

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

PUBLIC HEALTH GUIDANCE**SCOPE****1 Guidance title**

Reducing differences in the uptake of immunisations (including targeted vaccines) in children and young people aged under 19 years.

1.1 Short title

Reducing differences in the uptake of immunisations

2 Background

- a) The National Institute for Health and Clinical Excellence ('NICE' or 'the Institute') has been asked by the Department of Health (DH) to develop guidance on a public health intervention aimed at reducing differences in the uptake of immunisations in children and young people aged under 19 years.
- b) NICE public health intervention guidance supports implementation of the preventive aspects of national service frameworks (NSFs) 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 public health guidance published by the Institute after an NSF has been issued will have the effect of updating the framework. Specifically, in this case, the guidance will support NSFs on the following: 'Children, young people and maternity services: core standards' (DH 2004b).
- c) This guidance will support a number of related policy documents and practice guidance including:

'Choosing health: making healthy choices easier' (DH 2004a)

'Creating healthier communities: a resource pack for local partnerships' (Office of the Deputy Prime Minister and DH 2005)

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

'Every child matters: change for children' (Department for Education and Skills 2004)

'Immunisation against infectious disease – The Green Book' (DH 2006a)

'Our health, our care, our say: a new direction for community services' (DH 2006b)

'Protecting the health of England's children: the benefit of vaccines' (Health Protection Agency 2005)

'Vaccination services: reducing inequalities in uptake' (DH 2005)

- d) 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, schools, colleges and workplaces, immigration services and the wider public (specifically parents, carers and young people), private, voluntary and community sectors.

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

3 The need for guidance

- a) Nationally, the childhood immunisation programme is offered routinely through primary care and other services. However, in England, differences in immunisation uptake persist. A range of social, demographic, maternal and infant related factors have been

identified as barriers to full immunisation (Peckham et al. 1989; Samad et al. 2006).

- b) Evidence shows that the following groups of children and young people are at risk of not being fully immunised: children and young people who have missed previous vaccinations (whether as a result of parental intent or otherwise); looked after children; children with physical or learning difficulties; children of teenage or lone parents; children not registered with a general practitioner; younger children from large families; children who are hospitalised; minority ethnic groups; vulnerable children, such as those whose families are travellers, asylum seekers or homeless (DH 2005; Hill et al. 2003; Peckham et al. 1989; Samad et al. 2006).
- c) In the case of the combined vaccine for measles, mumps and rubella (MMR), reduced immunisation uptake has also been inversely correlated with socioeconomic wealth. In recent years, concerns about the safety of MMR have led to an overall reduction in MMR coverage in England, most notably in children of more affluent households (Wright and Polack 2005).
- d) Once a certain level of immunisation is achieved within a population the number of people who are potential disease carriers is reduced, which means that unimmunised people are also protected (so-called herd immunity). Because of the passing-on of benefits from immunised to unimmunised people, interventions to increase immunisation uptake will need to address rates of uptake within all social groups, particularly those that are geographically or socioculturally isolated.
- e) Analyses of national and regional data identify several groups that are at risk of developing vaccine-preventable diseases.
- Antenatal rubella screening in an ethnically diverse London population found that Oriental, Asian, and black women are at greater risk of rubella infection than other women, suggesting

differences in previous exposure to infection and/or vaccination opportunities (Tookey et al. 2002).

- Surveillance monitoring of measles outbreaks in England and Wales to 2007 has revealed an increasing number of measles cases compared with 2006, predominantly associated with prolonged outbreaks in travelling communities and some religious communities where immunisation uptake has been low (Health Protection Agency 2007 and 2008).
- There is an increased incidence of hepatitis B virus infection in south Asian residents of England and Wales, particularly children, compared with non-Asians (Hahné et al. 2004).
- Children and young people from the most deprived and overcrowded electoral wards were at risk of meningococcal disease and mortality before the introduction of the meningococcal serogroup C conjugate vaccine (MenC) into the UK routine immunisation programme in 1999 (Jones et al. 1997; Heyderman et al. 2004).

4 The guidance

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

This document is the scope. It 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 Populations

4.1.1 Groups that will be covered

People younger than 19 years.

4.1.2 Groups that will not be covered

People aged 19 years and older.

4.2 *Activities/interventions*

4.2.1 **Activities/interventions that will be covered**

- a) Interventions that seek to reduce differences in the uptake of universal or targeted vaccination programmes in people younger than 19 years.
- b) Universal vaccination programmes targeting this age group include the vaccinations offered under the UK's routine childhood immunisation programme (comprising vaccination for the following preventable infections: diphtheria, tetanus, pertussis [whooping cough], polio, meningococcal serogroup C, *Haemophilus influenzae* type b (Hib), measles, mumps, rubella and pneumococcal infections [DH 2006b]), and the vaccination for human papilloma virus (HPV) for girls.
- c) Targeted vaccinations for this age group include the bacillus Calmette-Guérin (BCG) and hepatitis B immunisations that are recommended for certain groups at risk (for example, children and young people living in areas of the UK with an increased incidence of tuberculosis, and babies born to mothers infected with hepatitis B) (DH 2006b).

Interventions will include, but are not limited to:

- One-to-one or small group-based interventions that seek to reduce differences in the uptake of specific immunisations or completion of the immunisation schedule (for example, health visitors and other community nurses following up children whose families are travellers, asylum seekers or homeless).
- Local systems, service delivery mechanisms, commissioning routes, partnerships and management strategies that aim to reduce differences in immunisation uptake rates and/or to improve access to immunisation services, particularly for children and young people with low immunisation rates (for

example, locally derived Quality and Outcome Framework – different from the nationally negotiated Quality and Outcome Framework, – and/or locally commissioned services from community pharmacists by PCTs).

- Local or national health promotion and educational campaigns focusing on reducing differences in immunisation uptake (for example, targeted reminders to minority ethnic groups, or local or national media and marketing campaigns).
- Alternative approaches to vaccination such as quasi-mandatory schemes (for example, vaccination as a requirement for school entry) or incentives (for example, lottery-style financial incentives for parents who comply with a vaccination schedule).
- Strategies that aim to lower barriers to uptake (for example, alternative methods of service delivery).

Interventions will be delivered in NHS and non-NHS settings including, but not limited to:

- GP surgeries, minor injuries units, walk-in centres, nurse practitioner or health-visitor-led outreach services, children's centres, out-of-hours services, hospitals, acute trusts and pharmacies.
- Private health clinics and vaccination centres.
- Workplaces and occupational health settings
- Schools, extended schools, special schools, universities and other education settings.
- Children's centres, community clinics, family centres and other community settings such as family homes, women's and children's refuges, young offender institutions and long-term-care institutions.

4.2.2 Activities/interventions that will not be covered

- a) Interventions that seek to reduce differences in the uptake of immunisations in people older than 19 years (for example,

interventions to encourage uptake of influenza and pneumococcal vaccinations for people aged 65 and over).

- b) Setting of national immunisation strategies, policies, priorities and targets.
- c) Targeted vaccination of young people at occupational risk of infection (for example, vaccination of healthcare workers for hepatitis B and varicella).
- d) Targeted vaccination of children and young people travelling to countries with increased prevalence of infectious agents (for example, vaccination for typhoid, rabies or tick-borne encephalitis).
- e) Targeted vaccination of children and young people who are clinically at risk of infection with a vaccine-preventable disease as a result of their underlying condition (for example, vaccination of asplenic or immunocompromised individuals against pneumococcal infection).
- f) Interventions that seek to encourage uptake of single vaccinations for measles, mumps and rubella.

4.3 Cost effectiveness

The cost effectiveness analysis will be carried out from two different perspectives:

- NHS and Personal Social Services (PSS)
- other public sector organisations.

The perspectives will be from a population viewpoint only insofar as they will include so-called herd immunity. They will not include any costs or benefits relating to the employment of those being vaccinated.

4.4 Key questions and outcomes

The following overarching question will be addressed along with the outcomes that would be considered as evidence of effectiveness and cost effectiveness:

Question: What interventions are effective and cost effective in reducing differences in immunisation uptake?

Expected outcomes: Increased or decreased rates of immunisation and differential impact across population subgroups; cost effectiveness of interventions to reduce differences in immunisation uptake and how this might vary depending on how close a population is to optimal immunisation uptake; increased or decreased rates of initiation and/or completion of the recommended immunisation schedule within the recommended timeframe; impact on barriers to immunisation uptake.

4.5 Status of this document

This is the final scope, incorporating comments from a 4-week consultation which included a stakeholder meeting on 14 February, 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

The most appropriate means of generic and specific interventions to support attitude and behaviour change at population and community levels. NICE public health programme guidance 006 (2007) Available from: www.nice.org.uk/PH006

One to one interventions to reduce the transmission of sexually transmitted infections (STIs) including HIV, and to reduce the rate of under 18 conceptions, especially among vulnerable and at risk groups. NICE public health intervention guidance 003 (2007) Available from: www.nice.org.uk/PH003

Clinical diagnosis and management of tuberculosis, and measures for its prevention and control. NICE clinical guideline 33 (2006). Available from: www.nice.org.uk/CG033

Infection control, prevention of healthcare-associated infection in primary and community care. NICE clinical guideline 2 (2003). Available from: www.nice.org.uk/CG002

Postnatal care: routine postnatal care of women and their babies. NICE clinical guideline 37 (2006). Available from: www.nice.org.uk/CG037

Under development

Management of meningococcal disease and meningitis in children and young people. NICE clinical guideline, publication expected December 2009.

Appendix A Referral from the Department of Health

The Department of Health asked the Institute to:

'Produce public health intervention guidance on mechanisms to reduce inequalities in the uptake of immunisation amongst individuals under the age of 19 years (including targeted vaccines).'

Appendix B Potential considerations

Depending on the state of the evidence for each intervention seeking to reduce differences in the uptake of immunisations, the Public Health Interventions Advisory Committee (PHIAC) might consider the following issues in developing the guidance:

- The target audience (for example, health professionals or practitioners responsible for delivering the intervention, parents or carers responsible for encouraging uptake of immunisations, particularly in children, or young people themselves), actions taken and by whom, and context, frequency and duration.
- Whether the intervention is based on an underlying theory or conceptual model.
- Whether the intervention targets vaccine-related factors (for example, informing parents and young people of the relative risks and benefits of specific vaccines) or population-related factors (for example, improving access to services for vulnerable or disadvantaged families).
- Whether the intervention is effective and cost effective. Cost-effectiveness analyses will consider not only the benefits of immunisation that accrue to the immunised individual (that is, disease resistance) but also the benefits that accrue to the population as a result of so-called herd immunity.
- Critical elements. For example, whether effectiveness and cost effectiveness varies according to:
 - the diversity of the population (for example, in terms of the person's age, gender or ethnicity)
 - the status, knowledge and influence of the person delivering the intervention
 - the way in which the intervention is delivered
 - the frequency, intensity and duration of the intervention, where it takes place and whether it is transferable to other settings.

- Any trade-offs between equity and efficiency: in particular, the effect on the differences in immunisation uptake. Analyses will consider the effectiveness and cost effectiveness of interventions that target population groups with the lowest coverage compared with non-targeted (that is, universal) interventions, together with the effect on the difference in uptake rates between groups. (Note: because of herd immunity, improvements in immunisation rates of the top quantile will improve the health-related quality of life of the lowest quantile, but will usually increase the difference in health-related quality of life between top and bottom quantiles. Improvements in immunisation rates of the bottom quantile will in general decrease the difference in health-related quality of life between top and bottom quantiles, but may be more costly to attain per unit of difference in immunisation rates. The trade-offs between equity and efficiency implicit in these situations will need to be addressed).
- The potential role of locally derived data and locally pooled datasets in identifying pockets of low immunisation uptake.
- Any environmental, social and cultural factors that prevent – or support – effective implementation (for example, perceptions on the risks and benefits of immunisation).
- Any adverse or unintended effects (this would include the adverse or unintended effects of interventions to reduce differences in immunisation uptake, and not the unintended or adverse effects of the immunisation itself).
- Current practice, including direct enhanced services for childhood immunisation.
- Availability and accessibility for different population groups.

Appendix C References

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