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## Research papers

# Patients' perceptions of a NHS Health Check in the primary care setting

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## ABSTRACT

**Background:** The NHS Health Checks is a cardiovascular disease (CVD) risk assessment and management programme for individuals in England aged between 40 and 74 with the aim of identifying previously unassessed individuals that are at high risk of CVD. Little research to date has explored patient perceptions and opinions of Health Checks.

**Objective:** This paper aims to investigate the perceptions and opinions of patients who had attended a Health Check appointment within a cohort of 83 General Practices in Gloucestershire.

**Methods:** A cross sectional survey of patients who had completed a Health Check appointment during the period May to June 2012 within a single county in England. Quantitative and qualitative data were acquired from 1,011 standardised and anonymised patient surveys sent out by a Health Check Commissioner and GPs. Data gathered included perceptions concerning all aspects of the Health Checks process and actual

appointment. Descriptive analysis was used to interrogate the quantitative data. Inductive content analysis was used to analyse qualitative data.

**Results:** Concerns about health were a principal driver of attendance. Reassurance, access to health information and guidance, and the identification of CVD risk and CVD diagnosis were perceived as key benefits of attending the appointment. Principal disadvantages included inconsistencies in the Health Check process, administration of appointments and a lack of appropriate follow up advice.

**Conclusion:** Health Checks are popular with patients and provide useful outcomes but greater consistency is needed in engaging patients and describing its purpose.

**Keywords:** Cardiovascular diseases, General practice, Delivery of Healthcare, Health services research, primary healthcare

## How this study fits in with quality in primary care

### What do we know?

Debates are continuing concerning the effectiveness and cost effectiveness of the NHS Health Checks programme. Although there is evidence to suggest the programme can decrease cardiovascular disease risk it is evident that a number challenges and inconsistencies in programme implementation are likely to influence the potential effectiveness of the NHS Health Checks programme.

### What does this paper add?

This study highlights that the Health Check was widely perceived as worth attending but the purpose of Health Checks is open to wide interpretation by patients. For example, not all patients were clear on the meaning or significance of the CVD risk score. Practitioners should focus on achieving greater consistency in Health Check assessments and explain better their purpose within the eligible population.

## Introduction

The NHS Health Check (HC) programme launched in England in 2009 is a cardiovascular disease (CVD) risk assessment and management programme for individuals aged between 40 and 74 with the aim of identifying previously unassessed individuals that are at high risk of CVD.<sup>1</sup> As a mandated service the programme targets people who are at greatest risk of premature death and disability and seeks to ensure high uptake in high risk and vulnerable communities by offering

HCs to 20% of the eligible local population, reaching 100% over five years.<sup>2,3</sup> Eligible patients are invited for HC appointments following which they are provided with information about their CVD risk. Patients identified with a CVD risk score of 20% or more (high risk) are invited to a second follow up appointment at which CVD diagnoses are verified by GPs and enter a risk register. This allows patient progress to be monitored and referrals onto appropriate treatment drug therapy and referral pathways for example, smoking cessation. Low risk patients

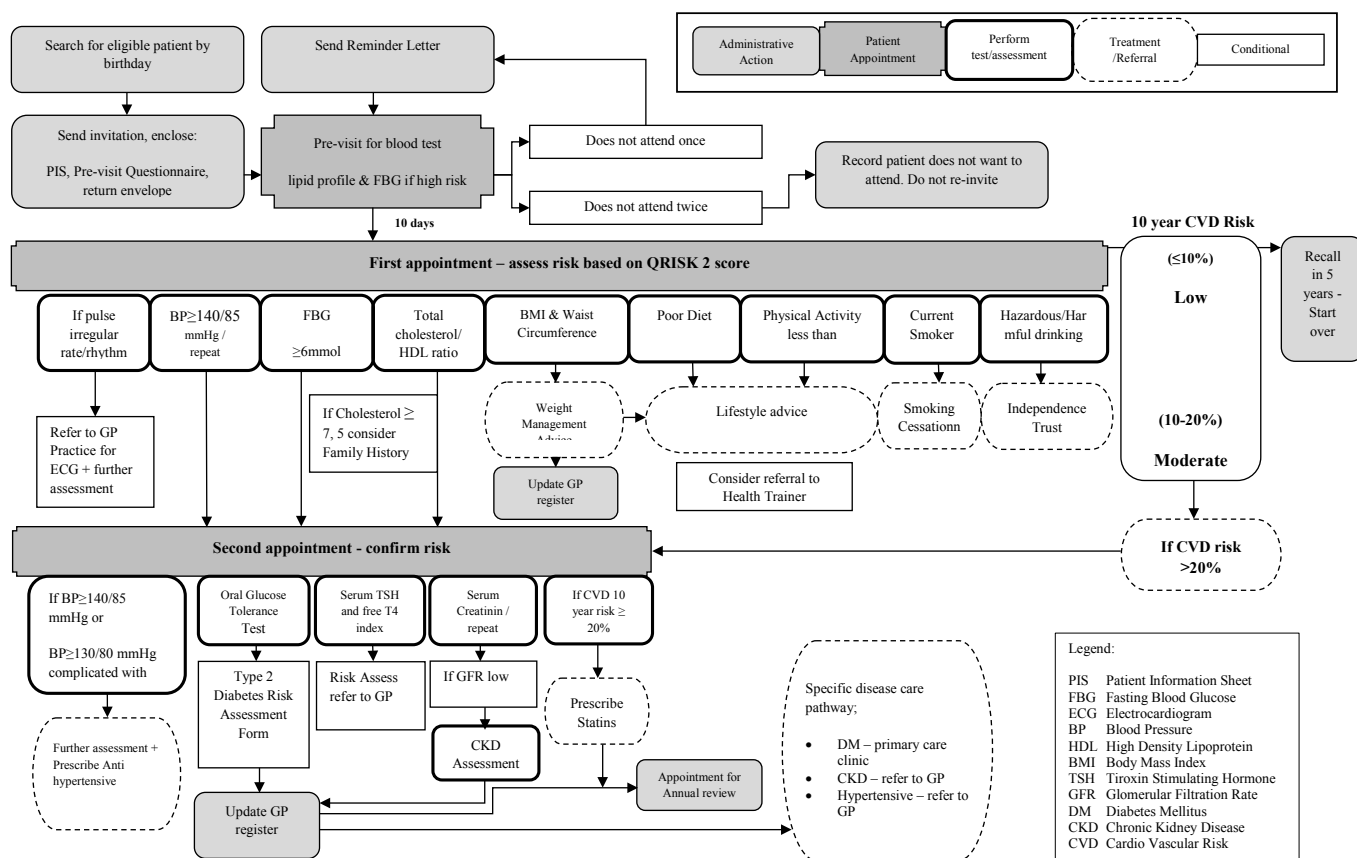
( $\geq 10$  - 19% CVD risk) are offered lifestyle advice and referred to local lifestyle services.<sup>1</sup>

Although emerging evidence suggests HCs have the potential to decrease CVD risk<sup>4,5</sup> there is continuing debate concerning the effectiveness of HCs in detecting undiagnosed CVD and impact on CVD mortality.<sup>6,7,8</sup> The implementation of HC programme is hampered by a lack of uptake by those at highest risk of CVD and also by the context in which it is delivered whereby the standardisation of measures is unlikely to result in prevention programmes that account sufficiently for local variations in the target population.<sup>9</sup> As such, it remains unclear how to implement the programme in such a way as to maximise the potential benefits of routine CVD screening. The complexity of implementing the programme presents challenges to understanding its effectiveness<sup>4,5,10</sup> and there is evidence to suggest local discrepancies in the way the HCs are implemented and monitored.<sup>11,12</sup> Further, difficulties in establishing partnerships with wider local health services have been identified as a further issue that affects capacity to deliver HCs in local communities<sup>13</sup> In a small qualitative study investigating participants' experiences of the HC appointment Chipchase et al<sup>14</sup> found that attendees viewed the HC as a specific opportunity to review CVD risk and there is evidence to suggest that HCs provide a catalyst for accessing health services.<sup>15</sup> However, despite existing guidance on the collection of a minimum national dataset there remains limited evidence concerning the quality and impact of the HC programme. Consequently, research has called for more evidence concerning HCs in order to inform the implementation and development of the programme.<sup>16</sup>

This paper presents the findings of a patient survey conducted as part a broader evaluation framework which included a HC audit and interviews with programme providers.<sup>17</sup> This assessed patient perceptions on a range of factors including risk assessments carried out at the HC, advice and information received during the appointments, referrals, and actions taken by the patient, and outcomes. The Gloucestershire NHS HC programme was launched in 2010 with over 90% of practices participating in the programme by 2011. At the launch of the programme primary care practitioners were offered training and advice on the programme pathway (Figure 1) and outcomes, local enablers and Motivational Interviewing techniques. As a means of assessing patient perceptions of the initial HC appointment the patient survey related specifically to the First Appointment at which patient CVD risk was assessed and advice given concerning local lifestyle services.

## Methods

A patient survey was sent to all patients who had completed a first HC appointment during the period May 2012 to June 2012. The selected month was chosen at random following a period in which the search strategies being implemented by GP practices and HC uptake had stabilised to ensure that the patient cohort was reflective of what might normally be expected. Of the cohort of 83 GP practices, 48% (n = 40) voluntarily took part in distributing the surveys. Each patient was invited to complete a standardised survey (Figure 2) which assessed patient perceptions on a range of factors relating to the HC pathway, including experience including risk assessments, advice and information received during the appointment, and patient knowledge and motivation to change lifestyle. The survey included Likert scale-type questions (quantitative) and



**Figure 1:** NHS Gloucestershire Health Checks Care Pathway

**NHS Health Check Questionnaire**

Please help us by completing the following questionnaire. We do not need to know your name, and the answers you give will only be used to evaluate the NHS Health Check programme and will not be passed on to anyone or used for any other purpose.

Please answer **Y** for **YES** and **N** for **NO** and give comments if applicable. You can give more than 1 answer if necessary.

**1. Which of the following were checked at your health check? Y/N**

Pulse ☐ Blood Pressure ☐ Blood Glucose ☐  
 Cholesterol ☐ Body Mass Index & Waist ☐ Diet ☐  
 Physical activity ☐ Smoking ☐ Alcohol ☐

**2. Which of the following were you given advice on? Y/N**

Weight ☐ Exercise ☐ Smoking ☐ Alcohol ☐

**3. Which of the following services were you advised to attend? Y/N**

Stop smoking ☐ Doctor Appointment ☐  
 Alcohol service ☐ Health trainer ☐

Other (please add any other services here) \_\_\_\_\_

**4. Were you told about your Cardiovascular Disease risk score? Y/N**

**5. How much do you understand about your Cardiovascular Disease risk score?** Score between 1-5, where 1 means you do not understand it at all and 5 means you understand very well. ☐ (1-5)

**6. Overall, do you think it was worth attending the NHS Health Check?**

Y/N ☐ Comments: \_\_\_\_\_

**7. Why did you choose to attend the NHS Health Check? Y/N**

Concerned about your health? ☐

Family history? ☐

Other, give details \_\_\_\_\_

**8. Have/will you change(d) your lifestyle as a result of the health check? Y/N**

If yes, please give details \_\_\_\_\_

<b>9. Please rate the Health Check service that you received?</b> Score between 1-5, where 1 means poor and 5 means excellent.	Score (1-5)
A. Location of your Doctors surgery to where you live	
B. Time and date availability of your appointment	
C. Confidence in staff knowledge at your Doctors surgery	
D. Overall experience of the Health Check service?	

E. Did you have time to ask questions? Y/N ☐

F. What part of the service could be improved? \_\_\_\_\_

G. Do you have any other comments? \_\_\_\_\_

**10. Did you experience any difficulties during the health check? Y/N**

Language ☐

Understanding ☐

Other, give details \_\_\_\_\_

**11. When did you have your health check? Date (\_\_\_Day\_\_\_Month\_\_\_Year)**

(If you are not sure of the exact date please estimate)

**12. Are you?** Male ☐ Female ☐

**13. How old are you?** 40-45 ☐ 46-50 ☐ 51-55 ☐ 56-60 ☐ 61-65 ☐ 66-74 ☐

**14. Please tell us your ethnic group?**

<b>Asian or Asian British</b> <input type="checkbox"/> Bangladeshi <input type="checkbox"/> Indian <input type="checkbox"/> Pakistani <input type="checkbox"/> Asian other (please state) _____	<b>White</b> <input type="checkbox"/> British <input type="checkbox"/> Irish <input type="checkbox"/> Gypsy <input type="checkbox"/> Traveller <input type="checkbox"/> White other (please state) _____
<b>Black or Black British</b> <input type="checkbox"/> African <input type="checkbox"/> Caribbean <input type="checkbox"/> Black other (please state) _____	<b>Other Ethnic Group</b> <input type="checkbox"/> Chinese <input type="checkbox"/> Any Other (please state) _____
<b>Mixed Background</b> <input type="checkbox"/> White and Asian <input type="checkbox"/> White and Black African <input type="checkbox"/> White and Black Caribbean	<input type="checkbox"/> Other mixed background (please state) _____

open ended or text-response questions (qualitative). Surveys were returned directly to the Health Check commissioner and quantitative data from the surveys inputted and analysed independently as part of a broader evaluation to develop an understanding of the programme from the patient point of view. The results were collated at a practice level and used to inform future commissioning. Qualitative data from the surveys were analysed by the authors using the software package NVIVO 9<sup>18</sup> to manage and organise the data and facilitate inductive content analysis to explore participant perceptions.<sup>19,20</sup> The inductive content analysis approach involved identifying initial thematic categories followed by more detailed themes and subthemes through a systematic review of the data. A systematic review of themes was conducted independently by the researchers to ensure they accurately represented the data and to make amendments where necessary.

## Results

In total, 2,346 surveys were sent out by GPs ( $n = 497$ ) and the HC Commissioner ( $n = 1849$ ) using freepost envelopes and just over 1,000 (1,011) were completed and returned to the commissioner. This represented a response rate of 43% across all six of Gloucestershire's local government districts. More than half of the respondents were female (55.2%,  $n = 551$ ) and the largest proportion of responses were received from patients aged 56-60 years old (19.0%,  $n = 190$ ), the lowest from those aged 40-45 years old (10.8%,  $n = 108$ ). Patient demographics are shown in Table 1.

## Attendance at the Health Check appointment

The quantitative analysis showed that concerns about health was a principal driver of attendance at the HC appointment (30.5%,  $n = 305$ ) followed by family history (24.9%,  $n = 249$ ) and 41.5% ( $n = 415$ ) of respondents indicated that they had, or were going to, change their lifestyles as a result of the HC. The pathway stipulated that patients receive a simple Patient Card following the appointment which provided details of their CVD risk score that they could take home with them for information. The majority (88%,  $n = 879$ ) agreed that they had the time to ask questions during the appointment and nearly two-thirds of patients reported that they were told about their CVD risk score (64.9%,  $n = 648$ ) with 61.9% ( $n = 558$ ) rating their understanding of the CVD risk score highly (4 or above on a scale of 1 to 5, 5 indicating a high level of understanding). Language difficulties or difficulties understanding what was said by GPs was minimal (0.7%,  $n = 7$  and 1.1%,  $n = 11$ , respectively).

Smoking accounted for the majority of advice given (60.4%,  $n = 612$ ), followed by weight (46.8%,  $n = 468$ ) and exercise advice (40.7%,  $n = 407$ ) while alcohol advice was the least provided (29%,  $n = 290$ ). Overall, there was strong agreement that the HC was worth attending (90.2%,  $n = 901$ ) and the majority of patients (91.7%,  $n = 805$ ) rated the overall experience highly, stating 4 or more (on a scale of 1 to 5, 5 indicating a very positive experience). The majority of patients rated the location of Doctor's surgery (69.5%,  $n = 610$ ) and time and availability of appointments highly (70.7%,  $n = 621$ ), indicating 5 (on a scale of 1 to 5, 5 indicating a strong agreement). More than 90% of patients (93.8%,  $n = 824$ ) rated confidence in staff knowledge at Doctor's surgery at 4 or more (on a scale of 1 to 5, 5 indicating a strong agreement).

Table 1: Participant demographics.

Variable	Quintile of Practice Deprivation										Total	
	Q1 (most)		Q2		Q3		Q4		Q5 (least)			
	n	%	n	%	n	%	n	%	n	%	n	%
Gender												
Male	70	18.0	63	16.2	70	18.0	107	27.5	79	20.3	389	41.4
Female	103	18.7	86	15.6	117	21.2	140	25.4	105	19.1	551	58.6
Age (years)												
40 to 45	25	23.1	14	13.0	25	23.1	32	29.6	12	11.1	108	11.5
46 to 50	28	21.1	18	13.5	32	24.1	34	25.6	21	15.8	133	14.1
51 to 55	23	14.0	24	14.6	49	29.9	41	25.0	27	16.5	164	17.4
46 to 60	25	13.2	29	15.3	41	21.6	48	25.3	47	24.7	190	20.1
61 to 65	27	16.5	36	22.0	19	11.6	44	26.8	38	23.2	164	17.4
66 to 74	44	23.9	29	15.8	25	13.6	48	26.1	38	20.7	184	19.5
Ethnicity												
White British	157	85.3	147	94.2	182	91	235	88.3	180	93.3	901	96.0
Not White British	15	8.2	4	2.6	8	4	7	2.6	4	2.1	38	4.0

Two principal thematic categories of benefits and disadvantages of attending the HC emerged through data analysis of the qualitative data which provided a means of structuring the data and understanding participant experiences through the associated sub themes.

### Benefits of attending the Health Check

The main theme benefits provided a means of conveying the advantages or positive effects of attending the HCs. The first subtheme reassurance provided patients with peace of mind concerning their relative health:

*'After reaching 60 years the health check gave me peace of mind, thankfully all was well and it was nice to confirm that everything is ok'* (Patient 39).

*'I considered it to be worth being screened to see if there were any underlying problems that had not surfaced yet. No problems were found so I feel good'* (Patient 467).

The second subtheme identification of CVD risk and CVD diagnosis helped bring patients' health into focus by highlighting underlying health issues that were not necessarily known to the patient:

*'I discovered to my surprise that my cholesterol score was high, although not dangerously so'* (Patient 633).

*'It was useful to discover my impaired fasting glycaemia issue before it becomes a problem'* (Patient 538).

The identification of CVD risk and CVD diagnosis subsequently enabled patients to determine appropriate courses of action with their GP:

*'Thanks to the check-up high blood pressure was discovered, and steps have now been taken to reduce it'* (Patient 673).

*'It is so important to let people know their numbers and to direct them to a choice of treatments if action needs to be taken'* (Patient 28).

The final subtheme health information and guidance provided an opportunity to obtain health information and guidance to help them about lifestyle advice and the avoidance of CVD risk factors:

*'It was a good chance to have any queries answered without wasting Doctor's time'* (Patient 111).

*'The check provided an opportunity to get advice on bad habits about health I'd fallen into'* (Patient 784).

*'This helped me realise about units of alcohol per week'* (Patient 44).

### Disadvantages of attending the Health Check

The second main theme disadvantages referred to the negative effects of attending the HC and comprised two subthemes which helped to explain respondents' perceptions. While the number of responses specifically relating to the disadvantages of attending a HC were low (n = 18), they helped draw attention to certain issues in the way HCs were implemented. The first subtheme HC delivery related to the way in which the HC appointment was administered HC and how the process was managed:

*'The information was a series of figures and statistics which I cannot remember accurately but might have liked to have written down for me to study later'* (Patient 307).

*'The nurse advised me there were concerns with my cholesterol but when I attended my appointment he had not been advised of any of these concerns'* (Patient 121).

*'I was flabbergasted that the nurse was unwilling to give me any results or advice because the website was down...she promised to phone me later with the results but never did...I felt the whole procedure was a waste of everybody's time and just a box-ticking exercise'* (Patient 860).

*'The nurse involved didn't seem to take it very seriously'* (Patient 160).

The second subtheme lack of feedback highlighted respondents concerns with the utility of attending the HC without follow-on support stemming from the tests, and conversations conducted during the appointment or a written summary to take away with them:

*'Hardly any feedback means that I am assuming everything is ok but I don't have actual results of any tests'* (Patient 112).

*'My QRisk score is 11 per cent. But after getting someone to*



*Google it for me, we still have no idea what it means. It should be explained better in a letter from the Doctor' (Patient 195).*

## Discussion

Research to date suggests that HCs might provide an effective means of identifying modifiable CVD and early CVD diagnosis.<sup>4,6,12</sup> While there are concerns that the HC programme may not achieve its aims of reducing the burden of CVD and health inequalities with the present low levels of uptake<sup>21</sup> these present findings suggest that HCs were largely well received by patients who take up the offer and the majority were informed of their CVD risk score. A feeling of reassurance, access to health information and guidance, and CVD risk identification and diagnosis were perceived as key benefits of attendance. Consistent with research elsewhere,<sup>15</sup> it is apparent that HC provide patients with a positive means of engaging with primary care and their health and wellbeing. However, patient perceptions in this paper raise the concern that many patients may not be aware that HCs are specific CVD assessments and provide an opportunity to prevent CVD, rather than a general health check-up.

The recurrence of certain aspects of themes identified in other research relating to patient understanding<sup>14</sup> suggests that the purpose of HCs is open to wide interpretation by patients, even at a very local level. This finding resonates with the apparent diversity in the way the programme is being implemented in England particularly in terms of approaches to CVD assessments, treatment follow up and use of wider local lifestyle services,<sup>11,12</sup> and points to inherent variability in the way the programme is being implemented by professionals in primary care. In this respect, the importance of staff training for those involved in implementing the programme has been noted as a critical feature of HC programme implementation at the local level.<sup>22</sup> The findings in this study would appear to support continuous staff training in respect of both the purpose of the programme and its key components in order to improve consistency in the way the programme is implemented within and between GP practices, specifically with regard to CVD risk communication and links to local lifestyle services. From a practical point of view, such training might include Motivational Interviewing techniques and, where possible, support for high risk patients to ensure swift access to appropriate treatment and referral pathways.

With reference to the perceived competence and empathy of health professionals,<sup>23,24</sup> the finding that some patients felt let down by the HC appointment suggests that greater attention needs to be paid to risk communication, explanation of results, and supporting patient behaviour change as outlined in the HC competencies framework.<sup>3</sup> Indeed, the number of patients indicating that they had, or were going to, change their lifestyles was less than 50% and although we were unable to assess these patients' demographic background or relative CVD disease risk, this suggests attendance at a HC does not guarantee that patients will necessarily change lifestyle behaviours. While it is unclear as to why patient motivation to change is not stronger, evidence from elsewhere suggests prevention programmes that try to deal with multiple risks may be less effective at risk management than those that deal only with individual risks.<sup>25</sup> As such, the procedural issues and a lack of feedback or results and

information to take home highlighted by patients in the present study seemingly highlight a key challenge in communicating risk within a multifactorial prevention programme.

There has been a clear call for specific evidence concerning HCs in order to enhance practice and improve programme effectiveness<sup>16</sup> and a suggestion for formal quality assurance processes to support better programme implementation.<sup>22</sup> While evidence suggests that population screening in primary care has the potential to detect undiagnosed cardiovascular risk<sup>6</sup>, the findings presented in this paper suggest that inconsistencies in procedural and risk communication aspects of the HC are likely to hamper effective programme implementation and require commissioners to consider ways in which to improve the consistency of the programme across practices and within practices in terms of process and staff skills. This is likely to include on-going training in programme implementation, knowledge updates, motivational interviewing techniques, closer links with local lifestyle services, and procedures such as providing a written summary of results. Moreover, it is apparent that HCs are not necessarily perceived as specific CVD screens rather than opportunities to review a range of health issues that provide a means of reassurance and advice. While the results represent patient perceptions from a single county they are likely to be emblematic of challenges within the broader HC programme in England. Thus, marketing and advice that clearly conveys the programme's purpose, creates an interest in attending a HC appointment and makes transparent the potential benefits for patients at the practice level will likely help patients understand the role of HCs and establish realistic expectations concerning their function.

## Limitations

Although research has examined the uptake and implementation of the HC programme in England there is limited evidence concerning the perceptions of patients that have attended a HC appointment. To the best of the authors' knowledge this is the first study of patients' experiences of the HC programme at a county level and represents a unique insight into patient perceptions and the potential role HCs have in CVD risk assessment and management.

The data used in this paper is at a practice rather than individual patient level. Hence, while the numbers of responses from each participating practice in the survey were fairly even we were not able to guarantee that the sample was representative of the eligible health check population and we were unable to establish comprehensive demographic characteristics for the patient cohort. Further, due to the lack of direct linkage with the wider HC audit it was not possible to compare demographics of those who responded with those who did not respond to the survey and nor was it possible to scrutinise the respondent profile with the expected demographic of the target population. This prevented a closer analysis of patient motivation to change behaviour specifically with regard to high risk patients for whom changes in lifestyle are necessarily more urgent.

The data are also open to sources of bias including cultural differences, the way in which the survey was administered and patient affluence. In particular, while the voluntary nature of participation by GP practices ensured a high level of ownership in administering the surveys the reasons for non-participation of

others were unclear. While the voluntary nature of participation arguably reflects the realities of conducting research in this area whereby the full participation of all GP practices is not necessarily practical, future research might adopt approaches that seek greater and fuller involvement by those directly involved in the implementation of the HCs. Further, the standardised survey provided a means of capturing patient feedback but this was focused on assessing patient perceptions on factors relating to the HC pathway and patient knowledge and motivation to change lifestyle. Hence, the survey may have failed to identify other factors relevant to the HC appointment. Indeed, not all patients opted to provide additional feedback via open ended questions concerning the HC experience. It is likely therefore, that the evaluation was limited in terms of capturing a range of perceptions regarding the HC programme that might have provided alternative or contrasting findings.

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