110
Intervention Moral reconation therapy
Mean dose
Intervention Details
3 sessions per week, approximately 1 to 1 1/2 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: 1 of 1
For the next group's interventions move to the next record below
Record: 1 of 2
Outcomes
OutcomeID Number of recidivists (any time period
Usable
Record: 1 of 2
Notes about Outcomes
TIME PERIOD: from first release until the end of data collection. DROP 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).
Record: 5 of 242
Form View
NUM

2

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: *(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	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	Not addressed Not reported Not applicable

		Poorly addressed	
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
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: 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
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? *Code* ++, + *or* –		

*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 filters

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 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. 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

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 auality-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 or expenditure$ or price or prices or pricing or pharmacoeconomic$).tw.
7	(budget$ 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 are available on request.

Appendix 12: Quality checklists for economic studies

1.1 Full economic evaluations

Author: **Date:**

Title:

	Study design	Yes	No	NA
1	The research question is stated	❑	❑	
2	The viewpoint(s) of the analysis are clearly stated	❑	❑	
3	The alternatives being compared are relevant	❑	❑	
4	The rationale for choosing the alternative programmes or interventions compared is stated	❑	❑	
5	The alternatives being compared are clearly described	❑	❑	
6	The form of economic evaluation used is justified in relation to the question addressed	❑	❑	
	Data collection			
1	The source of effectiveness data used is stated	❑	❑	
2	Details of the design and results of the effectiveness study are given	❑	❑	❑
3	The primary outcome measure(s) for the economic evaluation are clearly stated	❑	❑	
4	Methods to value health states and other benefits are stated	❑	❑	
5	Details of the subjects from whom valuations were obtained are given	❑	❑	
6	Indirect costs (if included) are reported separately	❑	❑	❑
7	Quantities of resources are reported separately from their unit costs	❑	❑	
8	Methods for the estimation of quantities and unit costs are described	❑	❑	
9	Currency and price data are recorded	❑	❑	
10	Details of currency of price adjustments for inflation or currency conversion are given	❑	❑	❑
11	Details of any models used are given	❑	❑	❑
12	The choice of model used and the key parameters on which it is based are justified	❑	❑	❑
	Analysis and interpretation of results			
1	Time horizon of costs and benefits is stated	❑	❑	

2	The discount rate(s) is stated	❑	❑	❑
3	The choice of rate(s) is justified	❑	❑	❑
4	An explanation is given if costs or benefits are not discounted	❑	❑	❑
5	Details of statistical tests and confidence intervals are given for stochastic data	❑	❑	❑
6	The approach to sensitivity analysis is given	❑	❑	
7	The choice of variables for sensitivity analysis is given	❑	❑	
8	The ranges over which the variables are varied are stated	❑	❑	
9	Relevant alternatives are compared	❑	❑	
10	Incremental analysis is reported	❑	❑	❑
11	Major outcomes are presented in a disaggregated as well as aggregated form	❑	❑	
12	The answer to the study question is given	❑	❑	
13	Conclusions follow from the data reported	❑	❑	
14	Conclusions are accompanied by the appropriate caveats	❑	❑	

1

1.2 Partial economic evaluations

Author: **Date:**

Title:

	Study design	Yes	No	NA
1	The research question is stated	❑	❑	
2	The viewpoint(s) of the analysis is clearly stated and justified	❑	❑	
	Data collection			
1	Details of the subjects from whom valuations were obtained are given	❑	❑	
2	Indirect costs (if included) are reported separately	❑	❑	❑
3	Quantities of resources are reported separately from their unit costs	❑	❑	
4	Methods for the estimation of quantities and unit costs are described	❑	❑	
5	Currency and price data are recorded	❑	❑	
6	Details of currency of price adjustments for inflation or currency conversion are given	❑	❑	❑
7	Details of any model used are given	❑	❑	❑
8	The choice of model used and the key parameters on which it is based are justified	❑	❑	❑
	Analysis and interpretation of results			
1	Time horizon of costs is stated	❑	❑	
2	The discount rate(s) is stated	❑	❑	❑
3	Details of statistical tests and confidence intervals are given for stochastic data	❑	❑	❑
4	The choice of variables for sensitivity analysis is given	❑	❑	
5	The ranges over which the variables are varied are stated	❑	❑	
6	Appropriate sensitivity analysis is performed	❑	❑	
7	The answer to the study question is given	❑	❑	
8	Conclusions follow from the data reported	❑	❑	
9	Conclusions are accompanied by the appropriate caveats	❑	❑	

Appendix 13: Data extraction form for economic studies

Reviewer: **Date of Review:**

Authors:

Publication Date:

Title:

Country:

Language:

Economic study design:

- ❑ CEA
- ❑ CBA
- ❑ CUA
- ❑ CMA
- ❑ CCA
- ❑ CA

Modelling:

- ❑ No
- ❑ Yes

Source of data for effect size measure(s):

	❑ Meta-analysis
❑ RCT	❑ RCT
❑ Quasi experimental study	❑ Quasi experimental study
❑ Cohort study	❑ Cohort study
❑ Mirror image (before-after) study	❑ Mirror image (before-after) study
	❑ Expert opinion

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

❑ Health care system

❑ Health care 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
❑ direct treatment	❑ social care	❑ income forgone due to illness
❑ inpatient	❑ social benefits	❑ income forgone due to death
❑ outpatient	❑ travel costs	❑ income forgone by caregiver
❑ day care	❑ caregiver out-of-pocket	
❑ community health care	❑ criminal justice	
❑ medication	❑ training of staff	

Or

❑ staff

❑ medication

❑ consumables

❑ overhead

❑ capital equipment

❑ real estate Others: _____

Currency: _____ **Year of costing:** _____

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): ……/……/……

1 Appendix 14: Evidence tables for economic studies

2 Table 42: Include studies: early interventions

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 *et al.*, 2005 UK	Intervention: 3 types of parent training/ education programmes (PT/EP): i. group community-based ii. group clinic-based iii. individual home-based Comparator: No treatment	Children with conduct disorder aged up to 18 years Study design: decision-analytic modelling Source of clinical effectiveness data: systematic review and meta-analysis (clinical effectiveness between PT/EP programmes); hypothetical rates (PT/EP programmes versus no treatment) Source of resource use data: expert opinion supported by published literature Source of unit costs: national sources	Cost-minimisation analysis (comparison across the 3 types of PT/EP) and secondary cost-effectiveness analysis (all PT/EP programmes versus no treatment)	Costs: Intervention costs: staff, supervision, travelling, crèche, course packs, room hire Cost results: Cost per family: Group community-based PT/EP: £899 (assuming 8 families per group) Group clinic-based PT/EP: £629 (assuming 8 families per group) Individual home-based PT/EP: £3,839 No treatment: 0 Outcomes: i. child behaviour-related measures ii. (hypothetical) levels of response to treatment and improvement in children's Health Related Quality of Life (HRQoL) expressed in QALYs Effectiveness results: No significant differences in outcome between the 3 types of PT/EP Hypothetical 5%, 10% and 50% response rates; hypothetical 0.01, 0.025%, 0.1 and 0.2 improvement in QALYs	Group clinic-based PT/EP dominates the two other types of PT/EP ICERs of PT/EP programmes versus no treatment assuming a 80% uptake: A. 50% response rate Group community-based PT/EP: £1,438 per responder Group clinic-based PT/EP: £1,006 per responder Individual home-based PT/EP: £6,143 per responder B. 0.2 improvement in QALYs Group community-based PT/EP: £4,495/QALY Group clinic-based PT/EP: £3,144/QALY Individual home-based PT/EP: £19,196/QALY	Perspective: NHS Currency: UK £ Cost year: 2003 Time horizon: 10 weeks Discounting: N/A Internal validity: 20/6/9

Table 43: Included studies: juvenile offender interventions

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)
Caldwell et al 2006 USA	Intervention: Intensive juvenile corrective service treatment program Comparator: Usual juvenile corrective service intervention	Unmanageable incarcerated delinquent boys Study design: Quasi-experimental design Source of clinical effectiveness: single study (N=202) Source of resource use: database of public circuit court records Source of unit cost: published literature	Cost-benefit analysis	Costs: Cost of intervention, juvenile institution care, arrest, prosecution and defence. Treatment group cost: $173012.20/youth Comparison group cost: $216388.00/youth (P<0.05) Outcomes: All offences, felony offences, violence. No. of offences charged: Treatment group: 1.09 Comparison group: 2.49 (p<0.05) Violent offence: Treatment group: 0.25 Comparison group: 0.85 (p<0.001) Felony offence: Treatment group: 0.48 Comparison group: 0.89 (p<0.05)	Intensive juvenile treatment dominated the usual treatment of juvenile corrective service Cost- benefit ratio: 1 to 7.18	Perspective: Public sector Currency: US$ Time horizon: 4.5 years Discounting: not conducted Internal validity: 22/1/12

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 et al 2001 USA	Intervention: Intensive supervision and monitoring (ISM) Cognitive Behavioural Therapy (CBT) Comparator: Regular probation	Children between the ages of 11 and 17 years who committed delinquent activity and status offences. Study design: quasi-experimental design (N=293) Source of data for clinical outcomes: patients data (N=153) Source of data for resource use: Patient questionnaire and court records Unit price source: Not reported	Costing study	Costs: • Cost to justice system • Local health communities Cost/patient: ISM: $927 CB: -$2927	NA	Perspective: public sector Currency: US$ Cost year: 2001 Time horizon: 18 months Discounting: NA Internal validity: 12/5/18

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