Promoting Brain Health: Developing a prevention agenda linking dementia and other non-communicable diseases.

Summary and introduction to the series

This paper summarises the findings of a joint programme of work between the UK Health Forum and Public Health England. The project set out to explore the opportunities for dementia risk reduction in the UK. It culminated in the production of a Blackfriars Consensus Statement which concludes that an integrated health and wellbeing approach for dementia and non-communicable diseases (NCDs) would strengthen existing prevention work and not cause any harm.

Background

Dementia burden and costs in the UK

In the UK there are currently around 800,000 people living with dementia. This costs society £23 billion per annum and is forecast to rise to £27 billion by 2018 (Alzheimer’s Society 2012). One in three adults over 65 will get dementia, with prevalence forecast to rise with increasing life-expectancy. The Prime Minister recognised dementia as one of the biggest challenges facing the UK (Department of Health 2012). So far the dementia agenda has been focused on diagnosis and provision of appropriate social and clinical care.

Types of dementia

Alzheimer’s disease is the most common form of dementia, accounting for 50-75% of cases. It results from the formation of amyloid plaques and neurofibrillary tangles in the brain. Vascular dementia is also very common, and accounts for 40% of dementias. It results from a series of mini-strokes in the brain which lead to damage. Most people with dementia have a combination of Alzheimer’s disease and vascular disease (Hachinski and Sposato 2013).

Risk factors and protective factors

Approximately half of dementia cases might be attributable to known modifiable protective and risk factors (Smith and Yaffe 2014). Given the evidence that there may be a vascular component to many dementias, interventions to address vascular risk factors (such as tobacco, poor diet, physical inactivity and alcohol; and intermediate disease precursors such as raised blood pressure, raised blood cholesterol, obesity and diabetes which arise from behavioural and other factors) should also help reduce the risk,
progression, and severity of dementia. Protective factors also play a part and these include education and intellectual and social engagement.

The risk of dementia is raised by substance abuse in adolescents and young people, head injuries and depression.

The protective and risk factors for dementia are underpinned by a variety of social, economic and environmental determinants such as poverty, employment status and access to services.

Rapid review of evidence on behavioural risk factors for dementia and NCDs

A rapid review of the evidence by the UK Health Forum examined systematic reviews of observational studies on the four behavioural risk factors: physical inactivity, poor diet, smoking and excess alcohol consumption. It also considered four intermediate clinical risk factors (diabetes, obesity, blood pressure and serum cholesterol) to strengthen the case for the behavioural risk factors. The brain health model in Figure 1 suggests a summary of the relationships between these environmental, behavioural and intermediate clinical risk factors. Between three and five systematic review studies for each behavioural risk factor met the criteria for the review.

Key findings

- The available evidence from observational cohort studies shows consistent associations between the four behavioural risk factors and dementia.
- The evidence appears stronger for physical activity and smoking than for diet or alcohol. There are also associations between the four clinical risk factors (diabetes, obesity, blood pressure and serum cholesterol) and dementia, particularly during mid-life.
- Public health measures to modify risk factors have led to a large decline in deaths from heart disease and stroke over the past 50 years. There is evidence that the same approach might have led to a reduction in age-specific dementia prevalence in some countries (Matthews et al 2013).

Rapid review limitations

Dementia prevention is in the early stages of research compared to conditions such as cardiovascular disease. Only a small number of systematic reviews met the criteria resulting in possible overlap between the studies included in the systematic reviews. Further limitations of the studies include the fact that they were mostly in older people, used different methods to quantify exposures such as alcohol consumption and there was variable adjustment for possible confounding risk factors for dementia such as head injuries, socioeconomic status and social engagement.
Status of current dementia and NCD policies

The policy review outlines the nature and extent of dementia prevention within existing dementia strategies and guidelines, contrasted with other NCDs and behavioural risk factors. The policy review shows that a few nations such as Finland, Wales and Northern Ireland are beginning to develop dementia prevention strategies. Some charities and professional bodies are also beginning to consider prevention.

Presently most preventive strategies only provide information (what behaviours may prevent or delay onset). This contrasts with prevention approaches for other diseases, which are more established, more integrated with other NCD prevention strategies and include a range of approaches beyond education to change behaviour at the individual level and population level.

Perceptions of dementia prevention in the UK public health workforce

An online survey assessed the knowledge and views of around 300 members of public health workforce on dementia risk reduction. Around half the public health workforce is thought to be unaware that dementia risk in the population could be reduced. Key findings included:

- The respondents reported self-awareness of the risk factors for dementia was highest for the non-modifiable risk factors of age (99%) and heredity (88%). Awareness of the four behavioural risk factors was also high (78-88%). By contrast awareness of intermediate risk factors was lower, for example 39% were not aware that diabetes was a risk factor.
- There was low awareness of non-vascular and protective factors for dementia such as education level (63% not aware) and depression (40% not aware).
- Nearly 70% of respondents do not engage in dementia risk reduction. Barriers include lack of evidence and official advice and fear of stigmatising patients. Evidence (85%), national guidance (65%) and training and support (over 50%) would support future on dementia prevention.

Expert meeting and Blackfriars Consensus statement

A high level meeting held on 30 January 2014 brought together 60 leading experts to discuss ideas and develop consensus for a dementia primary prevention agenda. Participants represented the policy development, research and advocacy communities working in dementia and NCDs. It was informed by the background reviews and survey described above, and discussions were summarised in a meeting report.

Following the meeting a Blackfriars Consensus Statement was adopted and a letter published in The Lancet. The Statement concludes that an integrated health and wellbeing approach for dementia and NCDs would strengthen existing prevention work and not cause any harm. Such an approach should include the following features:

- education and awareness-raising to change attitudes and bust “myths” surrounding dementia and its potential for prevention
- insight research to inform targeted communications for different segments of the population
- incorporation of dementia prevention within professional training and development programmes
- coordinated action to tackle known modifiable risk factors and strengthen the recognised protective factors
- promotion of dementia risk reduction and good brain health at all stages of people’s lives
• measures to identify and support high-risk individuals at an early stage
• national, regional and local action including government regulation where necessary
• further trials and research to strengthen the evidence on risk factors and protective factors for dementia risk reduction.

List of related documents

The following documents from the project provide further background and context on the evidence for dementia risk reduction and current policy, as well as the discussions and consensus-based recommendations for action which emerged from the expert meeting:

• Science and policy discussion document prepared for the meeting on 30 January 2014.
• Blackfriars Consensus Statement on promoting brain health: Reducing risk for dementia in the population.
• Public health workforce survey to assess knowledge and awareness about the prevention of dementia

The documents are available from http://www.ukhealthforum.org.uk/who-we-are/our-work/policy/dementia/
Figure 1: Conceptual model for the shared prevention and reduction of dementia & non-communicable disease risk ¹,²

1. The model is not exhaustive. There are other pathways which are independent of this model such head injuries and dementia risk
References


Department of Health (2012) Prime Minister’s Challenge on Dementia – delivering major improvements in dementia care and research. Department of Health


