National Institute for Health and Care Excellence

Centre for Public Health

Review proposal: July 2014

Consideration of an update of the public health guidance on

Preventing type 2 diabetes - population and community-level interventions (PH 35)

1 Background information

Guidance issue date: May 2011
Guidance review date: 2014

In 2009, The Department of Health asked NICE to:

'Produce public health programme guidance for the health service on the prevention of type 2 diabetes mellitus among high-risk groups'.

It was agreed that the referral should be divided into two separate pieces of guidance:

- The first guidance focused on '*Preventing type 2 diabetes - population and community-level interventions'* (PH35; published May 2011).
- The second guidance focused on '*Preventing type 2 diabetes - risk identification and interventions for individuals at high risk'* (PH38; published July 2012).

NICE public health guidance is published with the expectation that it will be reviewed every 3 years to decide whether all or part of the guidance should be updated (please see the process manual for further details). NICE public health guidance is updated if new evidence emerges or if sections of the

guidance are no longer relevant. If important new evidence is published at other times, NICE may decide to update the recommendations at that time.

Any decision to update public health guidance must be balanced against the need for stability, because frequent changes to published recommendations would make implementation difficult and might delay the production of new guidance on other public health issues. This paper sets out the proposal for consultation with stakeholders.

2 Process for updating guidance

The standard process for updating guidance is as follows:

- NICE convenes an expert panel to consider whether any new evidence or significant changes in policy and practice would be likely to lead to substantively different recommendations. The panel consists of members of the original committee (including co-optees) that developed the guidance, key experts in the area and representatives of relevant government departments.
- NICE consults with stakeholders on its proposal.
- NICE may amend its proposal, in light of feedback from stakeholder consultation.
- NICE determines where any guidance update fits within its work programme, alongside other priorities.

In this case, the review of the guidance was aligned with the production of an Evidence Update in this area and the expert panel were known as the Evidence Update Advisory Group (EUAG). The Evidence Update for this guidance topic is due to publish in September 2014.

Evidence Updates are produced by NICE and are published on NICE's Evidence Search website. They are based on the scope of the particular guidance they relate to, and provide a commentary on a selection of new articles published since the guidance was issued. They highlight where that evidence supports current guidance, or where new evidence is identified that may be of interest to practitioners. They do not replace the guidance.

More information on the process and methods used to produce evidence updates can be found here[1]. The Evidence Update on 'Preventing type 2 diabetes - population and community-level interventions' will be published alongside the final review decision for this guidance.

3 Consideration of the evidence and practice

The original inclusion criteria, methods and considerations used to develop the PH35 guidance were used to develop a project brief, outlining the scope and search parameters for the Evidence Update.

Literature searches (see below) to identify studies and reviews relevant to the scope were undertaken.

In addition, EUAG members were encouraged to respond to a call for evidence, and citation searches for studies originally included in the reviews on which PH35 was based were undertaken (commencing from 1 November 2009 to 24 March 2014 to cover the period from the end of the searches for the original review questions).

Literature searches, selection and appraisal

The literature was searched to identify studies and reviews relevant to the scope. Searches were conducted of the following databases, covering the

[1] http://www.evidence.nhs.uk/nhs-evidence-content/evidence-updates

dates 7 July 2010 (end of the search period for Review 5 in the original guidance) to 14 February 2014:

- ASSIA (Applied Social Sciences Index and Abstracts)
- CDSR (Cochrane Database of Systematic Reviews)
- DARE (Database of Abstracts of Reviews of Effects)
- DoPHER (Database of Promoting Health Effectiveness reviews)
- EMBASE (Excerpta Medica database)
- HMIC (Health Management Information Consortium) database
- HTA (Health Technology Assessment) database
- MEDLINE (Medical Literature Analysis and Retrieval System Online)
- MEDLINE In-Process
- PsycINFO
- Social Policy and Practice

Full details will be available in the Evidence Update when published.

The Chair of the EUAG (see appendix A) prioritised papers from a shortlist which resulted in a final set of 28 papers for discussion by the EUAG and consideration for inclusion in the Evidence Update. The criteria for prioritising papers and references of the included papers can be found in Appendix B and C respectively.

The prioritised papers were discussed by the EUAG at their meeting on the 5th June 2014, where papers to be included in the Evidence Update were agreed - full details on these papers will be available on publication. The EUAG also considered the prioritised papers in relation to the current recommendations in the PH35 guidance. They were asked to advise NICE on the need to update the guidance as follows:

- Is there any significant new evidence that would change the existing recommendations?
- Is there significant new evidence that could inform new recommendations? Do they fill any of the gaps identified previously?

- Have there been any changes in practice or policy that could affect the recommendations?
- Can the recommendations be amended to improve implementation?
- Are the recommendations still relevant and useful?

The EUAG also heard policy updates from the Department of Health, Public Health England and from the National Clinical Director for Obesity and Diabetes, to help provide a background policy context to their discussions. The Chair of the Programme Development Group for the related guidance *Preventing type 2 diabetes - risk identification and interventions for individuals at high risk* (PH 38) was also in attendance to update the panel on the second piece of guidance, which published the year after PH35.

The Chair of the EUAG summarised the discussion at the end of the meeting and concluded the advice from the panel.

Evidence context

Of the 28 prioritised papers, the EUAG agreed to include 12 papers in the Evidence Update. The evidence in these papers was also discussed in relation to the need to update the guidance.

Of the included papers, 9 were systematic reviews, 2 were modelling studies and 1 was a randomised controlled trial. The papers were grouped and discussed according to types of interventions as follows:

Interventions for communities at high risk of type 2 diabetes

Two systematic reviews (Horne and Tierney 2012; Osei-Assibey and Boachie 2011) focusing on interventions for communities at high risk of type 2 diabetes, were agreed by the panel to be relevant to recommendations on communities at high risk of type 2 diabetes.

The systematic review by Horne and Tierney (2012) assessed barriers and facilitators to the uptake of, and adherence to, exercise and physical activity among older South Asian adults. The evidence identified four themes - communication, relationships, beliefs and environment - found to influence the effectiveness of interventions. The panel concluded that the identified themes were consistent with current recommendations.

The systematic review by Osei-Assibey and Boachie (2011) found that diet and lifestyle changes resulted in weight loss with improvements in cardiovascular risk factors in people of African ancestry. This was agreed to be consistent with the current guidance. The EUAG noted all the studies included in this review were conducted within the US so there may be issues of relevance and transferability to the UK.

The panel concluded that both systematic reviews strengthen the evidence base in this area, and support the current recommendations.

Conveying messages to the whole population

One systematic review - Leavy et al. (2011) - was agreed by the EUAG to be of relevance to recommendations focusing on conveying messages to the whole population. Considering mass media campaigns to promote physical activity, the review found that their effectiveness in adult populations were uncertain, but well-designed campaigns delivered alongside complementary measures could have a positive benefit. The panel noted the findings support the current recommendations.

Conveying messages to the local population

The panel agreed that none of the prioritised papers were of relevance to be included in the Evidence Update.

Promoting a healthy diet: national action

Two systematic reviews (An 2013; Powell et al. 2013) focused on the impact of subsidies on dietary behaviour.

An (2013) assessed the effectiveness of subsidies in promoting healthier food purchases and consumption and found an impact across a variety of settings from school canteens to supermarkets. Powell et al. (2013) assessed the effectiveness of food and beverage taxes and subsidies on consumption and body weight outcomes, finding that higher fast-food prices were associated with weight reduction, in particular in adolescents. Lower fruit and vegetable prices were generally associated with weight reduction among adults on low incomes.

The EUAG agreed that there is new evidence on population level interventions such as subsidies and incentives which should be considered in any future guidance update.

Promoting a healthy diet: local action

The panel agreed that none of the prioritised papers were of relevance to the Evidence Update or would have a potential impact on the guidance.

Comparing prevention approaches

The panel agreed that two modelling studies were relevant to the original guidance and contained new evidence (Backholer et al 2013 and Gregg et al 2013). The studies modelled the hypothetical impact on diabetes prevalence of a range approaches, in Australia by 2025 and in the USA by 2030 respectively. Both included population-wide strategies, high-risk prevention strategies and combined approaches, and their findings suggest that while strategies such as these may slow the rate of increase in the prevalence of type 2 diabetes, no single strategy or combination of strategies would reverse

the increasing trend. The EUAG agreed that the findings support the current guidance.

Promoting physical activity: national action

The panel agreed that none of the prioritised papers identified studies of sufficient quality of relevance to action which could be taken at a national level to promote physical activity.

Promoting physical activity: local action

Two of the prioritised papers related to locally-delivered physical activity interventions: a systematic review by Baker et al 2011; and a systematic review and meta-analysis by Cleland et al 2012. Baker et al were unable to draw a firm conclusion about the effectiveness of community-wide interventions due to the poor quality of available studies, however the EUAG noted that that to be included in the review, studies needed to have at least two components. This review also noted that the 'reach' of interventions differed between different communities, e.g. by ethnicity. Cleland et al concluded that group-based activities resulted in a significant increase in physical activity in socio-economically deprived women. The EUAG noted that while both reviews were of good quality, they were based on studies with a high risk of bias and that the current recommendations remained appropriate.

Combined interventions: national and local action

Two of the prioritised papers were considered to be relevant to 'combined' or multi-factor interventions.

A systematic review by Lehnert et al 2012 looked at the long- term effectiveness of obesity prevention interventions based on decision analytic

simulation models (DAMs). The review considered a range of intervention types and found that the most effective modified a target population's environment through, for example fiscal measures. The EUAG noted the authors report large uncertainties about the cost-effectiveness findings, as well as methodological and reporting limitations, but agreed that this would be an important area of the evidence base to consider in any future update.

A meta-analysis conducted by Rongen et al 2013 investigated the effectiveness of workplace health promotion interventions focusing on physical activity, nutrition, obesity and smoking. Despite heterogeneity between the included studies, the analysis found larger effects in younger populations and when more intensive intervention designs (e.g. weekly contact) were used.

The EUAG agreed that the current recommendations remain appropriate, but noted that new evidence around population level interventions such as fiscal measures may provide the basis for additional recommendations at a future update.

Training those involved in promoting healthy lifestyles

One randomised controlled trial (Barton et al. 2011) was agreed by the EUAG to be relevant to recommendations focusing on the cost effectiveness of training lay health workers to deliver interventions that support behaviour change aimed at reducing cardiovascular risk in deprived communities. The panel agreed that the evidence was consistent with current recommendations.

Advice from the expert panel: policy context

The EUAG discussed changes in the public health system since publication of PH35, including the establishment of Public Health England and Health Education England, and the shift in responsibility for public health from Primary Care Trusts to Local Authorities. Policy leads reported a shift in the national approach to health, from a disease silo to a more generic approach,

and this was discussed by the panel. They suggested that the guidance would benefit from a general refresh of language and terminology used to ensure that it is in line with current structures and functions, and the EUAG agreed that this would be helpful.

The EUAG also discussed a number of recent and forthcoming programmes and reviews:

- Since April 2013, Health Education England has had the responsibility for the education, training and personnel development of all NHS staff.

- Health and Wellbeing Boards were established in 2013. The joint strategic needs assessment (JSNA) undertaken locally, along with the health and well-being strategy provides Local Authorities with a framework to understand their local community's needs, agree priorities and encourage commissioners to work in a more joined-up way.

- The Public Health Responsibility Deal, introduced in 2011, has highlighted the need for a collaborative approach and how organisations can contribute to improving public health action on alcohol, food, health at work and physical activity.

- In 2011, a 'Call to Action' on Obesity in England announced a national ambition for a downward trend in the level of excess weight averaged across all adults by 2020.

- The Health Check Programme (formerly the NHS Health Check programme) which is a risk assessment and management programme to prevent or delay the onset of diabetes, heart and kidney disease and stroke. This is a national programme, delivered locally to suit the needs of the local population.

- The draft report *Carbohydrates and Health*, published for consultation on the 26th June 2014, by the Scientific Advisory

Committee on Nutrition, which provides clarification on the relationship between dietary carbohydrate and health. Public Health England has published a discussion paper on the options for reducing the nation's sugar intake, in order to improve dietary health and reduce levels of obesity in the population.

Recommendations 1, 2 and 3: National and local strategy

The EUAG discussed recommendations 1-3 and agreed that the recommendations are still relevant and important. However, they noted that Local Authorities have now taken on the responsibility for public health and at the time the recommendations were developed, Clinical Commissioning groups were not in place. The 'actors' who would deliver the recommendations have therefore changed and the language and terms used in the guidance will need to be refreshed to reflect this.

Recommendations 4, 5 and 6: Interventions for communities and conveying messages to national and local populations

The EUAG discussed recommendations 4-6 and agreed that they were remained relevant and appropriate. However, they noted that the increase in availability and uptake of digital interventions and other new technologies reported in the broader public health literature since the guidance was first published, and agreed that any future update should include new evidence in this area.

Recommendations 7, 8, 9 and 10: Promoting a healthy diet and physical activity: national and local action

The EUAG discussed recommendations 7-10 and agreed that the recommendations remain appropriate. They noted new evidence on population level interventions such as subsidies and incentives, as well as fiscal measures, which should be considered in an update.

Recommendation 11: Training those involved in promoting healthy lifestyles

The EUAG discussed recommendation 11 and agreed this was still an appropriate and important area. However it was noted that the recent changes in the responsibilities for public health training meant that the 'actors' for this recommendation would need updating

Research recommendations

The EUAG noted that the research recommendations listed in PH35 remain important, and have yet to be adequately addressed in the published evidence**.**

4 Implementation and post-publication feedback

There has been no significant implementation or post-publication feedback that is relevant to updating this guidance.

5 Related NICE guidance

In further discussion, the EUAG noted that the related guidance PH38, '*Preventing type 2 diabetes: - risk identification and interventions for individuals at high risk'*, published in July 2012, is due to be reviewed for update in July 2015. The group expressed concern that updating the two pieces of guidance separately may create an artificial divide in implementation, and fail to provide support for local areas seeking guidance on how to strike an appropriate and effective balance between individual, community and population-based diabetes prevention. They suggested that it would be helpful to bring the planned update of PH38 forward, and to update areas identified in both pieces of guidance together. All relevant guidance published since 2011 is summarised below.

Published since 2011:

- Preventing type 2 diabetes: risk identification and interventions for individuals at high risk (2012) NICE Public Health guidance 38
- Walking and cycling (2012) NICE Public Health guidance 41
- Obesity: working with local communities (2012) NICE Public Health guidance 42
- Physical activity: brief advice for adults in primary care (2013) NICE Public Health guidance 44
- Assessing body mass index and waist circumference thresholds for intervening to prevent ill health and premature death among adults from black, Asian and other minority ethnic groups in the UK (2013) NICE Public Health guidance 46
- Behaviour change: individual approaches(2014) NICE public health guidance 49
- Managing overweight and obesity in adults – lifestyle weight management services (2014) NICE public health guidance 53

In development

- Disability, dementia and frailty in later life- mid-life approaches to prevention NICE public health guidance. Publication expected February 2015
- Proposed update of Prevention of cardiovascular disease

6 Equality and diversity considerations

There has been no evidence to indicate that the guidance does not comply with anti-discrimination and equalities legislation.

7 Conclusion

The EUAG concluded that the original recommendations and guidance remain appropriate and current, with the exception of population-level interventions where there is new evidence around subsidies and incentives which should be considered through a partial update. A partial update should also consider evidence on the effectiveness of relevant digital interventions delivered at population or community level. The EUAG agreed that a terminology refresh to reflect the recent changes to the public health landscape would ensure that the guidance remains current, and support uptake in the field. The update of PH38, which focused on individual approaches to the prevention of type 2 diabetes (including risk assessment) should be bought forward slightly and – if areas for update are identified here – both pieces of guidance should be updated together.

8 Recommendation

The guidance should be refreshed to ensure that the language and terminology are up to date, and a partial update should be carried out to incorporate new evidence on population level interventions.

However, it is important that PH35 retains links and consistency with PH38 *'Preventing type 2 diabetes - risk identification and interventions for individuals at high risk'* (published July 2012), therefore we propose:

- The review of PH38, currently planned for July 2015, is brought forward to 2014.
- The partial update of PH35 *'Preventing type 2 diabetes - population and community-level interventions'* is deferred until PH38 has been reviewed for update.
- Both the partial update of PH35 and any identified update of PH38 are carried out together, once the PH38 update review process is complete.

9 Next steps

Following consultation on this draft review proposal, a final review decision will be made available on the NICE website.

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10 Appendices

Appendix A- The Evidence Update Advisory Group and Evidence Update project team

Appendix B- Criteria for prioritising articles for consideration by the EUAG

Appendix C- Studies included in the Evidence Update

Appendix A: The Evidence Update Advisory Group and Evidence Update project team

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Appendix B- Criteria for reviewing articles for consideration by the EUAG

Evidence is prioritised by the Chair on the basis of its potential impact on, or support of, current knowledge in at least one of the following categories, or by other criteria identified in the scope:

- Health or social care practice: potential impact on clinical, public health or social care guidance, including increased understanding of the experiences of patients or service users.

- Services: potential impact on service organisation, delivery or commissioning.

- Resources: potential impact on resource use or the need for investment or disinvestment.

- Understanding: furthers the general understanding of disease aetiology, progression or management.

Appendix C- Studies included by discussion by the panel

Included studies

An R (2013) Effectiveness of subsidies in promoting healthy food purchases and consumption: a review of field experiments. Public Health Nutrition 16: 1215–28

Backholer K, Peeters A, Herman WH et al. (2013) Diabetes prevention and treatment strategies: are we doing enough? Diabetes Care 36: 2714–19

Baker PR, Francis DP, Soares J et al. (2011) Community wide interventions for increasing physical activity. Cochrane Database of Systematic Reviews issue 4: CD008366

Barton GR, Goodall M, Bower P et al. (2011) Increasing heart-health lifestyles in deprived communities: economic evaluation of lay health trainers. Journal of Evaluation in Clinical Practice 18: 835–40

Cleland V, Granados A, Crawford D et al. (2012) Effectiveness of interventions to promote physical activity among socioeconomically disadvantaged women: a systematic review and meta-analysis. Obesity Reviews 14: 197–212

Gregg EW, Boyle JP, Thompson TJ et al. (2013) Modeling the impact of prevention policies on future diabetes prevalence in the United States: 2010–2030

Horne M, Tierney S (2012) What are the barriers and facilitators to exercise and physical activity uptake and adherence among South Asian older adults: a systematic review of qualitative studies. Preventive Medicine 55: 276–84

Leavy JE, Bull FC, Rosenberg M et al. (2011) Physical activity mass media campaigns and their evaluation: a systematic review of the literature 2003–2010

Lehnert T, Sonntag D, Konnopka A et al. (2012) The long-term cost-effectiveness of obesity prevention interventions: systematic literature review. Obesity Reviews 13: 537–53

Osei-Assibey G, Boachie C (2011) Dietary interventions for weight loss and cardiovascular risk reduction in people of African ancestry (blacks): a systematic review

Powell LM, Chriqui JF, Khan T et al. (2013) Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: a systematic review of prices, demand and body weight outcomes. Obesity Reviews 14: 110–28

Rongen A, Robroek SJ, van Lenthe FJ et al. (2013) Workplace health promotion: a meta-analysis of effectiveness. Preventive Medicine 44: 406–15