Public Health England

NHS Health Check: our approach to the evidence

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Local Government Association

NICE National Institute for Health and Care Excellence

NHS England

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Summary

1. The NHS Health Check programme is fully supported by Public Health England (PHE), NHS England, the National Institute for Health and Care Excellence (NICE) and the Local Government Association (LGA). This note sets out our approach to the evidence base in relation to this programme and makes the case for future research, including further data collection and evaluation during implementation.

2. The programme offers the English health and social care system an outstanding opportunity to reduce the growing burden of non-communicable disease related to behavioural and physiological risk factors and therefore remains a priority area for local government and the NHS.

3. We will work together to understand the need for further research, development and evaluation of the NHS Health Check programme. This will help facilitate systematic work at a national and local level to support an innovative evidence-based roll-out and ongoing improvement to secure the best value from NHS Health Check for the population.

Background

4. The Department of Health (DH) set out its ambition to introduce an England-wide vascular risk-reduction and management programme in 2008.[1] The NHS Health Check programme was formally introduced in April 2009, and required Primary Care Trusts to invite eligible individuals aged 40 to 74 years old for the check every five years, covering a total population of 15 million people.[2] Responsibility for implementation and the associated funding has now passed to local government, although the NHS remains centrally involved in delivery. The new arrangements were set out in regulations in 2013.[3]

5. An economic model on which DH based its policy in 2008 suggested that a prevention programme such as this could be cost effective compared with other NHS activities and could generate significant health benefits.[4] It was estimated that the programme could prevent 1,600 heart attacks and strokes, at least 650 premature deaths, and over 4,000 new cases of diabetes each year. At least 20,000 cases of diabetes or kidney disease could be detected earlier, allowing individuals to be better managed and so improve their quality of life. The estimated cost per quality adjusted life year (QALY) was approximately £3,000.

Case for action

6. England has shown some impressive and welcome improvements in mortality in recent years, especially for smoking-related conditions. However, the burden of non-communicable disease remains high and other countries are making better progress in tackling this, suggesting that more could and should be done.[5] Further work to prevent vascular disease, cancer, respiratory disease, diabetes and renal disease must therefore be a high priority for action for the health and social care system in England. It is reasonable to conclude that without such action to prevent the burden of disability the financial cost of care may become unaffordable.[6]

7. The persistent inequality between the least and most deprived areas in England is a further reason for the pressing need to improve the scale and reach of preventive services. The need to address the causes of premature death and ill health in our most deprived communities is even more urgent than elsewhere. A careful and empirically sound approach is required if such services are to most effectively improve the health of the least well-off.[7,8]

The evidence base

8. For the major non-communicable diseases, epidemiological studies show that a small number of well-known proximal risk factors contribute the

bulk of the population attributable risk.[5] These are poor diet, smoking, high blood pressure, obesity, physical inactivity, alcohol use and high cholesterol. Their quantitative contribution to ill health and premature mortality in England is so large that unless the numbers in the raised risk categories for these factors change substantially, national outcome measures cannot be expected to improve by much.

9. However, it is important to note that these risk factors can be addressed in a number of ways depending on whether a therapeutic, behavioural or structural approach is used. The end result has to be a shift in the proportions of exposed individuals, whether the intervention is economic, social or pharmacological. In relation to cardiovascular disease it has been clear for some time that individual and universal interventions both have the potential to substantially reduce the impact of stroke and heart disease on a global scale.[9] The most effective strategic approach is likely to be a combination of both, which has broadly been the approach taken in England for some time.

10. For interventions aimed at assessing and reducing individual risk of vascular disease, guidance based on current best evidence has been produced by the World Health Organization (WHO),[10] NICE,[11] and the National Screening Committee.[12] The strong consensus in this body of guidance is that finding and managing those at high risk of vascular disease is likely to be effective and cost-effective. The NHS Health Check in this context adds value as a population approach, in conjunction with other population-wide strategies such as reducing overall consumption of salt and trans fat, in potentially shifting the total risk curve. Models also suggest that using a global score for cardiovascular risk is more helpful than addressing risk factors such as smoking or high cholesterol in isolation.[13]

11. The guidance from NICE covers interventions at all levels. It emphasises the need for co-ordinated programmes to ensure that individual evidence-based interventions are systematically applied across whole populations with the rigour required to ensure impact. The section relevant to the NHS Health Check programme is:

    'Link the programme with existing strategies for targeting people at particularly high risk of CVD and take account of ongoing, accredited screening activities by GPs and other healthcare professionals. This includes the NHS Health Checks programme.'[11]

12. Although these guidelines focus on cardiovascular diseases, shared risk factors will have a major impact on wider non-communicable diseases such as diabetes, renal disease, cancer and respiratory disease. More specific NICE guidance is also established for many of the elements included in the NHS Health Check programme and PHE is now working closely with the NICE Centre for Public Health on guidance that will further support elements of this programme.

Uncertainties in the evidence

13. The NHS Health Check programme provides local government and health care services with an opportunity to engage their populations in highlighting behavioural and physiological risk factors and to work together on appropriate action to reduce or manage those risks. Principally, the programme aims to bring together multiple guidelines for specific risk factors (such as smoking and high blood pressure), which if not addressed will lead to increased risk of premature death and disability. The evidence base for these individual guidelines has been reviewed by NICE and others, and is generally strong enough to guide action.

14. A recent Cochrane review[14] has been interpreted by some as showing that the NHS Health Check model itself is not supported by evidence.[15, 16] As Gidlow et al[17] have pointed out, this is not the case. The technical limitations of the review as a guide to the likely benefits of the current NHS Health Check programme were summarised and published by DH at the time.[18] In summary, the review looked at trials conducted many years ago. The notion of a health check is not clearly defined and often bears little relationship to the systematic risk evaluation and management recommended by the current NHS Health Check programme, which is based on NICE guidance on using cost-effective pharmacologic agents and behavioural approaches. The review raises some good points for further research and evaluation, but it is a poor guide to whether the current NHS Health Check contributes good value to population health in conjunction with other population-wide strategies.

15. However, the fact remains that the NHS Health Check programme is being implemented in the absence of direct randomised controlled trial evidence to guide it. As one of the first programmes of its kind internationally it is perhaps inevitable that empirical evidence of direct relevance to the programme is lacking.[19] It has also been argued that the level of investment in high-quality research has been relatively low for primary prevention for many years and as a result the number of good-quality randomised controlled trials in this area is correspondingly small.[19]

Acting on the available evidence

16. The need to address the health challenges in England, including inequalities, is pressing. The responsible authorities do not have the luxury of being able to wait for long-term trials before deciding what to do. In this situation we believe the precautionary principle is the correct framework for making decisions. In the absence of scientific certainty it is necessary to make a decision on the basis of minimising harm, by comparing likely risks and harms of action with likely risk and harms of not acting. However, the onus is on those recommending intervention to demonstrate safety.

17. There is no doubt that urgent collaborative action is required to address the growing burden of non-communicable diseases related to modifiable behavioural and physiological risk factors. Despite the lack of a systematic, established evidence-base that demonstrates the impact of the NHS Health Check programme, the existing relevant evidence, together with operational experience accruing on the ground, is compelling support for the programme.

18. As there are serious threats to health and a clear scientific narrative as to why the risk of poor outcomes would be modified by early identification and management, the lack of scientific certainty about the implemented programme should not be used as a reason for postponing cost-effective measures that can prevent premature death and disability, and reduce health inequalities.

19. In assessing harm, indirect harm (for example, from generating workload in primary care or from conveying knowledge of risk) must be included. Also, the harm derived from the opportunity cost of not doing other things needs to be considered, although it is by no means certain that the relevant funds would be available for health if not used for this purpose. More work is needed to evaluate and quantify this potential harm.

20. In taking this view, it is essential to also insist on careful documentation of the management and impact of the programme, and on rigorous quality assurance to ensure that harm is anticipated and minimised. It is also important to continuously review the programme against the emerging data and to be prepared to make changes where necessary.

Supporting implementation of the NHS Health Check programme across England

21. DH, PHE, NHS England and the LGA have highlighted over recent months the importance of the NHS Health Check programme in addressing premature death, disability and reducing health inequalities.[20,21,22] All national agencies are working closely together to support local government and the NHS to implement this programme for the 15 million eligible people in England. This has included an implementation review and action plan that has identified ten priority areas that will be the focus of PHE's work programme with key partners such as the LGA, NHS England, NICE and local government. These key actions will include establishing an Expert Clinical and Scientific Advisory Panel that will provide oversight of the NHS Health Check programme. This panel will be responsible for reviewing emerging evidence and research needs. In addition to the two DH national evaluations, it will also promote future research, development and evaluation of this programme. PHE will coordinate a refresh of the economic modelling conducted in 2008, updating the assumptions in the light of new data and experience.

22. The implementation review and action plan now provides a strong basis from which local government, with the support of PHE and wider partners, can run the NHS Health Check programme on firm scientific ground, with clear programme governance, improved monitoring and evaluation, and the development of evidence on which we can base future policy direction.

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