NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

PUBLIC HEALTH GUIDANCE

FINAL SCOPE

This is the scope for one of five pieces of NICE guidance on how to prevent unintentional injuries among children and young people aged under 15.

1. 'Preventing unintentional road injuries among under 15s: road design'. The subject of this scope. The guidance will be developed using the public health intervention process. (Publication expected April 2010.)
2. 'Strategies to prevent unintentional injuries among under 15s'. This guidance will focus on legislation, regulation, standards, enforcement, monitoring, evaluation and workforce development. It will be developed using the public health programme process. (Publication expected October 2010.)
3. 'Preventing unintentional injuries among under 15s in the home'. This guidance will focus on the supply and/or installation of home safety equipment and home risk assessments. It will be developed using the public health intervention process. (Publication expected April 2010.)
4. 'Preventing unintentional injuries among under 15s in the external environment'. This guidance is expected to cover sports and leisure. It will be developed using the public health intervention process. A scope will be produced at a later date. (Publication expected October 2010.)
5. 'Preventing unintentional road injuries among under 15s: education and protective equipment'. This guidance is expected to cover safety equipment such as helmets and visibility clothing. It will be developed using the public health intervention process. (Publication date and scope to be confirmed.)

1 Guidance title

Preventing unintentional injuries among children and young people aged under 15: road design and modification.

1.1 Short title

Preventing unintentional road injuries among under 15s: road design.

2 Background

a) The National Institute for Health and Clinical Excellence (NICE) has been asked by the Department of Health (DH) to develop guidance on public health interventions aimed at preventing unintentional injuries on the road among those aged under 15. In this scope we have taken 'road' to include highways, roads and streets. The term 'road' is used in this broader sense.

b) NICE public health guidance supports the preventive aspects of relevant national service frameworks (NSFs), where they exist. If it is published after an NSF has been issued, the guidance effectively updates it. Specifically, in this case, the guidance will support NSFs on the following:

- children, young people and maternity services (DH 2004a)
- long-term (neurological) conditions (DH 2005), which focuses on brain and spinal injury and damage to other parts of the nervous system.

c) This guidance will also support the following public service agreements (PSAs):

- PSA 12: Improve the health and wellbeing of children and young people (HM Government 2008a)
- PSA 13: Improving children and young people's safety (HM Government 2008b)

d) This guidance will support a number of related policy documents including:

- 'Better safe than sorry: preventing unintentional injury to children' (Audit Commission and Healthcare Commission 2007)
- ‘Child road safety strategy 2007’ (Department for Transport 2007a)
- 'Choosing health: making healthy choices easier’ (DH 2004b)
- ‘Every child matters: change for children programme’ (HM Government 2004)
- 'Preventing accidental injuries: priorities for action. Report to the Chief Medical Officer from the Accidental Injury Task Force' (DH 2002)
- ‘Saving lives: our healthier nation’ (DH 1999)
- ‘Second review of the government’s road safety strategy’ (Department for Transport 2007b)
- ‘Staying safe: action plan’ (Department for Children, Schools and Families 2008)
- ‘Tackling health inequalities: a programme for action’ (DH 2003)
- ‘The children's plan: building brighter futures’ (Department for Children, Schools and Families 2007)
- ‘Working together to safeguard children’ (HM Government 2006).

e) This guidance will provide recommendations for good practice, based on the best available evidence of effectiveness, including cost effectiveness. It is aimed at professionals, commissioners and managers with public health as part of their remit working within the NHS, local authorities and the wider public, private, voluntary and community sectors. It is particularly aimed at transport planners, road safety professionals, schools, parents, voluntary and community groups. It will also be of interest to all road users, children, young people, parents and carers.

f) Please note: NICE is developing four other pieces of public health guidance to prevent unintentional injuries among children and young people aged under 15. There is another piece of guidance relating to education and protective equipment to reduce road injuries, based on the same referral. In addition, NICE is preparing guidance using its programme development process and two other interventions that focus on injuries in the home and in external environments. This guidance will complement these publications and support other NICE guidance on preventing unintentional injuries among children. For further details, see front page and section 6.

This guidance will be developed using the NICE public health intervention process.

3 The need for guidance

a) Unintentional injury is a leading cause of death among children and young people aged 1–14 years (Audit Commission and Healthcare Commission 2007). Nearly half (46%) of UK deaths from unintentional injury in people aged 1–14 are road related (DH 2002). In 2007, 91 people younger than 15 were killed, more than 20,000 were injured and 2556 were seriously injured in Great Britain on the roads. Most of those killed (52) were pedestrians or cyclists; 45% were pedestrians (Department for Transport 2008b). As well as people killed and injured there are other people whose health is affected in less apparent ways. People can be traumatised by near misses, or avoid activities or opportunities because of danger (real or perceived) on the roads. These opportunities include walking or cycling, access to friends, family and recreation as well as the freedom to develop independence. Overall population based casualty rates for England are better than the EU average. However, this rating masks poorer figures for pedestrians (Department for Transport 2008b).

b) Among people aged under 15 the likelihood of dying as a car occupant is 5.5 times higher if the parents are unemployed than if the parents have managerial or professional jobs; this ratio exceeds 20 among pedestrians and cyclists. The largest factor in this difference in death rate is exposure to danger rather than behaviour (Edwards et al 2006). People from lower social classes are more likely to live in neighbourhoods with unsafe roads and high-speed traffic. More than one quarter of child pedestrian injuries happen in the most deprived tenth of wards (Greyling et al. 2002).

c) National data, such as those reported in the 'Road casualties Great Britain' reports, do not routinely feature information on characteristics of the victim other than age and sex. Information on race, for instance, has generally come from a small number of local studies, which frequently focus on one ethnic group. Thomson and coworkers (Department of the Environment Transport and the Regions 2001) report that results suggest that there is a higher pedestrian accident rate among children (age range not stated) from Asian backgrounds than non-Asian peers in the same area. Other groups may also be similarly affected but have not yet been systematically studied.

d) Children need special consideration when addressing road injuries. The World Health Organization report 'Youth and road safety in Europe' (Sethi et al. 2007) notes that children have limited ability to handle complex road environments designed for adults because of their cognitive and physical development. Children are also less visible to motorists, and in the case of a crash are more likely than adults to be damaged (Organisation for Economic Cooperation and Development 2004). Because of this vulnerability and difficulty making judgements, it is important to identify elements of road design which produce a road environment that reduces the danger to which they are exposed.

e) Factors that affect whether someone is injured or killed in a road collision, and severity of injury, play a part either before a collision (such as speed, training and road surface), around the time of collision (such as anti-lock brakes) or after collision (such as vehicle design, seatbelts, airbags and emergency services). Approaches to preventing collisions (primary prevention) focus on altering the behaviour of road users (for example, educating about road dangers or restricting vehicle speed) or of a vehicle if emergency action is required (for instance anti-lock breaks or anti-skid road surfaces) (Racioppi et al, 2004). Approaches to reducing severity of injury (secondary prevention) include car design and provision and use of safety devices such as seat belts or restraints and helmets. Perceptions of safety, however, can alter behaviour (such as faster driving in a car with anti-lock brakes) so that actual risk is higher than might have been expected (risk compensation). The logical place to start in considering road injuries is with primary prevention.

f) Approaches to reducing collisions and injuries frequently address the 'three Es': environment, education (including information about and provision of safety equipment such as helmets and visibility clothing) and enforcement. Elements in the design of vehicles also reduce risk of injury. Road design has a key influence on speed (Department for Transport 2007a). 'Excess and inappropriate' speed contributes to around 30% of fatal crashes in high-income countries (World Health Organization 2004). Higher speeds reduce the time available for reactions and increase the severity of collisions. Vulnerable road users (cyclists and pedestrians) are at particular risk: pedestrians have a 90% chance of surviving car crashes at speeds below 30 kph but a less than 50% chance of surviving collisions at speeds of 45 kph (Racioppi et al. 2004). Other design approaches include the provision of routes or networks for cyclists and pedestrians, signage relating to speed limits and examples such as 'safe routes to school' (where

packages of measures are introduced to reduce risk on specific journeys, often including, for example, pedestrian and cycle crossing facilities, new speed limits, traffic management and better facilities for cyclists at school).

4 The guidance

Public health guidance will be developed according to NICE processes and methods. For details see section 5.

This document defines exactly what this guidance will (and will not) examine, and what the guidance developers will consider. The scope is based on a referral from the DH (see appendix A).

4.1 Who is the focus?

4.1.1 Groups that will be covered

Children and young people aged under 15, including those from disadvantaged areas who are likely to be exposed to high traffic volumes and speeds.

4.1.2 Groups that will not be covered

- Anyone aged 15 or older.
- Children and young people aged under 15 who are injured elsewhere (that is, not on the road).

4.2 Activities

4.2.1 Activities/measures that will be covered

This guidance will cover the design or modification of highways, roads and streets. These include the following either combined or delivered separately:

- traffic calming
- 20 mph zones
- home zones

- international examples such as ‘woonerven’ in the Netherlands: streets or a group of streets that have been redesigned to slow traffic and promote non-motorised traffic
- ‘naked streets’ where road markings, lines, traffic lights, signs and kerbs and so on are removed to create uncertainty in road users and force them to slow down, and other psychological traffic calming designs
- ‘quiet lanes’ and other rural examples of traffic calming schemes
- signing related to speed limits
- walking and cycling networks
- safe routes to schools.

Steps will be taken to identify ineffective as well as effective interventions and approaches.

4.2.2 Activities/measures that will not be covered

a) Legislation or regulation, including in relation to blood alcohol concentration and other driver legislation.

b) Enforcement, including local setting of speed limits with no change to the road design, using speed cameras, speed limiters (technology that prevents a vehicle being driven at certain speeds) alcohol testing, enforcing driver legislation and policing policies.

c) Primary prevention (pre crash) via:

- the education of drivers, cyclists and pedestrians (including national and local media campaigns, leaflets and promotional activities)
- mandatory training, and re-testing and post-offence training
- visibility for vehicles and cyclists and pedestrians, such as daytime lights and high visibility clothing.

d) Secondary prevention measures that aim to reduce the severity of injury following a crash by changing behaviour in individuals (seat belt and safety seat use promotion, helmets and those that aim to

reduce risk through passive methods (such as anti-lock breaks or skid resistant surfaces).

e) Tertiary prevention, including emergency services, treatment and rehabilitation.

Note: education and the use of protective equipment (for example, helmets and high visibility clothing) will be covered by future guidance as part of this referral. See section 6 for related guidance already under development.

4.3 Key questions and outcomes

Below are the overarching questions that will be addressed along with some of the outcomes that would be considered as evidence:

Question 1: What types of road design or modification to the road environment are effective and cost effective in reducing road injuries among children and young people aged under 15?

Expected outcomes: Changes in injuries and deaths in children and young people aged under 15, including changes in injury severity, vehicle speeds, collisions, knowledge and attitudes, estimates of the cost of specific interventions relative to the outcomes achieved.

Question 2: What are the barriers and facilitators to implementing environmental modifications and designs relating to the reduction of vehicle speeds and road injuries?

4.4 Status of this document

This is the final scope, incorporating comments from a 4-week consultation which included a stakeholder meeting on 18 November 2008.

5 Further information

The public health guidance development process and methods are described in 'Methods for development of NICE public health guidance' (NICE 2006) available at www.nice.org.uk/phmethods and 'The public health guidance development process: An overview for stakeholders, including public health

practitioners, policy makers and the public' (NICE 2006) available at www.nice.org.uk/phprocess

6 Related NICE guidance

Published

Behaviour change. NICE public health guidance 6 (2007). Available from: www.nice.org.uk/PH6

Physical activity and the environment. NICE public health guidance 8 (2008). Available from: www.nice.org.uk/PH8

In development

Promoting physical activity for children. NICE public health guidance (due January 2009).

Preventing unintentional injuries among children in the home. NICE public health guidance (due April 2010).

Strategies to prevent unintentional injuries among children. NICE public health guidance (due October 2010).

Preventing unintentional injuries in the external environment among children. NICE public health guidance (due October 2010).

Preventing unintentional road injuries among under 15s: education and protective equipment. NICE public health guidance (publication date to be confirmed).

Preventing unintentional road injuries among young people aged 15-24. NICE public health guidance (publication date to be confirmed).

Transport policies that prioritise walking and cycling. NICE public health guidance (publication date to be confirmed).

Appendix A Referral from the Department of Health

The Department of Health asked NICE to:

'Produce guidance on public health interventions to reduce accidental injuries to persons under the age of 15 on the road'.

Appendix B Potential considerations

It is anticipated that the Public Health Interventions Advisory Committee (PHIAC) will consider the following issues in relation to any interventions it examines:

- Do individual factors (such as gender, age, ethnicity, religion) influence its effectiveness?
- What impact does it have on people with disabilities or mobility impairments?
- What impact does it have on inequalities in health?
- What are the barriers and facilitators to implementation?
- What are the views of children, young people, families, carers and the wider public?
- What issues affect the level of acceptability?
- Which solutions are most suitable for different road environments?
- Does the intensity of the intervention influence effectiveness or duration of effect?
- Does the effectiveness of the interventions change over time?
- What is the role of public health practitioners?
- How do these interventions interact with other types of injury reduction interventions?
- How does effectiveness vary according to different settings – such as urban and rural areas?

Appendix C References

Audit Commission and Healthcare Commission (2007) Better safe than sorry: preventing unintentional injury to children. London: Audit Commission.

Department for Children, Schools and Families (2007) The children's plan: building brighter futures. London: Department for Children, Schools and Families.

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Edwards P, Roberts I, Green J, et al. (2006) Deaths from injury in children and employment status in family: analysis of trends in class specific death rates. BMJ 333: 119–21.

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HM Government (2004) Every child matters: change for children. London: Department for Education and Skills.

HM Government (2006) Working together to safeguard children. A guide to inter-agency working to safeguard and promote the welfare of children. London: The Stationery Office.

HM Government (2008a) PSA delivery agreement 12: Improve the health and wellbeing of children and young people [online]. Available from: www.hm-treasury.gov.uk/d/pbr_csr07_psa12.pdf

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Racioppi F, Ericsson L, Tingvall C, et al. (2004) Preventing road traffic injury: a public health perspective for Europe. Copenhagen: World Health Organization.

Sethi D, Racioppi F, Mitis F. (2007) Youth and road safety in Europe. Copenhagen: World Health Organization.

World Health Organization (2004) World report on road traffic injury prevention. Geneva: World Health Organization.