

The NHS Health Check programme:

a comparison against established standards for screening

INTRODUCTION

April 2013 was an important date for the NHS Health Check programme, as for the entire English NHS. The Health and Social Care Act brought the programme under the control of local government via new arrangements for public health. The programme offers everyone between the ages of 40 and 74 years screening for cardiovascular risk factors, diabetes, and renal disease with 5-yearly recall. Given difficult beginnings, including an uncertain evidence base and faltering roll-out, this article explores the programme's current status, 1 year after its change in commissioner. We consider health checks against some of the key concepts outlined in standard criteria for screening, 'Wilson's criteria': namely the condition's importance; efficacy of the test and treatment; and arrangement of the programme. We ask whether it should remain, in its current form, the flagship of English cardiovascular disease (CVD) prevention.

THE CONDITION

As CVD is the largest cause of morbidity and mortality internationally, the importance of prevention is self-evident. CVD reduction in high-income countries has arguably been the greatest population health improvement of the late 20th century. However, there is still room for improvement. Evidence suggests reductions in incidence are stalling while CVD remains a leading cause of premature mortality.¹ An ageing population, leading to increased prevalence, and rising treatment costs, seem destined to force spiralling CVD spending. With aspects of the aetiology and natural history well known, CVD is a potentially important candidate for prevention and therefore screening.

THE TEST

In screening, the test is used for the 'presumptive identification of unrecognised disease or defects'. How, therefore, do health checks do this? CVD risk calculation is central to any intervention; however, there are questions about the calculators. The choice of calculator is not clear, with older ones overestimating CVD risk, and newer ones underestimating it.² There are also general concerns. Risk prediction (at least 10-year risk) is heavily dependent on age, therefore interventions bypass the young. Unlike diagnostic tests, scores predict

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probabilities of events, not their presence: health checks will never be entirely comparable to other screening. Finally, when derived, in-person variability in risk factors is not accounted for: this causes misclassification when applied, which is larger in those at lower risk.³

Health checks not only test for risk, but also for occult disease. Early diagnosis, not direct management of risk, may hold the greatest potential programme gains, but there is evidence of limitations in health check procedures. The 'diabetes filter', which selects attendees for blood glucose testing, omits one-third of those with undiagnosed diabetes.⁴ Important health gains may be missed, and changes are vital to maximise health gains.

THE TREATMENT

There are two potential streams of intervention — or treatment — in the programme. Firstly, health checks themselves should include advice tailored to participants' risk. These multifactorial lifestyle interventions — the only intervention offered to most attendees — do not reduce CVD mortality, and are unlikely to affect risk factors without medication.⁵ Secondly, any raised risk should be actively managed, either in the medical setting or by referral to external intervention.

Unfortunately one of the strongest themes to emerge from the programme is limited subsequent action; for example, lifestyle intervention or smoking cessation.⁶ At a general practice and local authority (LA) level, such interventions are at best under-used, at worst absent,^{7,8} while participants describe health checks as 'a series of clinical tests', not a risk management service.⁹ Combined with poor uptake of checks, this will result in limited public health gain and the programme failing. Further, this undermines the ethics and principles of screening, which dictate appropriate follow-up must be provided.

Five years since the programme's introduction, the evidence base for CVD prevention has evolved. A 2012 systematic review suggested health checks do not reduce mortality and when implemented often lack intervention, including modern treatments.¹⁰ This prompted varied responses, including the UK government defending the programme, claiming the review irrelevant because, unlike after NHS Health Checks, trials did not specify risk management. Firstly, however, most trials did include follow-up, some even using specialists, more than the English programme offers, while subgroup analysis found no benefit in trials including lifestyle advice.¹⁰

Other criticisms were rebuffed, including concerns about the age of trials; specifically that it neglected modern, effective interventions. The review authors highlight that new therapies, especially those targeted at 'healthy' groups, are not necessarily better than 30 years ago. Older studies may in fact tend towards greater gain from health checks. There is substantially more routine testing in contemporary primary care, therefore it is plausible that modern health checks will pick up fewer 'unmanaged defects', having disproportionately smaller impact.

Two successes emerge from the programme. Statin prescribing has likely increased in those eligible.¹¹ This is important given recent evidence confirming statins are effective, cost-effective and maintain long-term reductions in cardiovascular events in those without prior CVD, although generally in higher risk populations. The question remains how best to deliver them to target groups. Secondly, there is evidence of reductions in CVD risk, although strictly restricted to high-risk subgroups.^{6,12}

THE PROGRAMME

Important structural elements must be present for screening to be viable and

health checks face subtle difficulties. Of the public health functions transferred to LAs, health checks present a challenge. They are one of LAs' largest commitments to health spending, while its 'medical' nature is removed from their experience. Boundaries are unclear between who funds components of the service. What is funded under LAs' public health remit — the 'health check' — and what is routine management of CVD risk? Guidance defines LA commissioning responsibilities as 'NHS health check assessments', mentioning nothing of intervention.¹³ This drives a rift through the programme, likely exacerbating the limited intervention and further reducing its chances of success.

A second concern surrounds monitoring the programme. One simple question is central to quality assurance: how do we measure the success of a public health intervention? It may become increasingly tempting to focus on high-risk individuals or those with clinical disease; that is, groups where the programme is most likely to succeed. The ideal standard should, however, reflect the programme's original aim. As England's premier CVD prevention policy, health gains should be measured across the whole population. Increasing emphasis is being placed on disease diagnosis (not that this is bad per se), but we must not completely diverge from the programme's primary prevention origins.

THE FUTURE

Naming health checks as a priority for the new English NHS was a significant fillip for CVD prevention. This support must be harnessed into an effective English CVD prevention policy. The successful management of CVD risk after health checks restricted to high-risk subgroups does support an alternative,^{6,12} that is, targeted prevention, which was initially rejected in England. Health check invitees are preselected, only those at highest risk are invited, which bypasses the inefficiencies and ineffectiveness of offering checks to those at lower risk. Furthermore, one of the greatest strengths of English primary care is its coverage with electronic medical records: this provides up-to-date data which improves targeting, hence enhancing this strategy. Using a targeted approach, one can capture all prospective CVD events in the pre-selected group without screening the entire population.¹⁴ The Archimedes model shows targeting improves cost-effectiveness, making health checks cost-saving across Europe.¹⁵ Public Health England states that guidelines support

the current health check programme by 'managing those at high risk of vascular disease'.¹⁶ In truth, guidelines only support the actual management of those at high risk, not universal health checks. Since a targeted approach will identify and manage the high risk equally effectively, but far more cost-effectively, this is a good alternative.

No screening-based approach to CVD prevention is the sole answer, only addressing risk in a minority. To combat CVD we need more than a reactive programme that diagnoses disease or manages existing risk. We need a proactive approach, concentrating on primary, even primordial, prevention at a population level.¹⁷ Policy changes, for example regulating salt or trans-fat consumption, have enormous potential health gains, and are cost saving.¹⁷ That said, a targeted health check programme will effectively manage those at the highest risk, which will save lives and money, leaving resources to implement complimentary population-based programmes.

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