NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

PUBLIC HEALTH GUIDANCE

SCOPE

1 Guidance title

Disability, dementia and frailty in later life – mid-life approaches to prevent or delay the onset of these conditions

1.1 Short title

Disability, dementia and frailty in later life – mid-life approaches to prevention

2 Background

a) The National Institute for Health and Care Excellence (NICE) has been asked by the Department of Health (DH) to develop public health guidance on preventive approaches to be adopted in mid-life to delay the onset of disability[1], dementia and frailty[2] in later life.

b) For the purposes of this guidance, successful ageing is defined as survival to an advanced age while maintaining physical and cognitive function, functional independence and a full and active life. It means that morbidity and disability are compressed into a relatively short period before death, in line with the 'compression of morbidity' theory (Fries et al. 2011).

[1] Any long-term restriction on the ability to perform an activity in the manner, or within the range, considered normal. This may be due to limited body function or structure, personal or environmental factors.

[2] Where someone is at high risk of health problems including disability, having a fall or mortality. It can also involve dependency on others and the need for long-term care (Fried et al. 2004).

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

- ‘Action plan for implementation of the European strategy for the prevention and control of non-communicable diseases 2012−2016’ (World Health Organization 2012a)
- ‘Change4Life’ (DH 2010a)
- ‘Health 2020: the European policy for health and well-being’ (World Health Organization 2012b)
- ‘Healthy lives, healthy people: update and way forwards’ (DH 2011a)
- ‘No health without mental health: a cross-government mental health outcomes strategy for people of all ages’ (DH 2011b)
- ‘Public Health England: our priorities for 2013/14’ (PHE 2013)
- ‘Putting prevention first. NHS health check: vascular risk assessment and management’ (DH 2009)
- ‘Social justice: transforming lives’ (Department for Work and Pensions 2012)
- ‘Strategy and action plan for healthy ageing in Europe, 2012–2020’ (World Health Organization 2012c).

d) This guidance will provide recommendations for good practice, based on the best available evidence of effectiveness, including cost effectiveness. It is aimed at commissioners, managers and professionals with public health as part of their remit working within the NHS, local authorities and the wider public, private, voluntary and community sectors. It will also be of interest to people aged 40–64 years, their families and other members of the public.

e) The guidance will complement NICE guidance on dementia and other non-communicable chronic conditions. For further details, see section 6.

This guidance will be developed using the NICE public health guidance process and methods guides.

3 The need for guidance

a) Life expectancy continues to increase in the UK. By 2035, it is estimated that 23% of the population will be aged 65 and over (Office for National Statistics 2012). It is important that people spend these extra years of life in good health and living independently. Estimates of life expectancy, healthy life expectancy and disability-free life suggest that, on average, a man of 65 will live a further 17.6 years. However, they will face 7.7 years of ill health and 7.4 years with a disability towards the end of their life. On average a woman of 65 will live a further 20 years, and will have 8.7 years of ill health and 9 years with disability (Office for National Statistics 2012).

b) The start of a decline in various cognitive functions (such as memory, reasoning and fluency) has been observed by the age of 45 (Newman et al. 2011; Singh-Manoux et al. 2011). Systolic blood pressure increases after 40 (Wills et al. 2011). An age-related decline in walking speed has been observed after 30 (Newman et al. 2011). Some limited mobility has been identified in 18% of men and 19% of women aged 50–64 years in England. Eleven per cent of men and 10% of the women in this age group reported difficulties with 1 or 2 activities of daily living (Gardener et al. 2006). Age-related physiological changes can be made worse by personal, social and environmental circumstances. For example, people of this age often have to care for an older person (leading to a reduced income and less time for leisure activities). Or they may be unemployed or have retired, with the resulting reduction in income potentially leading to adverse dietary changes, and reduction in work-related physical activity.

c) In 2012, around 800,000 people in the UK were living with a form of dementia. More than 17,000 of them were under 65. Around 11,500 were from black and minority ethnic groups. Family and friends were acting as primary carers for about 670,000people. The cost of dementia is £23 billion a year to the NHS, local authorities and families. This is estimated to grow to £27 billion by 2018, as the number of people with dementia increases (Lakey et al. 2012).

d) Forty two per cent of people aged over 50 in the UK have some form of hearing loss (Action on Hearing Loss 2011). An estimated 80,000 people of working age have a visual impairment (Bosanquet and Mehta 2008). Both hearing and visual impairments have been associated with other health and social problems, including dementia (Action on Hearing Loss 2011, Bosanquet and Mehta 2008, Rogers and Langa 2010).

e) It is common in mid-life to have more than 1 of the 7 ‘health risk’ factors identified by the Chief Medical Officer: smoking, binge drinking, low fruit and vegetable consumption, obesity, diabetes, high blood pressure and raised cholesterol (Chief Medical Officer 2012). Among men, the percentage with 4 or more risk factors increases from 3.5% of young people aged 16–24, to 21.4% of those aged 55–64, before declining to 11% of those aged 75 and over. Among women, the percentage with 4 or more risk factors rises from 5% of young people aged 16–24, to 16.2% of those aged 65–74, before falling to 12.7% in those aged 75 and over (Chief Medical Officer 2012).

f) Over the past 5 years, the greatest reduction in the number of people displaying 4 lifestyle risk behaviours (consumption of alcohol, smoking, lack of physical activity and poor diet) has been among those in higher socioeconomic and more highly educated groups. People from unskilled households are over 3 times more likely to adopt a number of these behaviours compared with professional groups (Buck and Frosini 2012).

g) Several cohort studies have found links between successful ageing and a number of health-promoting behaviours. These include never smoking (or having quit), exercising regularly, eating fruit and vegetables daily and only drinking a moderate amount of alcohol. The EPIC-Norfolk study found that people who adopted all these behaviours lived an average 14 years longer than those who did none of them (Khaw et al. 2008). They also had more quality-adjusted life years (Myint et al. 2011). In the Whitehall study, people who adopted all 4 behaviours were 3.3 times more likely to age successfully. The association with successful ageing was linear, with a 1.3 odds ratio per unit increment of healthy behaviour (Sabia et al. 2012).

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

Adults aged 40–64 years, with a particular focus on people at increased risk of frailty, dementia, disability or other non-communicable chronic conditions due to health-related behaviour and lifestyle factors.

Adults aged 39 and younger from disadvantaged populations (as they are at increased risk of ill health and more likely to develop multiple morbidities).

4.1.2 Groups that will not be covered

Adults with any type of dementia or pre-existing cognitive impairments.

Adults who are receiving treatment for a chronic non-communicable condition or who have a disability associated with modifiable lifestyle risk factors will not be included for that particular condition or disability.

4.2 Activities

4.2.1 Activities that will be covered

Interventions to increase the uptake and maintenance of behaviours to prevent or delay frailty, disability, dementia and other non-communicable chronic conditions, such as cardiovascular diseases, diabetes, chronic obstructive pulmonary disease, and some cancers. This includes:

a) Interventions to encourage less sedentary behaviour, increase physical activity, improve diet, lose weight, quit smoking and reduce alcohol use.

b) Interventions delivered at individual, family, community, subnational or national level. These may be targeted at specific groups, particularly those who are at increased risk, or who are from disadvantaged groups.

c) Interventions carried out in a range of settings including primary and secondary care, and workplace and community settings in the private, public, voluntary or commercial sectors.

The Public Health Advisory Committee (PHAC) may consider the principal and relevant complementary and alternative measures or approaches. The Committee will also take reasonable steps to identify ineffective measures and approaches.

4.2.2 Activities that will not be covered

a) Use of drugs to prevent or treat dementia and non-communicable chronic conditions.

b) Use of dietary supplements.

c) Dementia diagnosis and care.

d) Management of chronic non-communicable diseases.

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 of effectiveness. (Consideration will be given to the relevant social determinants.)

Questions

1. Which mid-life lifestyle factors are associated with successful ageing and the primary[3] prevention or delay of dementia, non-communicable chronic conditions, frailty and disability? How strong are the associations? How does this vary for different subpopulations?

2. What are the most effective and cost-effective mid-life interventions for increasing the uptake and maintenance of healthy lifestyle behaviours?

    - To what extent do the different health behaviours prevent or delay dementia?
    - To what extent do the different health behaviours prevent or delay frailty and disability related to modifiable lifestyle risk factors?
    - To what extent do the different health behaviours prevent or delay non-communicable chronic diseases?

3. What are the key issues for people in mid-life that prevent or limit their uptake and maintenance of healthy behaviours and to what extent do they have an effect? How does this differ for subpopulations, for example by ethnicity, socioeconomic status or gender?

4. What are the most effective models of delivery of interventions that increase the uptake and maintenance of healthy lifestyle behaviours in mid-life? For example, how do interventions targeting single versus

[3] Primary prevention is the prevention of diseases and conditions before their biological onset. Secondary prevention will be addressed in a separate piece of guidance.

multiple behaviours compare? How does effectiveness and cost effectiveness vary in relation to the recipient's demographic variables?

Expected outcomes

Changes in lifestyle behaviours that are known to impact on the development and progression of: disability, dementia, frailty and common non-communicable chronic diseases. (Examples of the latter include cardiovascular diseases, diabetes, chronic obstructive pulmonary disease and some cancers.) Changes in behaviour could include:

- Changes in level and amount of sedentary behaviour and physical activity, changes in diet, weight and smoking and alcohol consumption.
- Changes in the level of physical and cognitive function, personal and domestic activities of daily living and participation in paid or unpaid work and social activities.
- Ability to live independently, place of residence and level of social and nursing care.

Economic modelling

For modelling purposes, the quality-adjusted life year (QALY) measure will be used. The model will adopt a lifetime time horizon for cost effectiveness and shorter time horizons for return-on-investment analyses. The following perspectives will be adopted: NHS, local government, public sector and, if necessary, societal.

The effect of 1 intervention (or 1 set of interventions) on the relevant main non-communicable chronic diseases will be examined, including dementia. This will include quality of life issues related to disability and frailty. NICE is seeking opinions about which intervention or intervention set to model. Due to time constraints, only 1 intervention or intervention set will be modelled.

4.4 Status of this document

This is the final scope, incorporating stakeholder comments from a 4-week consultation 21 March to 18 April 2013.

5 Further information

The public health guidance development process and methods are described in Methods for development of NICE public health guidance (third edition) (2012) and The NICE public health guidance development process (third edition) (2012).

6 Related NICE guidance

Published

Obesity. NICE clinical guideline 43 (2006).

Dementia. NICE clinical guideline 42 (2006).

Obesity – working with local communities. NICE public health guidance 42 (2012).

Walking and cycling. NICE public health guidance 41 (2012).

Preventing type 2 diabetes – risk identification and interventions for individuals at high risk: guidance. NICE public health guidance 38 (2012).

Preventing type 2 diabetes: population and community interventions. NICE public health guidance 35 (2011).

Prevention of cardiovascular disease. NICE public health guidance 25 (2010).

Alcohol-use disorders – preventing harmful drinking. NICE public health guidance 24 (2010).

Promoting mental wellbeing at work. NICE public health guidance 22 (2009)

Promoting physical activity in the workplace. NICE public health guidance 13 (2008).

Physical activity and the environment. NICE public health guidance 9 (2008).

Behaviour change. NICE public health guidance 6 (2007).

Workplace interventions to promote smoking cessation. NICE public health guidance 5 (2007).

Four commonly used methods to increase physical activity. NICE public health guidance 2 (2006).

Brief interventions and referral for smoking cessation. NICE public health guidance 1 (2006).

Unpublished

Physical activity advice in primary care. NICE public health guidance (publication expected May 2013).

Tobacco – harm reduction. NICE public health guidance (publication expected May 2013).

BMI and waist circumference – black, Asian and minority ethnic groups NICE public health guidance (publication expected June 2013).

Smoking cessation – acute and maternity services. NICE public health guidance (publication expected November 2013).

Smoking cessation – mental health services. NICE public health guidance (publication expected November 2013).

Overweight and obese adults – lifestyle weight management. NICE public health guidance (publication expected May 2014).

Excess winter deaths and illnesses. NICE public health guidance (publication expected January 2015).

Appendix A Referral from the Department of Health

The Department of Health asked NICE to: ‘Produce guidance on preventive approaches to be adopted in mid-life to delay the onset of disability, dementia and frailty in later life’.

Appendix B Potential considerations

It is anticipated that the Public Health Advisory Committee (PHAC) will consider the following issues:

- The role of individuals and organisations in primary care and community settings in public, voluntary or commercial sectors.
- Limitations of the evidence in terms of clearly defined interventions and strategies and relevance to England.
- Whether interventions are based on an underlying theory or conceptual model. This could include behaviour-change theories but may also include theories of successful ageing (such as compression of morbidity) and medical and social models of disability.
- The difficulties of determining time of onset of, and the transition points between, the pre-clinical and clinical stages of dementia and other non-communicable chronic diseases.
- Different types of dementia and how lifestyle influences their onset.
- The reversible nature of some non-communicable chronic diseases and disabilities and the extent to which this may occur.
- Whether interventions are effective and cost effective.
- Critical elements. For example, whether effectiveness and cost effectiveness varies according to:
    - the diversity of the population (for example, in terms of gender, ethnicity or social class)
    - the status of the person delivering the intervention and the way it is delivered
    - frequency, length and duration of the intervention, where it takes place and whether it is transferable to other settings
    - its intensity.

- Any trade-offs between equity and efficiency.
- Availability, accessibility and acceptability for different population groups (for example, based on ethnicity, gender, geographical location or socioeconomic status).
- Any other factors that prevent – or support – effective implementation.
- The potential additive effects of multi-morbidities.
- Any adverse or unintended effects, for example displacement (when people adopt 1 type of healthy behaviour at the expense of another).
- Current practice.

Appendix C References

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Chief Medical Officer (2012) CMO annual report: volume one 2011. On the state of the public's health [online]

Department for Work and Pensions (2012) Social justice: transforming lives [online]

Department of Health (2009) Putting prevention first. NHS health check: vascular risk assessment and management. Best practice guidance [online]

Department of Health (2010a) Change4Life [online]

Department of Health (2010b) Recognised, valued and supported: next steps for the carers strategy [online]

Department of Health (2011a) Healthy lives, healthy people: update and way forward [online]

Department of Health (2011b) No health without mental health: a cross-government mental health outcomes strategy for people of all ages [online]

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World Health Organization (2012a) Action plan for implementation of the European strategy for the prevention and control of non-communicable diseases 2012−2016 [online]

World Health Organization (2012b) Health 2020: the European policy for health and well-being [online]

World Health Organization (2012c) Strategy and action plan for healthy ageing in Europe, 2012–2020 [online]