

# Influences on individuals' decisions to take up the offer of a health check: a qualitative study

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## Abstract

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**Background** Health checks are promoted to evaluate individuals' risk of developing disease and to initiate health promotion and disease prevention interventions. The NHS Health Check is a cardiovascular risk assessment programme introduced in the UK aimed at preventing cardiovascular disease (CVD). Uptake of health checks is lower than anticipated. This study aimed to explore influences on people's decisions to take up the offer of a health check.

**Methods** Semi-structured interviews were conducted with people registered at four general practices in South London. The interview schedule was informed by the Theoretical Domains Framework. Data were analysed qualitatively using the Framework method using NVivo for data management.

**Results** Twenty-seven participants invited for a health check were included in the study. Seventeen received the health check while 10 either did not attend or failed to complete the check. Five themes emerging from the data included a lack of awareness of the health check programme, beliefs about susceptibility to CVD, beliefs about civic responsibility, issues concerning access to appointments, and beliefs about the consequences of having a check.

**Conclusions** Health check programmes need to raise public awareness to ensure that people are informed about the objectives and nature of the programme in order to reach an informed decision about taking up the invitation. Emphasizing the benefits of prevention and early detection might encourage attendance in those who are reluctant to burden the public health-care systems. Extending outreach initiatives and increasing 'out of hours' provision at local community sites could facilitate access.

## Introduction

Cardiovascular disease, including coronary heart disease and stroke, is the greatest cause of death globally<sup>1</sup> and accounts for around 180 000 deaths per year in the UK.<sup>2</sup> Although mortality rates from cardiovascular disease are falling in the UK, in an ageing population the years lived with ill health are rising and levels of avoidable deaths and premature mortality are high.<sup>3</sup> One way to address the problem is to conduct health checks, involving multiple tests of cardiovascular risk factors, in asymptomatic people in order to estimate their risk of developing cardiovascular disease and deliver interventions to prevent disease occurring. General health checks are now included as standard practice in the health systems of many countries. To date, most cardiovascular disease prevention initiatives have taken place in the context of randomized controlled trials, or community programmes, sometimes opportunistically in primary care, or targeting individuals at the highest risk.<sup>4–7</sup>

A different and unique approach to cardiovascular disease prevention was introduced in the UK in 2009, known as the NHS Health Check programme.<sup>8,9</sup> This is a population-wide primary prevention programme, using a systematic approach to identify asymptomatic people, aged between 40 and 74 years, who are at high risk of heart disease, stroke, diabetes or chronic kidney disease. Individualized interventions are then offered to reduce risk, and to treat people with established disease. The NHS Health Check is offered in GP surgeries, some local pharmacies as well as by outreach community services. Adults in the eligible age range are invited for face-to-face consultations at which measurements are made of blood pressure, cholesterol, body mass index (BMI), and in selected cases, screened for diabetes and kidney disease. Information is recorded of family history of cardiovascular disease, ethnic group, smoking, alcohol, and diet and physical activity levels. These measures are used to estimate risk of developing cardiovascular disease over the next 10 years. All individuals are offered

lifestyle advice, with those identified as having a >20% risk selected for specific interventions. Individuals identified with established cardiovascular conditions (e.g. diabetes, hypertension) enter disease-specific care pathways.

The level of uptake of health checks may have an important influence on the clinical and cost-effectiveness of the programme.<sup>10</sup> Early indications are that uptake of the NHS Health Check is lower than anticipated, varying between localities.<sup>11,12</sup> If uptake remains low, the health check programme might contribute to increasing inequalities in cardiovascular disease because uptake may be lower in high risk groups.<sup>13</sup> A general finding in relation to participation in preventive medical interventions is that people from poorer socio-economic groups with the greatest morbidity and need for services have the lowest rates of uptake across a range of preventive services.<sup>14</sup> Health checks may be more likely to be completed by individuals with non-cardiovascular co-morbidities and non-smokers<sup>15</sup> while smokers, younger men, those from South Asian or mixed ethnic backgrounds may be less likely to attend.<sup>11</sup> It is important therefore to explore the barriers and facilitators to participation in the programme and inform changes in service provision and targeted interventions to maximize participation, especially in the high risk groups. This study, as part of a larger study to explore patterns of uptake in two socially deprived and ethnically diverse inner city London boroughs, aimed to provide a qualitative exploration of influences on the decision to attend or not among a group of people invited to receive a health check.

## Methods

Semi-structured interviews were conducted with people who had been invited for an NHS Health Check. Potential participants were people registered with four general practices in South London. A purposive sample was recruited according to age, sex and attendance or non-attendance for the Health Check in order to reflect a diverse range of participants.

Interviews were conducted face-to-face or over the telephone, according to the individual's preference. The interviews were all conducted by one researcher between September 2012 and March 2013. The study was reviewed by the NRES Committee North West-Greater Manchester Research Ethics Committee (The study was classified as service evaluation and registered on the database of the Research Development Centre for South East London NHS Organisations at Southwark Public Health Department (RDLSL2047).

### Interview schedule

The Theoretical Domains Framework (TDF) informed the development of an interview schedule to identify the barriers and facilitators of attendance for the NHS Health Check. The TDF is a theoretical framework for implementation research drawn from models to explain behaviour change. It was originally developed to identify psychological and organizational theory relevant to health practitioner behaviour change<sup>16</sup> but has also been used to explain health-related behaviour change among non-health-care professionals, including general population samples.<sup>5,17,18</sup> At the time this study was designed, the framework covered a set of twelve domains comprising the main evidence-based factors influencing behaviour change, such as beliefs about capabilities, social influences, knowledge and beliefs about consequences. A series of questions was proposed by the originators of the framework to allow researchers to explore the content of each domain with respect to the particular behaviour of interest, in this case the decision whether to attend for a health check.

### Qualitative analysis

Interviews were digitally recorded with the participant's consent and fully transcribed. The Framework method of qualitative analysis was used to manage and classify the data<sup>19</sup> using Framework in NVivo software.<sup>20</sup> Framework analysis is suited to research that has

specific questions, a limited time-frame, a pre-designed sample and a priori issues.<sup>21</sup> Using this method, an analytic framework is used to classify and organize the data according to key categories and sub-categories. The five key steps in the Framework approach include familiarization, developing a thematic framework, indexing, charting and interpretation.<sup>19</sup>

The analytic framework was developed based broadly on the domains that generated the interview schedule to initially sort and categorize the data and all transcripts were coded according to this framework. Each transcript was coded according to the analytic framework by one researcher and a sample of six assessed by two other researchers to ensure agreement about the categories derived from the data and whether selected data were representative of these. Following the data management process, over-arching themes and concepts were identified from reading the summaries in the charts and discussion with the research team. Once these themes and concepts were identified, we considered how these fit into the domains of the TDF.

## Results

Twenty-nine participants were interviewed. At this point, we had obtained a sample of participants that included a broad cross section of the relevant local population invited for NHS Health Checks, and obtained saturation of the data in terms of the emerging themes. Two participants were not included in the data analysis: they had been identified in error as eligible for the study. One was already on a care pathway for renal disease; the other had no recollection of being invited for, or receiving, a health check and was unable to respond to questions about attitudes and beliefs towards the invitation. The analysis was based on data from the remaining 27 participants, whose characteristics are summarized in Table 1.

Ten of the seventeen participants who attended for their checks were women. There were no apparent differences between the men and women in their accounts of attending for the checks. Similarly, no differences were

**Table 1** Participant characteristics

Attendance for a health check	
Attended	17
Did not attend/complete	10
Sex	
Men	10
Women	17
Age	
40–55	12
56–70	13
Unknown	2
Ethnic group	
UK White	20
African-Caribbean	3
African	1
South Asian	1
N European	1
Unknown	1
IMD rank 2007 (quintiles)	
1: most deprived	6
2	11
3	10
4	0
5: least deprived	0
Interview type	
Home	13
General practice	3
Work	2
Phone	9

apparent between the three men and seven women who did not attend in terms of reported barriers and attitudes to uptake. Twenty participants categorized themselves as UK White, three as African-Caribbean, one as African, one South Asian, one North European and one declined to assign an ethnic group category. The proportion of the sample (74%) of UK White Ethnicity approximates the proportions living in the two boroughs.

Five general themes emerged from the data relating to views towards having the health check: (i) awareness and expectations of the NHS Health Check; (ii) beliefs about susceptibility to cardiovascular disease and eligibility for a health check; (iii) civic responsibility; (iv) practical barriers to attending; and (v) beliefs about the consequences of having the checks. The relationship between the emerging themes and the theoretical domains of the TDF is examined in Table 2.

### Awareness and expectations – what is the NHS Health Check?

Participants were generally unaware of the NHS Health Check programme and did not appreciate that it is designed specifically to assess risk of cardiovascular disease. Only three of those interviewed reported having heard of NHS Health Checks prior to being invited; two had seen a promotional poster and one participant's spouse had already been invited. The lack of awareness was associated with a lack of understanding of what the health check would include, for example, one participant thought he would receive a more in-depth assessment of his cardiac function:

Well I thought I was going to get something like the build up on my arterial... arterial sclerosis, things like this, some internal things inside my body to determine if there was anything looking a bit "iffy." It's just a general survey, I realize what it is now. ... I thought it was a major check up. But it wasn't. (ID3: Male, aged 61, attended)

Despite information about the health check sent with the invitation, there was an expectation of a broader, more comprehensive check including cancer, osteoporosis and other medical conditions:

I was thinking it was going to be a full medical check-up – a check for everything ... probably taking about one or two hours where you check everything. (ID 18: Male, aged 40, attended)

I thought it should have been more like a Well Person's thing, so that it looked at you more holistically. (ID12: Female aged 55, attended)

Lack of awareness emerged as a general theme across both those who accepted and those who declined to have a health check. It may be that a lack of clarity and understanding of what the health check involved had discouraged attendance:

for me it would be quite useful to say exactly everything that it was going to do, because it wasn't quite clear ... (ID23: Female, aged 56, did not attend)

People may need more specific information about what is involved in a health check to

**Table 2** Facilitators and barriers to uptake of NHS health checks

Themes	Facilitators to uptake	Barriers to uptake	Theoretical domain (TDF)
Awareness and expectations What is the NHS Health Check?	Awareness/expectations: Awareness of the NHS Health Check programme Accurate expectations	Awareness/expectations: Lack of awareness of the programme Inaccurate expectations	Knowledge
Beliefs about susceptibility Why do I need the NHS Health Check?	Knowledge and beliefs about susceptibility to cardiovascular disease: Family history of stroke or heart disease Previous experience of personal health problems Belief in monitoring health and risks	Knowledge and beliefs about susceptibility to cardiovascular disease: No family history Maintains healthy lifestyle, believes risks low Asymptomatic Other chronic health problems	Knowledge
Civic responsibility Is it right to have the NHS Health Check?	Attitudes to attendance: Welcome opportunity to check health Positive towards prevention and early detection of disease Moral responsibility to attend if asked	Attitudes to attendance: No current symptoms so should not 'bother' the doctor Irresponsible to take time and resources from people who are ill Difficult to get appointment with GP	Social role/identity
Practical barriers How can I access an NHS Health Check?	Access to appointment: relatively easy: Work: Retired, or flexible hours, shifts Location for health checks: close eg practice within walking distance, easy parking, pharmacy in local high street Positive towards delivery in pharmacies	Access to appointment: difficult: Work: full-time or other priorities eg caring Cost: need to take annual leave to attend/pay others to do caring Location: difficult to access eg work located in different area of London, practice not close/convenient Ambivalent about having health check in pharmacies	Environmental context and resources
Beliefs about outcomes What will happen if I do have the NHS Health Check?	Positive beliefs: Identification of risk and early detection of disease Reassurance that health is good Expectations	Negative beliefs: Better not to know if something is wrong Potential challenge of changing lifestyle Expectations	Beliefs about consequences

inform their decision making about attendance.

#### Beliefs about susceptibility – why do I need the NHS Health Check?

It appeared the decision to take up the offer of a health check or not was influenced to some extent by perceived personal risk of cardiovascular disease. There was evidence that family history of stroke or heart attack affected personal risk perceptions, and might encourage attendance in those with a family history and discourage it in those without:

... family history is obviously, you know, a huge determinant of various things. OK not completely conclusive, but you know, law of averages, I thought I'm probably OK. So it just slipped and then I never took up on it. (ID22: Female, aged 62, did not attend)

I suppose the fact that my father died relatively young of a heart attack, probably made me fairly aware of the need to try and be healthy... I suppose I was thinking everybody needs to be careful when they get to their mid-fifties. (ID16: Female, aged 55, attended)

It was not always clear to those invited why they had been selected to receive a health check when they felt well and enjoyed a healthy lifestyle. While there has been some anxiety among commentators that the programme might attract large numbers of 'worried well', it appeared that some individuals instead opted out of the programme, due to perceiving themselves at low risk:

I know my blood pressure is fine, I know that my BMI is on the dot. I cycle to work, I've got an allotment, I eat healthily. So I don't think they would have found anything. (ID24: Female, aged 42, did not attend)

... if it's something that I need to do and something I need to be aware of (I'd do it) but unless you're really dying or feeling unwell, you're not really going to bother with it. (ID25: Female, aged 57, did not attend)

Individuals expressed a need to understand why they had been selected for assessment

when they were currently feeling well or perceived themselves as living a healthy lifestyle.

#### Civic responsibility – is it right to have the NHS Health Check?

A sense of duty, not only to friends and family but also to the health-care system encouraged attendance in some cases, as was taking advantage of a free service when it is offered:

I wasn't sure with cuts to funding whether or not this is the sort of thing that will be continuing in the future. So the thought was to make the most of it as soon as possible, I might not have the opportunity or I'll have to pay for it going forward. (ID14: Male, aged 40, attended)

Conversely, others felt they should not burden the doctor or NHS unnecessarily by diverting time and resources away from people who were actually unwell:

I mean there's no point in doing that if it's, you know, using up people's precious time and resources if it's not necessary. (ID23: Female, aged 56, did not attend)

I thought, how they can find time to do that (health checks), because when I want an appointment at my surgery, it takes ages or I have to queue up early in the morning. And to take time away from people that really need an appointment. I don't have any complaints; I don't have anything that I want to have checked out. I didn't want to waste their time. (ID24: Female, aged 42, did not attend)

One woman categorized as a 'non-attender' felt she had received the relevant assessments during a recent GP appointment and questioned her eligibility for further health checks:

I'd had cholesterol tests, I'd had weight and height, I'd had more or less the whole health check very recently. So I phoned up my GP and said 'Look I've just had this'... I want to make sure that it's worth my time and the GP's time and the NHS time to do it. (ID 23: Female, aged 56, did not attend).

The invitation for a health check may provide a useful opportunity for health professionals to assess the health of those who are normally



reluctant to 'bother' their doctor for what they fear may be perceived as trivial reasons:

Throughout my life there have probably been times where I possibly should have gone (to the GP), and haven't, which is why I see the benefits of something like this... I get put off by the doctor's, because of the lack of time they seem to have... The way they come across is that there's nothing really wrong with you... I feel guilty I've wasted their time. (ID14: Male, aged 40, attended).

The data illustrate a complex relationship between individuals and the NHS health-care system. In particular, some people seemed to express a sense of personal responsibility towards making the best use of NHS resources. This led to them questioning whether undergoing a cardiovascular risk assessment justifiable in their case, particularly if they were not currently experiencing symptoms.

**Practical barriers to attendance – how can I access a health check?**

Obtaining an appointment for a health check at a convenient time was reported as an obstacle to attendance for some of those who worked normal office hours or whose income was directly proportional to hours worked:

It's very difficult for me to (go to the appointment) and hold on to a nine-to-five job. It means I have to take personal time off from my employer to do this. They don't give you an option where you can go in the evening. I would have to take it off as annual leave, and do it in my own personal time. (ID25: Female, aged 57, did not attend)

... And, you know, when you work freelance any spare time you have to work, you know to keep the financial thing on track. So you know, it's just life, you just kind of do what's in front of you. (ID 22: female, aged 62, did not attend)

This was less likely to be a problem for those with part-time or flexible working:

No I didn't have any problems like that because its ten minutes' walk from where I live. And because I do specific kinds of shifts I often have four days off during the week... so getting an

appointment, for me, isn't normally a problem. (ID06: Male, aged 40–75, attended)

Those who reported few practical problems in attending for a health check tended to live within walking distance to their general practice and were more likely to be retired or employed in part-time work.

Some individuals who did have their health check nevertheless reported initial difficulties obtaining an appointment at their general practice, which were discouraging:

I remember ringing the surgery and the receptionist said 'There is a tremendous waiting list for this'. She said 'I'll tell the nurse' and I never heard anything. Then when I got the next (reminder) letter I rang up and they did give me an appointment. (ID 11: Female, aged 66, attended)

It was not straightforward in the end... I had to ring them and then I had to ring someone else. And I thought, I'm not asking for this, they are inviting me and it's not straightforward! (ID18: Female, aged 70, attended)

Five participants received their health checks at a pharmacist either by choice or because their general practice was not conducting health checks. Although concerns about the appropriateness of having such tests in a non-medical setting were sometimes expressed, these doubts were secondary to the convenience of being able to obtain an appointment at a convenient time:

I rang up the pharmacy, I thought it sounded a bit strange that you could, but I knew I'd never get an appointment at the right time at my GP. So I just rang the pharmacy and they were great... Made the appointment exactly when I needed it... (ID02: Female, aged 52, attended)

Oh, very easy, I mean I just walked in there and booked myself in... I think I'd gone in the morning and I'd booked in for early afternoon and then went to do some shopping and went back. (ID17: Female, aged 56, attended)

Nevertheless, not all participants felt positively towards health checks being conducted outside the general practice in a retail environment:

I thought it was pretty strange that I had to have it at a chemist... I presumed it was a cost-saving

exercise for the NHS, to try and centralize a large area to maximize the number of people... (ID03: Male, aged 61, attended)

The relationship with pharmacies is a consumer one, about products, and not about care and health... potentially it's pretty intimate information. It should not be the place for delivering bad news about cholesterol. (ID22: Female, aged 62, did not attend)

Issues about accessing a health check at a convenient time and place, and the environment in which it is conducted may impact on the decision to attend. Reassurance about the privacy of health checks conducted in pharmacies and about the training and professionalism of pharmacists might increase attendance in this environment.

Beliefs about outcomes – what will happen if I do have the NHS Health Check?

It was apparent that people weighed up the perceived advantages and disadvantages of receiving the health check in terms of the possible outcome when deciding whether to take up the invitation. Reasons for uptake included potential reassurance that they were on the 'right track' and prevention of illness. The view that prevention and early detection of disease were advantageous appeared to be widely held in theory. The importance of early detection and treatment at an individual and population level was expressed:

I think prevention is better than cure. So I do think that, you know, if you can spot things early, then you can do something about it. (ID21: Female, aged 55, attended)

Well in one way it's a reassurance if there's nothing wrong. It's an opportunity to be reminded that you should take care of your health. (ID20: Female, aged 40–75, attended)

The late diagnosis and premature death of older relatives could be influential on knowledge and beliefs about the benefits of early detection of disease:

My mum died about ten years ago now. But she'd clearly been unwell for a long time. My

mother was very much the sort of person that wouldn't go to the GP... that was quite difficult for us as a family. So I've always been much more into if there are options and things are available, then it's worth taking advantage of that. (ID21: Female, aged 55, attended)

One of the drivers of attendance among those who regarded themselves as relatively fit and healthy may be that they will receive good news and reassurance:

If one suspected that one was ill, you wouldn't go. I suppose the fact that I went probably meant that I was fairly confident I was OK! (ID18: Female, aged 70, attended)

Indeed, negative beliefs about the consequences of having a health check included potentially being given bad news or being 'told off'. Non-attendance was also sometimes linked to a belief that it might be better not to know that one might have an undiagnosed condition or be at risk of developing one. Furthermore, people who suspect their risk may be high might avoid having this confirmed with a health check, particularly if they would also receive unwelcome lifestyle change advice:

I didn't want to find out I had more medical problems, I have epilepsy. And I don't need a doctor to tell me I need to stop smoking and lose weight. (ID01: Male, age 46, did not attend)

Does it actually help you to have knowledge, or not? That's kind of an interesting thing, isn't it, because it can just make you more anxious and the thing about health checks is its sort of fine if everything is fine. And if it's not fine, are people prepared enough for what they might feel...? (ID23: Female, aged 56, did not attend)

There is a concern that the offer of a health check may attract those in relatively good health and deter those who suspect their health is less good.

## Discussion

### Summary of the findings

This study evaluated influences on people's decision to attend for a cardiovascular risk



assessment. People who accepted the offer of a health check gave various reasons for this including perceived personal risk of cardiovascular disease, a desire to be a 'good citizen' and make responsible use of what was being offered, positive beliefs about the outcomes of having the check, and easy access to an appointment at a convenient time and location. Those who declined to participate included those who believed they were at less personal risk of stroke or heart attack, felt they were currently quite healthy, or who held negative beliefs about the likely outcomes of having a health check. They tended to be in full-time work and to report difficulty accessing an appointment at a convenient time. Lack of awareness and understanding of cardiovascular disease in general and the new NHS Health Check programme specifically was apparent across both groups.

#### Comparison with other studies

Some of our findings resonate with results from studies of other disease prevention and screening programmes. Issues of understanding about cardiovascular disease and individual risk were identified as a barrier to attendance for checks in an earlier qualitative study of cardiovascular disease prevention.<sup>22</sup> Perceived susceptibility to cardiovascular disease has been highlighted in a study of diabetes screening where non-attendance was influenced by factors related to 'perceived candidacy' for Type 2 diabetes. Ideas about candidacy in this study were based on self-perceived attributes including age, heredity, lifestyle and physical build.<sup>23</sup> This study also reported the concept of 'civic responsibility' which has been reported to be a positive influence also on colorectal cancer screening uptake.<sup>24</sup> The concept appeared to work both ways in our study: Some participants demonstrated 'good citizenship' by having a health check in order to avoid developing later serious and potentially costly health problems while others declined the offer to free up time for those perceived at greatest need of medical care. Lack of symptoms and feeling healthy has been

identified as reasons for reluctance to take part in bowel cancer screening.<sup>24-26</sup>

Non-participants of working age in other cardiovascular risk assessments have cited being busy at work and having other priorities as reasons for non-attendance.<sup>27</sup> Some of our participants had anticipated unwelcome advice to change their lifestyle or to take long term medication. It has been noted elsewhere that non-participants in health screening have expressed reluctance about having risk factors revealed because of the implications this might have for their lifestyle.<sup>26</sup>

We found no apparent difference in the accounts of men and women, contrasting with findings in the literature of participation in screening programmes that finds that men are less connected than women to the health system in general and less likely to present for screening or health checks.<sup>28</sup> While wives or partners may have supported their male partner's decision to receive a health check, there was no suggestion in our data that men needed to be prompted or that women had made appointments on their behalf, as found in one earlier study of participation in community health screening.<sup>29</sup> It seemed that older people found it easier to attend for the checks especially if they were retired and in good health. In the literature on attendance for general health checks, it is reported that uptake is higher in older people<sup>28</sup> and this may reflect a greater concern to maintain good health in older age as well as easier access to health check appointments than younger people who may be in work.

#### Strengths and limitations

To our knowledge, this is the first study presenting qualitative findings relating to the influences on attendance for the NHS Health Check. A strength of the study was that it included in-depth interviews, based on a theoretical approach, with people who had been invited, but not received their health check. Participants included in the study reflected the target age range for the programme and

comprised men and women as well as representation from different ethnic groups. The findings highlight some of the potential barriers to informed participation in the programme, which might be overcome to improve uptake.

As this was a qualitative study, the extent to which the results are transferable beyond the current context requires consideration. We would cautiously suggest that similar factors might influence health check uptake among individuals living in socially deprived areas of other major cities in the UK. The fact that some of our findings converge with those of other qualitative studies examining influences on screening and health assessment uptake, gives us some confidence in the generalizability of our results. However, the findings are restricted to reflecting the views of those who agreed to participate in the study. If we had recruited more individuals from minority ethnic groups, we may have elicited other views about attendance for health checks. Ideally, more participants who had decided not to attend would have been included in the study although we believe our small sample offers some insights into the barriers to uptake. Further research may be needed on the influences on attendance for specific groups in order to develop appropriate interventions as needed.

Some of our findings may be specific to the UK health-care system and not generalizable to cardiovascular prevention programmes in other countries and with different contexts. Initiatives focussing only on high risk individuals, for example, might not elicit the same beliefs about civic responsibility and susceptibility. Attitudes towards health checks incurring direct financial costs to the individual might also differ to those elicited from our participants.

Another concern was the use of an interview structure based on the TDF and whether this constricts participant responses. The results of interviews conducted using a TDF-based topic guide have been compared with those using a more conventional topic guide on the same issue.<sup>30</sup> The TDF-based guidance led to participants talking more about the role of less con-

scious factors that may influence behaviour, such as emotions and habit, potentially leading to a wider range of factors being discussed than using a conventional topic guide.

### Implications

Our study suggests that public awareness about cardiovascular disease, its risk factors and often asymptomatic nature needs raising so that people can make considered decisions about whether they wish to attend a health check.

Emphasizing the benefits of prevention and early detection of cardiovascular conditions might encourage attendance in those who are reluctant to burden the public health-care systems. Increasing the accessibility and flexibility of the service design by expanding the availability of 'drop-in' health checks at community venues and at times outside standard working hours could make access easier for some people. Uptake of breast screening, for example, increased in previously non-attending women by offering the option of 'out of hours' appointments.<sup>31</sup> Increased availability of pharmacy-delivered health checks may also overcome the administrative barriers to obtaining an appointment at general practices. Moreover, cardiovascular risk assessment led by community pharmacies may be particularly effective at targeting individuals of a minority ethnic background and those not registered with a GP.<sup>32</sup>

Our study successfully accessed the views of a range of individuals. More research is needed focusing on specific groups of people who do not attend, particularly if they are likely to be at high risk of cardiovascular disease, so that interventions can be developed and targeted specifically to their needs.

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## Supporting Information

Additional Supporting Information may be found in the online version of this article:

**Appendix S1.** Theoretical domains, definitions and interview items for exploring participants' views of the NHS Health Check.

**Data S1.** Exploring patients' experiences of NHS Health Checks (3).

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