EVALUATION of NHS Health Check PLUS COMMUNITY OUTREACH PROGRAMME in Greenwich
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1 Executive summary

This report presents a comprehensive evaluation of the NHS Health Check PLUS community outreach programme in Greenwich. NHS Health Check PLUS is systematic prevention programme to prevent and manage cardiovascular disease (CVD) and related conditions in Greenwich – it implements a national initiative to identify individuals at high-risk of CVD, diabetes, stroke, chronic kidney disease; in Greenwich the programme has been supplemented to identify high risk of other conditions such as risk of falls and alcohol dependency. The programme screens all individuals aged 40-74 years without CVD or related disease who have not had a previous Health Check. This is a 5 year rolling programme carried out through general practices with 20% of the eligible cohort to be invited each year; to support general practices to achieve this target of 20% a community outreach programme for Health Checks was planned. This piece of evaluation seeks to assess the delivery and outcomes of community outreach initiatives of the Health Check PLUS which took place in May and June 2011 across five venues in Greenwich. To evaluate perceptions of hard-to-reach groups such as ethnic minorities, the evaluation included participants from a community outreach initiative which took place in a temple and a mosque in Greenwich.

This evaluation focused on assessing the structure, process and outcomes of the community outreach Health Checks so as to evaluate the programme from the perspectives of service users as well as service providers. A combination of methods was used for the evaluation including quantitative, qualitative and social marketing approach. The different elements of the evaluation are illustrated in the figure below.
Summary of results from the evaluation

All general practices in Greenwich were offered the chance to participate in the community outreach programme of Health Checks. Thirteen general practices accepted the offer and provided a list of individuals eligible for a Health Check. A total of 2908 individuals were identified for a Health Check; however, 243 (8%) were incorrectly identified as being eligible, and it was not possible to contact 44% of individuals (unable to contact despite 3 phone call attempts, or incorrect phone details). 1400 individuals were contacted by telephone and invited for a Health Check. 642 (22% of the initial 2908 individuals identified for a Health Check) accepted the invitation while 758 (28%) refused to attend. The main reasons for a refusal were lack of interest (33% of 758 refusals) and preference to have the Health Check at a general practice (27% of 758 refusals). A total of 620 Health Checks were carried out as part of the community based programme at five venues across Greenwich in May and June 2011. This was a very high uptake of 97% in those who accepted the invitation of having a Health Check.
Findings and recommendations from the evaluation are summarised below:

<table>
<thead>
<tr>
<th>What worked well?</th>
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<tr>
<td><strong>High uptake:</strong> 97% of those who accepted the invitation attended the Health Check</td>
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<tr>
<td><strong>Identifying high-risk:</strong> Of the 620 Health Checks, 25% individuals were identified to be at a high risk of CVD and 20% at high-risk of diabetes</td>
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<td><strong>Identifying risk factors:</strong> 85% of individuals were found to be overweight or obese</td>
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<td><strong>Identifying risk in high-risk groups:</strong> High risk of CVD and diabetes in ethnic minority groups was effectively identified – high CVD risk was 40% in Asians, 13% in Blacks and 4% in Caucasians; high risk of diabetes was 29% in Asians, 22% in Blacks and 17% in Caucasians</td>
</tr>
<tr>
<td><strong>Lifestyle advice and referrals:</strong> Lifestyle advice was provided to attendees and referrals were made to GP and lifestyle improvement programmes – 35% were referred to health trainers, and 84% of those at high CVD risk were given dietary advice. Two general practices reported 76% of their patients made an appointment with the GP after a Health Check.</td>
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<tr>
<td><strong>Participant satisfaction:</strong> There was a high level of overall satisfaction with the Health Checks among participants (97%)</td>
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<td><strong>Clinicians’ satisfaction:</strong> Overall, health care assistants expressed high levels of satisfaction with the organisation and delivery of the programme</td>
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What did not work well?

- **Identifying eligible population**: 8% of participants were incorrectly identified by general practices as being eligible for Health Checks including a small proportion who were deceased

- **Contact with eligible population**: Contact was not made with 44% individuals eligible for a Health Check due to incorrect phone details or inability to contact on phone; this ‘hard-to-reach’ group was from more deprived parts of Greenwich

- **Reason for refusal**: Lack of interest in Health Check (33%) was one of the main reasons for refusal to attend a Health Check

- **Invitation for Health Checks**: There were some issues with invitations to Health Checks such as short notice for appointment, not fully understanding the purpose of a Health Check, and not receiving an invitation letter

- **Data capture**: Information on data collected at Health Checks, particularly cancer screening, was not recorded consistently and accurately

- **Venues**: One of the five venues were difficult to find and needed better signage and directions, and one venue had limited accessibility

- A minority of staff were found to be unprofessional in their practice

- One of the clinic sessions had problems with equipment for Health Checks
What can be improved? Key recommendations

- **Identifying eligible population:**
  - Better systems are needed in general practices to correctly identify individuals for Health Checks according to the eligibility criteria
  - Up-to-date and accurate information on contact details for clients who are eligible for Health Checks should be provided by general practices

- **Invitations to Health Checks:**
  - Adequate notice should be given to allow individuals to make an appointment for a Health Check, with follow-up postal invitations
  - Clear and simple messages about the Health Checks such as it is free; run by the NHS and its benefits should be communicated

- **Improving response rates:**
  - Raising awareness of Health Checks and their benefits is needed to increase interest and response rates
  - Other call-recall systems such as door-knocking or leafleting need to be considered to supplement telephone invitations
  - Contact with hard-to-reach groups in more deprived areas needs to be developed – for example through leaflets, or use of ‘ambassadors’ to promote Health Checks can be effective
  - Ethnic minority groups can be reached through messages in their native language

- **Delivery of programme**
  - Venues: Adequate access should be ensured at all venues and detailed instructions to find venues should be sent with the invitation
  - Resources: are required to ensure adequate staff to respond to any issues with equipment that may arise
  - Data collection: quality of data collected needs to be improved to ensure accurate and consistent data recording at Health Checks
  - Training of health care assistants is needed in the following areas:
    - Consistent adherence to the protocol for data collection during Health Checks, especially information on cancer screening
    - Adherence to professional code of conduct during clinic sessions
    - Confidence with use of equipment to reduce chances of error
    - Consultation and advice on health behaviours to clients
Overall, the evaluation revealed a successful delivery of the NHS Health Check PLUS programme in Greenwich. Implementation of the above recommendations will further improve the delivery and effectiveness of the service in future service provision.

**Recommendations for further evaluations**

- Further evaluations are needed to assess:
  - Extent of follow-up of clients after a Health Check
  - Management of risk identified at a Health Check

**Positive feedback for marketing Health Check PLUS**

- **Location**
  - “This was the best location, easy to get to and convenient”

- **Timing**
  - “I could go before work, which was fantastic.”

- **Health Checks**
  - “I liked the instant results on sugar levels and cholesterol – I didn’t have to call and pick up results.”

- **Advice**
  - “very simple and clear.”
  - “I liked the advice given concerning diet and improvement to my general health”
  - “it woke me up…It has changed me. I have increased my exercise…because I found out that I have high cholesterol and high BMI….” (BME attendee)
2 Introduction

This report presents results from an evaluation of the NHS Health Check PLUS programme in Greenwich. In particular, it is an evaluation of the community-based outreach initiatives of the NHS Health Checks carried out over the last year. The Department of Health introduced a systematic and integrated programme of vascular risk assessment and management of those aged between 40 and 74 years (Putting Prevention First 2008). This vascular risk assessment programme called NHS Health Check is a national initiative identifying and managing cardiovascular risk and related diseases (ischemic heart disease, stroke, diabetes, and kidney disease) in people aged 40-74. Further details of the programme in Greenwich are described in the next section.

In a local context, the NHS Health Check programme supports primarily on two of the four goals contained within the Commissioning Strategic Plan, namely:

- **Strategic Goal 2:** To ensure the systematic management of primary and secondary prevention in primary and community care.
- **Strategic Goal 1:** To create life circumstances which assist people to choose and maintain healthier lifestyles.

The purpose of the evaluation was to assess the outcomes of the programme and the ways in which it was delivered in Greenwich – it aims to evaluate the programme from the perspective of the service users as well as service providers.
3 Background

3.1 Rationale for NHS Health Checks

Vascular disease includes coronary heart disease, stroke, diabetes and kidney disease. It currently affects the lives of over 4 million people in England. It causes 36% of deaths (170,000 a year in England) and is responsible for a fifth of all hospital admissions. It is the largest single cause of long-term ill health and disability, impairing the quality of life for many people. The burden of these conditions falls disproportionately on people living in deprived circumstances and on particular ethnic groups, such as South Asians. Vascular disease accounts for the largest part of the health inequalities in our society. ¹

Locally, the burden of vascular diseases is much greater – Greenwich currently has one of the highest mortality rates of cardiovascular disease (CVD) nationally and is 23% higher than in London. There is a gap of 2.5 years in life expectancy for men and 0.4 years for women between those living in Greenwich and those living in England. Circulatory disease and, in particular, coronary heart disease contributes to 24.3% of this gap in men. The rate of deaths due to circulatory disease is about 40% higher in the most deprived areas of Greenwich than in the least deprived, and this is true for both men and women. There is an estimated 18,389 people over 40 years old who either have undiagnosed disease or are at high risk of developing CVD in the next 10 years. ²

Vascular disease is known to be largely preventable due to established risk factors including cigarette smoking, blood pressure, dietary fat-blood lipids, physical inactivity and obesity.³ These have been designated as major risk factors because of their high prevalence in populations (particularly in Western countries), their impact on coronary risk, and their preventability and reversibility.⁴ Identification of risk factors has led to an increasing emphasis on identifying individuals at high-risk of vascular disease.
The most commonly used method of estimating CHD risk in clinical practice in the UK is based on the Framingham risk equation which was devised from the Framingham Heart Study and the Framingham Offspring Study.\(^5\) Risk estimation systems are used to identify individuals at high risk of developing vascular disease, so as to adequately manage the high risk by means of medical management and lifestyle factor change.

The design of NHS Health Checks nationally is based on advice from numerous experts inputting to the Vascular Programme Board who oversaw its development. The principle used in the design was that interventions would be included only if there was cost effectiveness data to support them and tests would be included only if there was cost effectiveness evidence of their use.\(^6\) In response to the above national guidance was developed outlining best practice guidance for the NHS Health Check.\(^7\) Modelling undertaken by the Department of Health identified that nationally the programme could prevent 1,600 heart attacks and strokes, saving up to 650 lives per year and prevent over 4000 people from developing diabetes.\(^8\)

As a result, NHS Greenwich is implementing the Health Check programme in order to:

- Reduce premature death from related vascular conditions including coronary heart disease. Chronic kidney disease, diabetes mellitus, and stroke
- Reduce the incidence of these related vascular conditions
- Narrow inequalities in premature death from these related vascular conditions
- Use this systematic programme as an opportunity to improve outcomes in other priority public health programmes.
The NHS Health Check programme is a national programme offered to every 40-74 year old who does not already have a cardiovascular or related disease. In Greenwich, the age range for the community outreach programme is being extended to include eligible populations between 35-74 years. This was in response to the evaluation of the current outreach programme that found that the hard to reach groups engaged as part of the programme showed significant risk factors at a younger age than 40. In Greenwich, the national programme has also been supplemented with other prevention areas (risk of falls, alcohol dependency, depression, cancer screening status, identification of COPD) informed by the JSNA, hence the name NHS Health Check PLUS. Figure 1 provides an overview of the national NHS Health Check and the local PLUS Programme being implemented in Greenwich.
Figure 1 Diagrammatic overview of the NHS Health Check PLUS programme

**National NHS Health Check**

**PLUS Programme**

**PLUS programme**

- Alcohol
- Cancer Screening status
- Falls Filter
- Pulse Check
- Depression Filter
- FEV1/Lung Age

If irregular

- If positive

- ECG
- PHQ9

- FEV1 < 80%

- Clinical Assessment including spirometry

Undertaken by GP Practice Team

- AF Diagnosis
- Treatment and referral to Greenwich Talk Time
- COPD Treatment e.g. Bronchodilators

**Key:**
- **HBP blood pressure**
- **COPD chronic obstructive pulmonary disease**
- **BMI body mass index**
- **WHR waist to hip ratio**
- **ESR erythrocyte sedimentation rate**
- **eGFR estimated glomerular filtration rate**
- **HGT impaired fasting glucose**

**Brief Interventions for alcohol**
- Advice/referral to other services e.g. cancer screening
- Referral for assessment of falls

**AF treatment**
- Referral for assessment of falls

**AF Diagnosis**
- Referral for assessment of falls

**COPD Diagnosis**
- Referral for assessment of falls

- Set COPD register

All to be undertaken by GP practice team

*Or by professionals with suitable patient information and assessing skills*

*People recalled to separate appointments for diagnosis*
Effective management of the condition from diagnosis is essential to minimise the risk of serious complications in the longer term such as stroke, blindness, cardiac and renal disease, and amputation. This management includes effective glycaemia, cholesterol and blood pressure control. Ultimately this service aims to improve the health of the local population and reduce health inequalities across Greenwich.

Risk Assessment stage of the NHS Health Check uses a risk algorithm to calculate an individual’s 10 year predicted risk of cardiovascular disease. In its 2008 Lipid Modification guidance, NICE recommended that Framingham should be used to calculate a 10 year risk of cardiovascular disease; the Joint British Societies guidelines and NICE propose a risk threshold of ≥20% cardiovascular risk over 10 years for risk factor interventions such as lipid modification. In Greenwich the JBS2 risk tool is used for risk assessment. JBS2 is a modified version of the 1991 Framingham equation which includes risk adjustment for variables such as triglycerides, family history of CVD and ethnicity. The risk assessment for eligible populations is carried out through general practices.

3.3 NHS Health Checks PLUS Community Outreach Programme

The NHS Health Checks PLUS Community Outreach Programme in Greenwich targets those at greater risk and those that are less well engaged with primary care services, so as to identify more people at an earlier stage of vascular change. The overall aim of this service is to provide the NHS Health Checks PLUS Programme to people aged 35-74 in various community settings across Greenwich in order to improve health outcomes and the quality of life of the Greenwich eligible population. This will ensure that people have a better chance of putting in place positive ways to substantially reduce their risk thus reducing the population’s risk of cardiovascular morbidity, premature death or disability. The PLUS aspects aim to identify and reduce other diseases opportunistically as part of the programme.
Key objectives of the Community Outreach Programme are to:

- To provide the NHS Health Check PLUS Community Outreach Programme to the eligible population (35-74 years, without existing CVD or related disease) in a variety of outreach settings ensuring engagement with those that are most hard to reach. Patients must either be registered with a GP in NHS Greenwich, or not registered with a GP but living in the Greenwich area.

- Using local public health intelligence and data to identify suitable community settings where NHS Health Checks PLUS will take place. This will include negotiating to secure the venues and performing any necessary checks and risk assessments to ensure the venues are suitable and appropriate.

- To provide a service for those practices that opt out of the NHS Health Checks PLUS Local Enhanced Service. These patients are likely to attend clinics in the community or at a GP Practice.

- To communicate a person’s risk in a way that the individual understands and to refer them to general practice and health improvement interventions.

- To identify risk factors associated with other disease areas, for example, respiratory health, cancer and mental health and manage this risk or signpost to other services as appropriate. This will enable a greater contribution to tackling health inequalities than CVD alone.

- To ensure clinical data capture and transfer of patient data to GP practices.

- To increase access to locally available lifestyle and therapeutic intervention by ensuring that those identified at significant risk (≥20% 10 year risk) of vascular disease are referred to their GP and those at low or medium risk (≤19.9% 10 year risk) are offered lifestyle advice and appropriate signposting or referral to other appropriate services.

- To sustain the continuing increase in life expectancy and reduction in premature mortality that are under threat from the rise in obesity and sedentary living.

- To offer a real opportunity to make significant inroads into reducing health inequalities, including socio-economic, ethnic, and gender inequalities.
Although not an objective of this programme, it is anticipated that the implementation of this service specification will identify individuals with undiagnosed disease including diabetes, hypertension, coronary heart disease and stroke.

This evaluation will focus on assessing one of these Community Outreach Programmes.
4 Evaluation themes and objectives

The purpose of the evaluation is to assess the NHS Health Check PLUS programme carried out through in the community as the outreach arm of the programme; these events were referred to as “mega-clinics”. This evaluation will assess uptake, accessibility and short-term outcomes of the programme so as to inform future delivery of the programme.

4.1 Framework of evaluation

The evaluation applies the Donabedian framework to assess the structure, process and outcomes of the Health Check programme. Structure evaluates the provision of facilities and services for effective delivery of the programme. Process elements evaluate how well programme was delivered to patients and outcome evaluation assesses the outputs from the programme. Examples of different elements of this evaluation framework which were relevant to the Health Check programme are listed in the figure below.

Figure 2: Framework used for evaluation of Health Check PLUS programme
4.2 Aim and objectives of evaluation

**The aim of the evaluation was:**

To evaluate the NHS Health Check PLUS programme in Greenwich by assessing the structure, process and outcomes of the outreach programme.

**The specific objectives were:**

- To examine extent of non-response to the programme and describe reasons for non-response
- To understand demographic characteristics associated with response and non-response such as age, gender, ethnicity and deprivation (so as to assess accessibility, acceptability, and equity of the programme)
- To examine outcomes such as the proportion of individuals identified at high-risk of chronic diseases compared with expected numbers to evaluate the effectiveness
- To examine the proportion of undiagnosed conditions such as pre-diabetes, hypertension and other elements of the Health Check PLUS screening to evaluate the effectiveness of the programme
- To evaluate the effectiveness of programme in assessing lifestyle risk factors
- To evaluate the communication of health improvement referrals and lifestyle advice
- To evaluate ‘structural’ and ‘process’ elements affecting delivery of the programme including personnel, venue and equipment, to assess appropriateness of programme
- To assess patients’ views and level of satisfaction to assess appropriateness
- To assess views of responders and non-responders to evaluate appropriateness, accessibility and acceptability of the programme

These objectives will enable the use of a structure-process-outcome framework (described above) to evaluate the following elements of the programme:

- Accessibility
- Appropriateness
- Acceptability
- Effectiveness
- Equity
5 Methodology of evaluation

5.1 Description of Health Check PLUS programme for evaluation:

This evaluation seeks to assess a Community Outreach Programme initiative of NHS Health Checks PLUS in Greenwich. The Screening and Risk Management Local Enhanced Service (LES) implements the NHS Health Check PLUS programme in Greenwich. A total of 31 out of 46 (67%) general practices participated in the LES to implement the Health Checks. Since the Health Checks is a 5-year rolling programme each practice is required to invite 20% of the eligible population (40-74 years with no CVD or related disease) each year. The programme was launched in July 2010. In order to support all practices to reach this target a community-based outreach initiative was planned by the programme team. All general practices were invited in March 2011 and offered the option of participating in a community outreach initiative; 13 general practices accepted the offer. These general practices were asked to identify individuals eligible for a Health Check – eligibility criteria included individuals registered with their practice aged 40-74 years and not previously invited for a Health Check; according to the LES the following schedule was followed to identify individuals more likely to be at risk of CVD and related diseases:

**Cohort 1:** Hypertensive patients and those on CVD risk register

a) All hypertensive patients aged 40-74 years (excluding newly diagnosed and those on other CVD related disease registers including CHD, stroke, diabetes and chronic kidney disease)

b) Individuals on ‘computer generated’ CVD risk register, i.e. those with a risk score of \( \geq 20\% \) (based on actual scores) starting with those with the highest risk – NHS Greenwich included these individuals to ensure additional face to face assessment and access to interventions

**Cohort 2** Individuals with CVD risk factors:

c) Eligible patients (aged 40-74, no CVD or related disease) who have a body mass index of \( \geq 30 \) kg/m\(^2\) who are not on the CVD high risk (a) or hypertension registers (b)
d) Eligible Patients (aged 40-74, no CVD or related disease) who smoke or who have hyperlipidaemia excluding those identified in schedule a-c.

e) All Black and Minority Ethnic (BME) patients from Black Caribbean, Black African, Bangladeshi, Pakistani, Indian communities aged 40-74 excluding those identified in schedule a) to d).

The Health Check PLUS outreach programme included eligible population from the 13 general practices participating in this programme; most of the individuals were identified were from hypertension registers (approximately 88%) with the remaining from CVD risk registers. The outreach programme took place in May and June 2011 across five community-based venues in the borough of Greenwich (Charlton, Woolwich, Eltham, Greenwich and Plumstead). This evaluation report focuses on this outreach programme. All individuals identified by practices as eligible for Health Checks (using the schedule described above) were contacted by Enhanced Health Service Ltd. to be invited for a Health Check (see invitation phone script and letter in appendix). If contact was not possible despite three phone attempts a postal invitation was sent.

To evaluate client satisfaction in ethnic minority groups, clients were recruited from a community outreach Health Check PLUS initiative that took place in a temple and mosque in Greenwich – the Health Checks were the same as that which form the focus of this evaluation, apart from the difference in venue, and that Health Checks in ethnic minority groups included age groups of 35-40 years. Participants from Health Checks in the temple and mosque contacted through in-person questionnaires and focus groups discussions to assess levels of satisfaction in hard-to-reach groups.

Selection of participants and inclusion in this evaluation is illustrated in the figure below.
Figure 3: Description of NHS Health Check PLUS outreach programme included in evaluation

**General Practices in Greenwich**
Invited to participate in Community Outreach Programme

13 General Practices accepted

**Individuals identified for Health Check PLUS**
- Age 40-74 years, no previous CVD or related disease and –
  - Hypertensive patients
  - On CVD risk register

Telephone invitations for Health Check PLUS

**Health Check PLUS in 5 community-based venues:**
- St Mary’s; Charlton FC
- GCRE; Barnfield Forum

**Client satisfaction among ethnic minority groups**

**Evaluate Structure:**
Venue
Facilities
Services at venue

**Evaluate Outcomes:**
Response to service
High-risk identified
Equity of service

**Evaluate Process:**
Patient satisfaction
Health Care Assistants’ satisfaction

Evaluation of Health Check PLUS Community Outreach Programme
The evaluation to assess the different structure, process and outcomes elements was carried out using a combination of methods including:

- Quantitative
- Qualitative
- Social marketing approach

5.2 Quantitative methods:

Demographic data on individuals eligible for Health Checks was collated from general practice records. Data on response and reasons for non-response were gathered when telephone appointments were attempted. Postcode and the corresponding lower super output area data were used to obtain information on local index for multiple deprivation (IMD). IMD is an area-level measure of socioeconomic deprivation which is available at lower super output level comprising on average 1,500 people. IMD is based on different characteristics or ‘domains’ of the area including income, employment, education, housing, crime and living environment. IMD scores are ranked into quintiles ranging from most deprived (quintile 1) to least deprived (quintile 5). IMD 2010 data were used in this report.

Risk assessments for the Health Check were carried out by clinicians (health care assistants, nurses, pharmacists and health trainers) using a paper-based questionnaire, supplemented with on-site testing of blood pressure, cholesterol, height, weight and if indicated HbA1c to check diabetes risk. Outcomes included all the components of the Health Check including demographic data such as age, gender, ethnicity and postcode. A patient satisfaction questionnaire was included at the end of the check to collect information on the patients’ views on the delivery of the programme. A questionnaire was used to gather information from health care assistants on issues related to delivering the programme such as venue, timing of appointments, facilities and support (structural elements).
5.3 Qualitative methods:

The questionnaire to clinicians delivering the Health Checks included qualitative elements such as their views on overall organisation of the programme and issues related to patient satisfaction. Open-ended questions were used in the patient satisfaction questionnaire to gather views from participants on their experience of the Health Checks and ways of improving the service.

5.4 Social marketing approach:

A social marketing approach was used to gather views and opinions from clients. This was carried out by social marketing professionals, who identified people from different client groups – attendees, non-attendees, and hard to reach groups (ethnic minority groups). In-depth telephone interviews and focus groups were used to engage with client and gather information on barriers and factors related to attendance, and attitudes, beliefs or level of interest in participating in Health Check programmes. The ‘health belief model’ was used to understand perceived beliefs, barriers and attitudes of attendees and non-attendees, so as to inform ways of improving response to the programme in the future.

5.5 Data analyses:

Data from different sources including Health Check questionnaires, IMD data, patient satisfaction questionnaires, and questionnaires to health care assistants were collated and used for analysis.
Findings – response and non-response to NHS Health Check PLUS

As described earlier, thirteen general practices accepted the offer of participating in the outreach programme of NHS Health Checks PLUS. These practices identified 2,908 individuals aged 40-74 years to be eligible for Health Check. Of this initial group, 234 (8%) were incorrectly identified as being eligible for a Health Check because they had already had a Health Check, or were deceased (n=1). Therefore, 2,673 individuals were eligible to be contacted for a Health Check appointment. 8 individuals cancelled their appointment. A detailed description of this initial sample is described in the table below. There was no contact phone number for 12% of people and incorrect numbers for 6%. The remaining people on the list were contacted by telephone to make an appointment. For a quarter of the group it was not possible to make contact despite three attempts, and a small proportion had moved. This led to 44% individuals who were not contactable – further analysis showed that these individuals were from more deprived parts of Greenwich.

Table 1 Summary of response to initial list of people identified for NHS Health Check PLUS outreach programme

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointment made</td>
<td>642 (22%)</td>
</tr>
<tr>
<td>Refused</td>
<td>758 (26%)</td>
</tr>
<tr>
<td>Unable to contact despite 3 attempts</td>
<td>727 (25%)</td>
</tr>
<tr>
<td>Moved</td>
<td>19 (0.7%)</td>
</tr>
<tr>
<td>Wrong number</td>
<td>162 (6%)</td>
</tr>
<tr>
<td>No phone number</td>
<td>351 (12%)</td>
</tr>
<tr>
<td>Appointment not possible</td>
<td>6 (0.2%)</td>
</tr>
<tr>
<td>Not eligible for Health Check PLUS (already had a Health Check)</td>
<td>234 (8%)</td>
</tr>
<tr>
<td>Cancelled appointment</td>
<td>8 (0.3%)</td>
</tr>
<tr>
<td>Deceased</td>
<td>1 (0.03%)</td>
</tr>
<tr>
<td>Total</td>
<td>2908 (100%)</td>
</tr>
</tbody>
</table>
Of those eligible for a Health Check (2,673) appointments were successfully made for 24% of those on the initial list, while 28% declined the invitation. The main reason for a refusal was a lack of interest in participation (33%), followed by a preference for a Health Check at their general practice (27%) (See table 2). For some patients (13%) the clinic time or location was not convenient, while existing medical problems was another important reason for refusals (19%). Language difficulties was a problem in a small proportion of individuals (<2%).

**Table 2: Reasons for declining invitation to attend NHS Health Check PLUS**

<table>
<thead>
<tr>
<th>Refused invitation for appointment</th>
<th>Total = 758 (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not interested</td>
<td>248 (33%)</td>
</tr>
<tr>
<td>Prefer appointment at general practice</td>
<td>208 (27%)</td>
</tr>
<tr>
<td>Medical reason or housebound</td>
<td>147 (19%)</td>
</tr>
<tr>
<td>Clinic time, date or location inconvenient</td>
<td>102 (13%)</td>
</tr>
<tr>
<td>Reason not given/ other (unwilling to disclose ID or speak)/ prefer contact by PCT</td>
<td>41 (5%)</td>
</tr>
<tr>
<td>Language difficulties</td>
<td>12 (1.6%)</td>
</tr>
</tbody>
</table>

**6.1 Demographic characteristics of responders and non-responders to the Health Checks**

We also compared demographic characteristics of responders and non-responders to assess factors associated with response to the programme and to identify any inequity in uptake of the programme. Tables 3 and 4 below present the distribution by age, gender and socioeconomic deprivation of individuals who made an appointment for a Health Check and those who refused. There appeared to be a slightly higher proportion of individuals aged over 60 years amongst those who refused an appointment compared to those who made an appointment.
Table 3: Age and gender distribution of responders and non-responders to appointments for NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Appointments made</th>
<th>Refused appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total=642 (100%)</td>
<td>Total=758 (100%)</td>
</tr>
<tr>
<td>40-44</td>
<td>59 (9%)</td>
<td>65 (9%)</td>
</tr>
<tr>
<td>45-49</td>
<td>101 (16%)</td>
<td>91 (12%)</td>
</tr>
<tr>
<td>50-54</td>
<td>116 (18%)</td>
<td>106 (14%)</td>
</tr>
<tr>
<td>55-59</td>
<td>103 (16%)</td>
<td>130 (17%)</td>
</tr>
<tr>
<td>60-64</td>
<td>101 (16%)</td>
<td>141 (19%)</td>
</tr>
<tr>
<td>65-69</td>
<td>85 (13%)</td>
<td>121 (16%)</td>
</tr>
<tr>
<td>70-74</td>
<td>76 (12%)</td>
<td>103 (14%)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>299 (47%)</td>
<td>333 (44%)</td>
</tr>
<tr>
<td>Female</td>
<td>343 (53%)</td>
<td>425 (56%)</td>
</tr>
</tbody>
</table>

Table 4: Socioeconomic deprivation (IMD quintiles) of responders and non-responders to appointments for NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>IMD Deprivation quintiles</th>
<th>Appointments made</th>
<th>Refused appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (most deprived)</td>
<td>125 (23%)</td>
<td>121 (20%)</td>
</tr>
<tr>
<td>2</td>
<td>95 (17%)</td>
<td>103 (17%)</td>
</tr>
<tr>
<td>3</td>
<td>192 (35%)</td>
<td>192 (32%)</td>
</tr>
<tr>
<td>4</td>
<td>73 (13%)</td>
<td>100 (16%)</td>
</tr>
<tr>
<td>5 (least deprived)</td>
<td>70 (13%)</td>
<td>93 (15%)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The proportions of individuals who made an appointment and those who refused according to quintiles of IMD score (a measure of socioeconomic deprivation with quintile 1 being the most deprived and quintile 5 the least deprived) are presented in table 4. There were more individuals from more deprived areas and fewer from less deprived areas amongst both responders and non-responders – there was a similar distribution across IMD quintiles in both groups.
6.2 Socioeconomic profile of participating general practices

The socioeconomic distribution of individuals who attended the Health Checks reflects the deprivation profile of the general practices that participated in the Health Check programme and from where the individuals were identified for the Checks. Nearly a 1/3rd of the practices were from the most deprived parts of Greenwich (38% in IMD quintile 1 and 31% in quintile 2); only two practices were from IMD quintile 3 areas and one from IMD quintile 4 area. There were no practices from the least deprived areas (IMD quintile 5) of Greenwich.

- A total of 2,673 people (40-74 years) were identified by general practices to be eligible for a NHS Health Check PLUS
- Of these, 44% were not contactable due to no phone number (12%), wrong number (6%), or inability to contact despite 3 attempts (25%), or they had moved (0.7%)
- Those not contactable were from more deprived parts of Greenwich
- Of the individuals eligible for a Health Check 24% made an appointment for the Health Check
- 28% declined the invitation – the main reasons were lack of interest and preference to see their GP
- There tended to be more non-responders aged over 60 years compared to those who made an appointment
- There were more individuals from more deprived areas (responders and non-responders); general practices participating were mostly from more deprived areas of Greenwich
7 Effectiveness of risk identification through NHS Health Check PLUS

The Health Check PLUS programme was established to identify people at high risk of cardiovascular disease and other chronic diseases including diabetes, alcohol dependency, as well as risk of falls and depression. A total of 620 patients attended the community-based NHS Health Check PLUS programme out of the 642 who made an appointment, which was a very high response rate (97%). Outcomes from the Health Checks carried out are presented in this section.

7.1 Demographic characteristics

Information on age, gender, ethnicity and socioeconomic deprivation of those who attended the community-based NHS Health Check PLUS was used to evaluate accessibility, acceptability and equity in the delivery of the programme.

Age and gender distribution of patients who attended the Health Check is given in the table below. There was a slightly greater number of patients aged 50 to 64 years compared to other age groups. A slightly higher proportion of women (52%) compared to men (48%) attended the Health Check.

Table 5: Age and gender distribution of patients who attended the NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N (Total=100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-44</td>
<td>67 (11%)</td>
</tr>
<tr>
<td>45-49</td>
<td>92 (15%)</td>
</tr>
<tr>
<td>50-54</td>
<td>109 (18%)</td>
</tr>
<tr>
<td>55-59</td>
<td>103 (17%)</td>
</tr>
<tr>
<td>60-64</td>
<td>100 (16%)</td>
</tr>
<tr>
<td>65-69</td>
<td>77 (13%)</td>
</tr>
<tr>
<td>70-74</td>
<td>67 (11%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
There was a greater proportion of those attending the Health Check from more deprived areas compared with less deprived areas (see table below); this reflects the distribution of individuals who were initially contacted for a Health Check appointment.

Table 6: Distribution of socioeconomic deprivation in individuals who attended the NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>IMD Deprivation quintiles</th>
<th>Population screened for Health Check PLUS (N=620) Total =100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (most deprived)</td>
<td>107 (22%)</td>
</tr>
<tr>
<td>2</td>
<td>88 (18%)</td>
</tr>
<tr>
<td>3</td>
<td>173 (36%)</td>
</tr>
<tr>
<td>4</td>
<td>61 (13%)</td>
</tr>
<tr>
<td>5 (least deprived)</td>
<td>59 (12%)</td>
</tr>
</tbody>
</table>

There was a significantly greater proportion of people of white British or Caucasian ethnicity (59%) compared to minority ethnic groups – 16% Asian and 24% Black African (see table below). Compared to the Greenwich population there was a higher proportion of Black African and Asian populations who attended the Health Checks and a lower proportion of British or Caucasian groups – this reflects the fact that those invited for Health Checks were identified from ‘hypertension or CVD risk registers’ in general practices (as described in section 5.1) and illustrates the expected higher proportions of hypertensive individuals in Black and Asian populations.

Table 7: Ethnic distribution of patients who attended the NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>N (%) Total = 559 (100%)</th>
<th>Greenwich population 40-74 years Total = 86,020 (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>327 (59%)</td>
<td>62,374 (73%)</td>
</tr>
<tr>
<td>Asian or Asian British</td>
<td>91 (16%)</td>
<td>13,500 (10%)</td>
</tr>
<tr>
<td>Black Caribbean/ African</td>
<td>132 (24%)</td>
<td>8,483 (16%)</td>
</tr>
<tr>
<td>Other</td>
<td>9 (2%)</td>
<td>8,256 (10%)</td>
</tr>
</tbody>
</table>
7.2 **High risk population identified through NHS Health Check PLUS**

Of the 620 patients who attended the Health Check, complete information on variables for cardiovascular risk score (JBS score) was collected in 588 patients; of these 147 (25%) were identified as being at high-risk of cardiovascular disease with a JBS risk score of ≥20%. Previous modelling estimates for the Health Check programme expected to find 13% of individuals at high-risk of CVD. The higher risk identification of 25% compared to the expected 13% could be because the individuals attending the Health Check were identified from ‘hypertensive and CVD risk registers’ in general practices and therefore have higher CVD risk than the population in general.

Detailed results of the risk of chronic diseases detected through the NHS Health Checks are presented in table 8 below. Based on HbA1c levels, 20% were identified at high risk of diabetes and 6% at very high risk of diabetes. 22% had hypertension using a cut-off of 140/90mmHg for blood pressure (systolic/diastolic) – given that most participants were from hypertensive registers, 22% could indicate the extent of poorly managed hypertension in primary care. 11% had high total:HDL cholesterol levels (>6 mmol).
A substantial proportion of participants were found to be overweight (38%) and nearly half were obese (47%) based on BMI measurements ≥30 kg/m². Similarly, 58% were found to have high waist circumference. 16% were current smokers; over half of all smokers had low levels of FEV₁ (predicted FEV₁ was ≤80%). 25% of participants had a family history of cardiovascular disease. 5% of participants had a combined risk of high-risk of CVD, pre-diabetes and were overweight/obese.

Table 8: High-risk identified through community-based NHS Health Check PLUS community outreach programme

<table>
<thead>
<tr>
<th>Condition</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-risk CVD (≥20%)</td>
<td>147 (25%)</td>
</tr>
<tr>
<td>Pre-diabetes</td>
<td></td>
</tr>
<tr>
<td>Very high risk of diabetes (HbA1c ≥6.5%)</td>
<td>28 (6%)</td>
</tr>
<tr>
<td>High risk of diabetes (HbA1c ≥6% to &lt;6.5%)</td>
<td>94 (20%)</td>
</tr>
<tr>
<td>Low or moderate risk of diabetes (&lt;6%)</td>
<td>338 (73%)</td>
</tr>
<tr>
<td>Hypertension (blood pressure &gt;140/90)</td>
<td>133 (22%)</td>
</tr>
<tr>
<td>High total cholesterol (≥7.5 mmol)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>Total-C/HDL ratio (&gt;6)</td>
<td>68 (11%)</td>
</tr>
<tr>
<td><strong>BMI (kg/m²)</strong></td>
<td></td>
</tr>
<tr>
<td>Underweight (&lt;18.5)</td>
<td>5 (1%)</td>
</tr>
<tr>
<td>Normal (18.5-24.9)</td>
<td>86 (14%)</td>
</tr>
<tr>
<td>Overweight (25-29.9)</td>
<td>232 (38%)</td>
</tr>
<tr>
<td>Obese I (30-34.9)</td>
<td>176 (28%)</td>
</tr>
<tr>
<td>Obese II (35-39.9)</td>
<td>80 (13%)</td>
</tr>
<tr>
<td>Obese III (≥40)</td>
<td>39 (6%)</td>
</tr>
<tr>
<td>Waist circumference</td>
<td></td>
</tr>
<tr>
<td>Low (&lt;94 in men; &lt;80 in women)</td>
<td>110 (19%)</td>
</tr>
<tr>
<td>Medium (94-102 in men; 80-88 in women)</td>
<td>133 (23%)</td>
</tr>
<tr>
<td>High (&gt;102 in men; &gt;88 in women)</td>
<td>339 (58%)</td>
</tr>
<tr>
<td>Current smoker</td>
<td>100 (16%)</td>
</tr>
<tr>
<td>Predicted FEV₁ ≤80%</td>
<td>49 (53%)</td>
</tr>
<tr>
<td>Family history of CHD in first degree relative &lt;60 years</td>
<td>142 (25%)</td>
</tr>
<tr>
<td><strong>Maximum total</strong></td>
<td>620 (100%)</td>
</tr>
</tbody>
</table>

Table 9 presents results of high-risk individuals identified according to socioeconomic deprivation or IMD quintiles. There was a similar proportion of individuals across the IMD quintiles identified at high CVD risk and risk of pre-diabetes. A slightly higher number of
individuals with obesity or high waist circumference were identified in more deprived quintiles. More individuals from deprived quintiles had lower FEV$_1$ compared to less deprived areas.

Table 9: Proportion of individuals at high-risk of cardiovascular disease and related risk factors according to socioeconomic deprivation

<table>
<thead>
<tr>
<th></th>
<th>Deprivation N (%)</th>
<th>1 (most deprived)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (least deprived)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=104</td>
<td>n=86</td>
<td>n=169</td>
<td>n=57</td>
<td>n=55</td>
<td></td>
</tr>
<tr>
<td>High-risk CVD (≥20%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very high risk of diabetes (HbA1c ≥6.5%)</td>
<td>18 (23%)</td>
<td>2 (6%)</td>
<td>10 (6%)</td>
<td>1 (3%)</td>
<td>2 (5%)</td>
<td></td>
</tr>
<tr>
<td>High risk of diabetes (HbA1c ≥6.5% to &lt;6.5%)</td>
<td>18 (21%)</td>
<td>10 (15%)</td>
<td>31 (24%)</td>
<td>9 (23%)</td>
<td>3 (8%)</td>
<td></td>
</tr>
<tr>
<td>Low or moderate risk of diabetes (&lt;6%)</td>
<td>60 (71%)</td>
<td>52 (79%)</td>
<td>90 (69%)</td>
<td>30 (75%)</td>
<td>34 (87%)</td>
<td></td>
</tr>
<tr>
<td>Hypertension (BP&gt;140/90)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undiagnosed hypertension (no history of hypertension &amp; BP &gt;140/90)</td>
<td>6 (6%)</td>
<td>6 (7%)</td>
<td>9 (5%)</td>
<td>4 (7%)</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td>High total cholesterol (≥7.5 mmol)</td>
<td>0 (1%)</td>
<td>1 (1%)</td>
<td>2 (1%)</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>High total-C/HDL ratio (&gt;6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal (18.5-24.9)</td>
<td>16 (15%)</td>
<td>15 (17%)</td>
<td>21 (12%)</td>
<td>7 (12%)</td>
<td>12 (20%)</td>
<td></td>
</tr>
<tr>
<td>Overweight (25-29.9)</td>
<td>34 (32%)</td>
<td>25 (28%)</td>
<td>75 (44%)</td>
<td>28 (47%)</td>
<td>21 (36%)</td>
<td></td>
</tr>
<tr>
<td>Obese (≥30)</td>
<td>57 (53%)</td>
<td>48 (55%)</td>
<td>76 (44%)</td>
<td>25 (42%)</td>
<td>26 (44%)</td>
<td></td>
</tr>
<tr>
<td>Waist circumference (cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;94 in men; &lt;80 in women)</td>
<td>18 (18%)</td>
<td>15 (18%)</td>
<td>31 (19%)</td>
<td>10 (19%)</td>
<td>10 (18%)</td>
<td></td>
</tr>
<tr>
<td>Medium (94102 in men; 80-88 in women)</td>
<td>21 (21%)</td>
<td>16 (19%)</td>
<td>42 (26%)</td>
<td>15 (28%)</td>
<td>14 (25%)</td>
<td></td>
</tr>
<tr>
<td>High (&gt;102 in men; &gt;88 in women)</td>
<td>63 (62%)</td>
<td>54 (64%)</td>
<td>91 (55%)</td>
<td>29 (54%)</td>
<td>32 (57%)</td>
<td></td>
</tr>
<tr>
<td>Current smoker</td>
<td>18 (17%)</td>
<td>14 (16%)</td>
<td>33 (19%)</td>
<td>10 (16%)</td>
<td>6 (7%)</td>
<td></td>
</tr>
<tr>
<td>Predicted FEV$_1$ ≤80%</td>
<td>11 (61%)</td>
<td>3 (27%)</td>
<td>20 (61%)</td>
<td>4 (86%)</td>
<td>1 (17%)</td>
<td></td>
</tr>
<tr>
<td>Family history of CHD in first degree relative &lt;60 years</td>
<td>21 (22%)</td>
<td>20 (24%)</td>
<td>43 (28%)</td>
<td>17 (30%)</td>
<td>9 (16%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Identification of high-risk of chronic diseases was also assessed according to ethnic groups (see table below). A higher proportion of individuals from black and minority ethnic groups were identified at high risk of CVD compared to White or Caucasian groups (40% in Asians and 13% in those of Black African). Similarly, higher proportions of people of Asian
and Black ethnicity were found to be at high-risk of prediabetes. More individuals in White (20%) and Black (29%) ethnic groups were to have high blood pressure compared to those of Asian ethnic groups (16%) – this may reflect better management of hypertension in Asian ethnic groups. Levels of obesity and high waist circumference were greater in Black and White ethnic groups and lowest levels in Asians. Black ethnic groups had the lowest levels of low predicted FEV\textsubscript{1} followed by Asians and White British groups.

**Table 10: Proportion of individuals at high-risk of cardiovascular disease and related risk factors according to ethnic groups**

<table>
<thead>
<tr>
<th></th>
<th>White (n=327)</th>
<th>Asian or Asian British (n=91)</th>
<th>Black (n=132)</th>
<th>Other (n=9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High-risk CVD (≥20%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very high risk of diabetes (HbA1c ≥6.5%)</td>
<td>9 (2.8%)</td>
<td>7 (11%)</td>
<td>9 (8%)</td>
<td>0</td>
</tr>
<tr>
<td>High risk of diabetes (HbA1c ≥6.5% to &lt;6.5%)</td>
<td>39 (17%)</td>
<td>19 (29%)</td>
<td>24 (22%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>Low or moderate risk of diabetes (&lt;6%)</td>
<td>183 (79%)</td>
<td>39 (60%)</td>
<td>77 (70%)</td>
<td>3 (60%)</td>
</tr>
<tr>
<td>Hypertension (BP&gt;140/90)</td>
<td>66 (20%)</td>
<td>15 (16%)</td>
<td>38 (29%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>High total cholesterol (≥7.5 mmol)</td>
<td>3 (1%)</td>
<td>1 (1%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High total-C/HDL ratio (&gt;6)</td>
<td>34 (12%)</td>
<td>17 (20%)</td>
<td>9 (7%)</td>
<td>1 (13%)</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal (18.5-24.9)</td>
<td>54 (17%)</td>
<td>19 (21%)</td>
<td>10 (8%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>Overweight (25-29.9)</td>
<td>124 (38%)</td>
<td>36 (40%)</td>
<td>49 (37%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>Obese (≥30)</td>
<td>148 (45%)</td>
<td>36 (40%)</td>
<td>73 (55%)</td>
<td>5 (56%)</td>
</tr>
<tr>
<td><strong>Waist circumference (cm)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (&lt;94 in men; &lt;80 in women)</td>
<td>62 (20%)</td>
<td>18 (21%)</td>
<td>16 (12%)</td>
<td>1 (11%)</td>
</tr>
<tr>
<td>Medium (94102 in men; 80-88 in women)</td>
<td>69 (22%)</td>
<td>20 (24%)</td>
<td>36 (28%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>High (&gt;102 in men; &gt;88 in women)</td>
<td>178 (58%)</td>
<td>47 (55%)</td>
<td>77 (60%)</td>
<td>6 (67%)</td>
</tr>
<tr>
<td><strong>Current smoker</strong></td>
<td>69 (21%)</td>
<td>9 (10%)</td>
<td>11 (8%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td>Predicted FEV\textsubscript{1} ≤80%</td>
<td>28 (47%)</td>
<td>5 (63%)</td>
<td>9 (75%)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Family history of CHD in first degree relative &lt;60 years</strong></td>
<td>81 (28%)</td>
<td>16 (19%)</td>
<td>26 (21%)</td>
<td>2 (22%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
The Health Check programme also identified individuals at risk of other conditions such as falls and depression (table 11). 4% of those aged over 65 years were found to have a high risk of falls. 22% were found to have a high risk of depression and were referred to their general practitioner for further assessments.

**Table 11: Individuals at risk of falls, depression and those who had undergone a screening programme**

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of falls* (&gt;65 years) (n=620)</td>
<td>26 (4%)</td>
</tr>
<tr>
<td>Risk of depression (n=567)</td>
<td>124 (22%)</td>
</tr>
</tbody>
</table>

*Falls risk assessment tool – risk of falls in case of any two of: take >4 medications per day; had a stroke or Parkinson’s disease; problem with balance; unable to get up from chair of knee height

Assessments were also made of alcohol consumption. 152 (25%) of individuals were found to have a risk of alcohol dependency with an audit-C score of ≥5.

At the end of the Health Check individuals were referred to different health improvement services and a brief discussion related to lifestyle factors was held. 76% of all smokers were given advice related to smoking cessation (table 12 below). Dietary advice was given to 85% of people and also to 84% of those at high-risk of CVD. A high proportion of individuals were also given advice on improving physical activity. Information on whether individuals had undergone cancer screening was not collected consistently and clearly at the Health Checks and therefore could be used for presentation of results.

**Table 12: Lifestyle advice and referrals at community-based NHS Health Check programme**

<table>
<thead>
<tr>
<th>Lifestyle advice given</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking cessation advice to smokers</td>
<td>76 (76%)</td>
</tr>
<tr>
<td>Dietary advice to all participants</td>
<td>528 (85%)</td>
</tr>
<tr>
<td>Among those with high CVD risk (≥20%)</td>
<td>124 (84%)</td>
</tr>
<tr>
<td>Physical activity advice to all participants</td>
<td>498 (80%)</td>
</tr>
<tr>
<td>Among those with high CVD risk (≥20%)</td>
<td>111 (76%)</td>
</tr>
<tr>
<td>Alcohol advice</td>
<td>97 (16%)</td>
</tr>
<tr>
<td>Referral for management of high risk among those with high CVD risk</td>
<td>121 (82%)</td>
</tr>
</tbody>
</table>
Referrals were also made to health improvement programmes and GPs for management of high risk of chronic diseases identified in the Health Check. 82% of clients with high CVD risk were referred for management of their high risk through health improvement interventions or with their GP. Preliminary results from three general practices showed that 80% of clients were followed-up for an appointment at their GP after a Health Check.

- 25% individuals were identified at high-risk of CVD and 20% at high risk of pre-diabetes
- A substantial proportion were found to be overweight (38%) and obese (47%)
- 22% of participants had hypertension indicative of poor control of high blood pressure
- Identification of high-risk of CVD and pre-diabetes was similar across socioeconomic deprivation groups
- A slightly higher proportion of individuals in more deprived areas were obese and had high waist circumference
- Ethnic minority groups had a greater risk of CVD and pre-diabetes
- Lifestyle advice and referrals for management of high risk were made to a substantial proportion of individuals as part of the Health Check
- Preliminary results from 3 general practices showed a high rate of follow-up (80%) after a Health Check

Data collection and quality

There were inconsistencies in capturing information on the initial list of eligible populations from general practices; the list included those who were not eligible for the Health Check. There were also issues related to inconsistencies in data collection by clinicians carrying out the Health Checks; this was particularly seen for collection of information of cancer screening which was not correctly recorded for the right age groups. A reinforcement of the protocol for the data collection is needed for these questions.
8 Delivery of NHS Health Check PLUS – evaluation of participants’ perceptions

An evaluation of the motivators, barriers and attitudes to attending the NHS Health Check PLUS programme was also carried out – this was to assess the ‘process’ arm of the delivery of Health Check programme so as to evaluate appropriateness and accessibility of the programme. As described earlier this was carried out among:

- Attendees at the Health Check (through patient satisfaction questionnaires, in-depth phone interview and focus group)
- Non-attendees (through in-depth phone interviews)
- Hard to reach populations which included black and minority ethnic groups (questionnaires and focus group)

8.1 Motivators to attend NHS Health Check PLUS

Findings from patient satisfaction questionnaires (n=540) revealed that most attendees were motivated to attend the Health Check because of concern about future health (29%), re-assurance about current health (23%), their age (18%), and because of the phone call or invitation letter (16%).

Figure 4: Motivators to attend NHS Health Check PLUS
In the qualitative study (in-depth phone interview in 15 participants), respondents were motivated to attend because of the phone call invitation, current health and reassurance and family history. Future health was not given as a response.

1) **Phone call invitation**

2) **Reassurance about current health**: “To make sure that I’m healthy and don’t have any issues. I haven’t been to a doctor in a long time for a health check. I usually go to the doctor for a specific problem.”

3) **Concern about current health**: “A couple of months before I went to the doctors and he said that something was wrong with me, so that is what prompted me to attend.”

4) **Age**: “At my age it is important to manage health.”

5) **Family history**: “I have a family history of hypertension – both my father and mother have high blood pressure.”

In the focus group discussions (n=4), respondents expressed that they were motivated to attend because it was “free” and because of the novelty factor – it was the first time they were invited and they wanted to see what the Health Check had to offer.

1) **Free**: The Health Check PLUS was offered as a free service.

2) **Novelty factor**: “Why did I attend the health check? Honestly, because it was the first time it was offered to me. I thought well, why not?” and “I attended because I was shocked to be invited – I didn’t expect it really.”

### 8.2 Factors related to the NHS Health Check PLUS affecting attendance

Information on aspects of the Health Checks which promoted or prevented attendance was collected through in-depth interviews of attendees and non-attendees (n=25).

1) **Clinic Location**: For most participants contacted through in-depth phone interviews, the clinic location was described as convenient and the preferred option.
• “The local community centre...was close to home.”
• “This was the best location, easy to get to and convenient”

When prompted about other preferred locations, respondents indicated an NHS Clinic (34%), a local pharmacist (31%) and their GP surgery (24%) and local community centre (10%; e.g. mosque or temple).

Figure 5: Other locations preferred by respondents for NHS Health Check PLUS

2) Clinic Timing: Respondents indicated that the timing was suitable to their needs.
• “At the docs you don’t get the appointment you want and have to wait 3 days.”
• “I could go before work, which was fantastic.”

• Afternoon was the best time of day for people to attend Health Checks as many are retired and like to sleep in late in the mornings. Evening was the least preferred time of day.
• Weekdays were preferred for most respondents; however weekends were more convenient for those who were employed.
3) **Telephone invitation:** Attendees and non-attendees preferred being contacted via telephone, as it was perceived to be the most “immediate and direct” means of contact; this was preferred to contact by post or by email.

4) **Satisfaction with the phone call invitation:** Most respondents were satisfied with the phone call explanation of the Health Check programme (92%). They described the service as “good, clear and trusted”. The few who were dissatisfied said that the programme was not adequately explained, or that they were not given enough time to schedule their appointment. There also was some initial hesitation until the reason for the phone call was made clear; once they were told that it was a ‘free’ Health Check, they realised that they were not being ‘asked for money.’

- “They didn’t explain what it was for. They just said that it was a Health Check and that it was free.”
- “My husband got the call on Friday evening which was not enough notice. It would be nice to get at least 72 hours notice. The only option they gave us was for the next day.”

8.3 **Barriers that Prevented Attendance at NHS Health Check PLUS**

In-depth phone interviews of non-attendees (n=10) indicated that most respondents were prevented from attending because of:

1) **Conflicting priorities:** The most frequently cited reason for not attending the Health Check was due to conflicting priorities in people’s daily schedules, such as juggling work, caring for others and other priorities.

2) **Difficulty finding the location:** Some people did not attend because they had difficulty finding the venue. One person received a phone call, but did not receive a follow-up letter indicating the appointment location and time.

- “I received a phone call and they said they would send a letter. I never received a letter and I didn’t have anyone to call. I should’ve taken the number down. I missed the appointment and wasn't able to schedule another appointment.”
3) **Illness/health condition:** Another reason was due to a sudden illness, an operation, or a current health condition (e.g., diabetes).

- Most participants were motivated to attend the Health Check because of concern about future health and reassurance about current health
- Some also attended because it was free and a new programme
- Clinic locations were described as convenient and their preferred option
- Phone invitations: there is a need for more clarity in the explanation of the Health Check, and more notice to arrange an appointment
- Barriers preventing attendance were conflicting priorities, difficulty finding the location and administrative problems in not receiving postal follow-up confirmation letter

### 8.4 Satisfaction and perceptions of NHS Health Check PLUS

Participants who attended the Health Checks were asked about their satisfaction with the Health Check and their perceptions about the programme through patient satisfaction questionnaires (n=540), focus group discussion (n=4) and in-depth phone interviews (n=15).

**8.4.1 Overall Satisfaction with the Consultation**

Attendees were highly satisfied overall with their consultation (97% ‘satisfied’ or ‘very Satisfied’); see figure below. Most attendees indicated that were ‘likely’ or ‘very likely’ to return (90%) if invited back to a Health Check in the future.
8.4.2 Factors Related to Attendees’ Satisfaction with NHS Health Check PLUS

More attendees referred to clinic staff for their reason for their overall satisfaction with the service. Other reasons included clinic location and timing (see figure below).

Figure 7: Factors related to overall satisfaction with NHS Health Check PLUS
8.4.3 What Attendees Liked Most About the Programme

In-depth interviews and focus group discussions were used to gather information on what attendees’ liked most about the programme. Most attendees found the clinic staff to be helpful. They also liked the thoroughness and immediate results of the Health Checks, and the information and advice received, which lead to an increased knowledge and awareness of their current health status and ways to improve their health.

1) Clinic Staff: The most frequently cited answer was clinic staff, who were described as “friendly, helpful and very professional”. The staff were also important in the success of respondents understanding the information provided at their Health Check appointment as they “explained everything well – in simple language that was easy to understand.” Some other positive descriptors that respondents used were:

- “Clinical staff answered all my questions and showed concern.”
- “The nurse was easy to talk to and explained each test clearly.”

2) Health Checks:

Attendees were also pleased with the Health Checks and receiving results immediately – they liked the thoroughness of tests covering a range of conditions. They particularly
liked having their cholesterol, diabetes and blood pressure checked. There were a couple of complaints on the blood pressure machine not working properly.

- “I was happy with all the health checks, particularly the full explanation of results…”
- “I liked the instant results on sugar levels and cholesterol – I didn’t have to call and pick up results.”

3) Information:
The attendees were pleased with the “clear, helpful and useful” information about their overall health, cholesterol and blood pressure.

4) Advice
Attendees liked the one-to-one consultation and advice on improving their health, such as weight, diet and cholesterol, which was “very simple and clear.” Although some felt that the advice was general and not tailored enough.

- “I liked the advice given concerning diet and improvement to my general health”

5) Increased knowledge and awareness
Attendees felt that they gained knowledge and awareness about their health status and how to improve their health from the Health Checks’ consultation.

- “I learned about my health status and they made you care about it”
- “General awareness of how to improve lifestyle”
- “I found it helpful to know what precautions to take to keep my health in check”
- “I learned that my health status is not all that bad”
6) **Length of appointment**

They found the length of their appointment for the Health Check to be appropriate. Some preferred having the Health Check at the outreach clinic to going to a GP surgery.

- “At least you weren’t rushed. She was very good – she went through everything and explained it. If I didn’t understand anything, she explained it…. It’s not like the GPs today where you come in and they rush you out the door.”
- “People my age don’t like bothering the doctor. It is good to know 100% how you are and put your mind at rest.”
- “Sometimes it takes a long time to get an appointment with a GP. This is more of an informal discussion that is not restricted to 10 minutes with a doctor. Sometimes you forget things when you go to the doctor because they are so under pressure that it puts you under pressure too.”
- “It is a very important programme by the NHS for the wider community in the older segment of the community.”

<table>
<thead>
<tr>
<th>Overall satisfaction with the Health Checks was very high (97%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Factors related to overall satisfaction were:</td>
</tr>
<tr>
<td>o Clinic staff</td>
</tr>
<tr>
<td>o Thorough and vast range of tests</td>
</tr>
<tr>
<td>o Receiving results immediately</td>
</tr>
<tr>
<td>o Increasing knowledge about improving health</td>
</tr>
</tbody>
</table>

**8.4.4 What Could Be Improved about the Health Check PLUS**

Attendees of the Health Checks were asked about ways in which the programme could be improved through patient satisfaction questionnaires (n=540), focus group discussion (n=4) and in-depth phone interview (n=15).
The majority of attendees did not indicate anything particular for improvement; they were pleased with the service, and wanted more Health Checks on a regular basis offered to the wider population. However, there were some concerns expressed regarding the delivery of the programme, such as:

1) Location / setting:

Although most participants found the clinic locations to be suitable, one venue was difficult to find (e.g. Charlton Football Club) and needed better sign-posting. A need for better maps in the invitation letter and signage at the venue was expressed. There were some issues related to lack of adequate privacy (which needed a bigger assessment room) and inadequate accessibility for disabled persons at one venue (St. Marys).

- “I spent 15 minutes driving around trying to find the valley (Charlton). I received poor advice on how to access the Valley...”
- “The location could’ve been improved in my opinion. The Charlton Football ground should’ve also known about the Health Check....”
- “I think the measurements should be carried out in a separate room... It was a bit embarrassing if you are sensitive about your weight.”
- “It was a terrible location – there were no ramps for wheelchairs” and “St. Mary’s has too many steps”

2) Staff:

For the most part, attendees were highly satisfied with the staff; however, there were some inconsistencies in service provided. Some attendees felt that the experience was impersonal and patronising and the staff did not probe occupation, prior understanding and what they are currently doing. The professional conduct of two staff members was found to be poor during clinic sessions.

- “Felt very impersonal – no reference to occupation, prior understanding and what I’m already doing. Surprised that nurse had no knowledge of two very common medications – just presumed I’m doing nothing.”
• “Health professional seemed to have fixed ideas and didn’t always seem to be listening. Why not ask extent of smoking as you do with alcohol? E.g., 5 cigarettes a day or 30?”

• “Didn’t enjoy the experience, the nurse had been smoking and I found her patronising.”

• “The nurse was chewing while interviewing and had been smoking. Didn’t like being chivvied up to do form before the appointment. I was treated like an idiot.”

• “I don’t think they were having a slow day, but there were three or four doctors and I was the only person there. They were chatting amongst themselves and they were like – let me help you and I felt so overwhelmed. I really didn’t get what it was all about until I went and read my little card later.”

3) **Follow-up / sign-posting:**

Some found a lack of sufficient information on follow-up and sign-posting to other NHS services after the Health Check.

• “[The nurse] was supposed to phone me to give me some specific advice on how I can put on some weight, but he has not called. You can buy the ‘Weight On’ and you can try this and that from the chemist, but it is all a load of rubbish because it doesn’t work.”

• “She never said go and see your doctor. She ran out of some leaflets and she circled them and said go on the Internet.”

• “I am awaiting referral to doctor regarding stress.”

Some of these issues could be due to inadequate communication of the referral pathway and follow-up with clients. More training of staff is needed to address this issue.

4) **Equipment:**

Some participants indicated that the equipment was not working properly.
• “It would be good to have a look at the equipment to ensure that it is of high standard. Both of our BP was incorrect and it is necessary to get the right equipment. If the equipment is bad, it defeats the whole purpose of the health check.”

• “You know that diabetes machine – it wouldn’t work for me. The machine was knackered.”

There were issues with use of equipment at one clinic session that arose due to errors in use of equipment on the day. This was resolved by provision of spare equipment.

• What attendees say can be improved about NHS Health Checks in Greenwich:
  o Improved clinic location – one venue was difficult to find and another did not have adequate privacy for Health Checks
  o Slightly more personal interaction of staff with participants
  o Improved professional conduct of 2 staff members
  o Better sign-posting for follow-up after Health Check
  o Improvement in working of equipment
8.5 Perceptions from minority ethnic groups on community-based NHS Health Check PLUS programmes

Experiences of the NHS Health Check PLUS community outreach programmes were evaluated separately in black and minority ethnic groups. The participants were recruited from outreach Health Check PLUS programmes that took place in a temple and a mosque in Greenwich. In-depth questionnaires (n=72) and focus groups discussions (separately in men and women; n=14) were conducted in individuals of ethnic minority groups. A profile of these participants is given in table 13 below. Most of the individuals in this evaluation group were of South Asian (76%) or Black African/ Caribbean ethnicity (11%).

Table 13: Demographic profile of participants from NHS Health Check PLUS outreach programme for ethnic minority groups in Greenwich

<table>
<thead>
<tr>
<th>Sex</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41 (58%)</td>
<td>30 (42%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-39</td>
<td>7 (10%)</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>31 (43%)</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>18 (25%)</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>14 (19%)</td>
<td></td>
</tr>
<tr>
<td>70-74</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Other</td>
<td>3 (4%)</td>
<td></td>
</tr>
<tr>
<td>Indian</td>
<td>48 (67%)</td>
<td></td>
</tr>
<tr>
<td>Pakistani</td>
<td>4 (6%)</td>
<td></td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Black Caribbean</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td>Black African</td>
<td>5 (7%)</td>
<td></td>
</tr>
<tr>
<td>Black British</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>7 (10%)</td>
<td></td>
</tr>
</tbody>
</table>

As with other respondents information on perceptions of barriers, attitudes to Health Checks, and perceived benefits was collected to help inform ways of improving response to the programme from hard to reach groups (‘health belief model’). This group included attendees and non-attendees of community outreach programmes at a local temple and mosque in Greenwich.
Overall, the Health Checks were an extremely positive experience for attendees at a local temple and mosque. The high demand for Health Checks resulted in members of the temple proactively contacting NHS Greenwich to repeat the service. They are also keen to have other health checks, such as breast checks for women – more awareness of existing breast screening programmes for women in Greenwich needs to be raised among ethnic minority groups.

8.5.1 Motivators for Attending the Health Check PLUS

Most of those invited to the Health Check attended their appointment (80%). Similar to results presented earlier, individuals in ethnic minority groups also were motivated to attend the Health Check because of a concern about future health (24%), re-assurance about current health (21%). However, another important factor in ethnic minority groups was encouragement from family or friends (21%).

8.5.2 Factors Related to the Health Check PLUS that Affected Attendance

1) Local Ambassadors who connect the community to the NHS: Having trusted community ambassadors to liaison between the NHS and the community was important. Many people at the Temple did not speak or read English. The ambassadors explained what the health checks were going to be about and encouraged people to attend.
   • “Without them not that many people would have attended.”

2) Timing around community and spiritual events (e.g., Saturday Classes, Friday prayer): Saturday was the best day for the Temple because most people were not working and they come to the Temple for classes and prayer on that day.

3) Contacted at their local community centre - Most respondents preferred being contacted at their local temple or mosque or via telephone. They were less interested in being communicated with flyers/posters or by e-mail.
Important factors amongst non-attendees were:

1) More information in their language – More than a quarter of non-attendees would have been encouraged to attend if they had more information and if they had information in their language (27%).

2) Recommendation from Community leader (e.g., Priest / Imam) – More than a quarter of non-attendees would have been encouraged to attend if they had a recommendation from a community leader, such as a priest or Imam (27%).

Attendees and non-attendees indicated that having the Health Check at their local community centre (e.g., Mosque, Temple), contacting them through a trusted local ambassador or their community leader (e.g., Imam), information in their language, and having the Checks around their religious and community events encouraged or would encourage them to attend the clinic. Some of these steps were already in place such as advertising Health Checks through local ‘ambassadors’ such as religious leaders in the mosque.

8.5.3 Barriers that Prevented from Attending the Health Check PLUS Appointment

The main barriers for non-attendance were:

1) Time constraints - time constraints prevented some people (67%) from attending, such as work conflicts or travelling abroad.

2) Lack of knowledge – The two women in the focus group who did not attend, were not fully aware of what was involved in the Health Checks.

8.5.4 Satisfaction and perceptions of NHS Health Check PLUS among ethnic minority groups

Overall Satisfaction with the Consultation

Most attendees were highly satisfied with their consultation (95% either ‘Satisfied’ or ‘Very Satisfied’). Respondents were especially satisfied with the clinic location, which was the main contributing factor (97%).
What Attendees Liked Most About the Service

Similar to earlier results they were pleased to receive results immediately. Other factors specific to ethnic minority groups were:

1) **Advice from staff / dietician:** some participants found it helpful to have a Gujarati dietician who was able to give advice on their cultural diet.
   - “The dieticians advice was excellent. She advised me on exercise.”
   - “The dietician was Gujarati, which means her diet was similar to ours and she was able to give specific dietary advice – I think that was appreciated.”

2) **Location / setting:** Having the Health Checks at the Mosque or Temple, the hubs of the community, was found to be very convenient for participants, with easy access to translators. Adequate privacy was available which was appreciated by women participants.
   - “This is the best place for our community. It is walking distance for most people.”
   - “It was private with screens...this was perfect. We had female nurses and this was fine....”

3) **Recruitment:** Using the local community ambassadors (e.g., PR ladies) to recruit the community was perceived to be important.
   - “We knew exactly what we were getting....We put leaflets and posters out to other people who live in the area. It is for everybody....”

4) **Wake-up call:** The Health Check was seen as a ‘wake-up call’ to change behaviour by some participants; particularly, BMI measurements were an “eye-opener” for a lot of people and it gave them a tangible goal to work towards.
   - “Yes it woke me up...It has changed me. I have increased my exercise. Because I found out that I have a high cholesterol and a high BMI, found out that I needed to do more exercise.”
   - “It did wake me up, I got good advice about what to do.”
What could be Improved about the Service?
Like earlier results, most respondents from ethnic minority groups also said that they would like more Health Checks; other specific comments from this group were as follows:

1) **Time:** some respondents suggested an earlier start time for the Health Checks at 9 a.m. rather than 11 a.m., so that more people could attend.

2) **Better Communication:** There were suggestions for having more publicity about the Health Checks through posters and phone call invitations. There was a suggestion to have announcements for four weeks at the temple before the Health Check along with posters.

Likelihood of Returning, if Invited Back
The majority of responders said that there were ‘likely’ or ‘very likely’ to return (97%), if invited again to the Health Check PLUS in the future – an interest in having follow-up checks was one of the main reasons:

- “Check progress of my health and further consultation if required.”
- “To keep my health under control.”
- “To make sure my body is still okay.”

- Community outreach Health Checks were an extremely positive experience for BME groups at a local temple and mosque in Greenwich
- Factors encouraging attendance among BME groups were:
  - Ambassadors for the Checks from their communities
  - Timing around community/ religious events
  - Location at community/ religious places
- More information in their own language and from community leaders would further improve response rates
- Health Checks were seen as a ‘wake-up call’ to improve health behaviours especially high BMI
9 Delivery of NHS Health Check PLUS: Clinicians’ Perspectives

Perceptions of clinicians (health care assistants, nurses, pharmacists and health trainers) who carried out the Health Checks were also gathered to evaluate the organisation and delivery of the programme. A total of 12 clinicians delivered the Health Checks. 11 participated in this evaluation by completing questionnaires administered at the end of the Health Check programme.

9.1 Staff support for delivery of NHS Health Check PLUS

Most health care assistants felt that there was enough staff for carrying out the Health Checks. They also felt they had adequate support and felt well-equipped to do the Checks (see figure 8 below).

Figure 8 Health care assistants’ views on staff support for delivering the Health Checks

Other issues related to staff support:

Most staff delivering the programme expressed having adequate support and training. However, there were some inconsistencies in effective team working:

“...One or two of the staff delivering the checks could have had a greater team ethic...Other than that all fine.”
“The teams that I came into contact with were very professional and supportive. We enjoyed each other’s company and blended very well. I enjoyed the sessions very much and look forward any further projects.”

“It helped having health trainers doing BMIs”

9.2 Organisation of NHS Health Check PLUS

Overall, the staff felt the Health Checks were well-organised. Most staff reported having adequate resources and adequate equipment to deliver the Health Checks. There were some concerns reported regarding functioning of equipment (see figure below).

Figure 9: Health care assistants’ views on organisation of the Health Checks

The staff delivering the Health Checks were pleased with the organisation of the programme:

“I could see that it was a mammoth task to ensure all the equipment was where it should have been and in working order. All in all a good job was done in this respect.”

“The organisation performed brilliantly. Many thanks to the organiser for all her support and exemplary leadership skills.”
Some concerns were expressed related to organisation of the programme such as problems encountered with use of equipment and inadequate patient information booklets:

“At Charlton no GhLis/ patient information support; not good booklets”
“One computer didn’t work on one day - but all my equipment worked.”
“Not able to have equipment in some place or did not work.”
“Sometimes we did not have enough HbA1C readers, one of the laptops did not have the charger so discharged before the end of the clinic. Not enough reg. papers.”
“We had a couple of hiccups with machines acting up. But I think this was a temperature based problem.”

New equipment was provided for use at all venues for this outreach programme. However, problems were encountered with the use of equipment at one clinic session at one of the venues. This arose due to user error and low room temperature at the venue which led to problems with the HbA1c machine. The equipment was replaced to ensure delivery of Health Checks. Further steps need to be taken to ensure adequate training for clinicians to reduce chances of user error and for adequate organisational staff resources to ensure that problems with equipment can be rapidly dealt with.

9.3 Venue of NHS Health Check PLUS programme

Staff found the venues to be mostly accessible and with adequate space. Some reported poor access to some venues and inadequate privacy (see figure 10 below).
Staff pointed out problems faced by participants in finding a venue and lack of adequate provision for privacy in appointments for the Health Checks:

“Unfortunately the clients attending health checks at Charlton Athletic F.C....found it difficult to find [the venue]. Similarly GCRE was not easy for people to find...”

“...St Marys was cramped and privacy could not be totally maintained, having said that I think we coped well to ensure that the clients did not feel overheard or cramped.”

“Some venue were not accessible to clients; patient complaints.”

“Some patients found CAFC difficult to find. They were not given good dire.

“Charlton facilities were excellent for privacy but location poor. St Mary's location excellent but privacy sometimes lacking. Forum open to privacy.”

“Because we were all in the same room was easy to listen to what was happening next door.”

Particular concerns were raised for two venues – one which was difficult to find (Charlton Football Club) and another which has limited access and inadequate privacy for appointments (St Mary’s).
9.4 Acceptability of clients

All staff reported to have found the Health Checks to be appropriate and accessible for women and minority ethnic groups. They considered that the timings were suitable for participants, and that the Health Check were well-received by attendees.

Other general comments related to the NHS Health Check programme from staff:

Overall, the staff delivering the programme found it to be a useful service which participants were pleased with. Some concerns were expressed over clinic location and appointment system, which were also raised by clients (as presented in section 8.4.4). The general comments from clinicians are summarised below:

“I enjoyed working on the Mega-clinics... [it] provided people with a valuable intervention...It would be good to...find out how things have progressed.”

“Most of the negative issues came from the clients ie: some complained of the lateness...of telephone call. Not fully explained how their name was on a list, not offered alternative venue ...and spent a lot of time searching for a ‘Clinic’....No contact telephone numbers for clients...the appointment system could have been done better.”

“Some of the locations were some sort of concern for clients to find....”

“All the patients I dealt with were happy they attended the clinics.”

“All patients were happy with the Health Checks.”

“Lots of patients commented that cholesterol should be fasting.”**

“The comments were positive. I think the public like the informality of the clinics. The only negative comments were...location advice was poor at times and phone calls were not followed up by letters from the call centre.”

“Would have been nice to have walk in clinics to help more people.”

**Guidelines do not recommend fasting for cholesterol checks; this comment highlights the need to further reinforce guidelines for Health Checks with clinicians delivering the Checks, so that queries from clients can be adequately responded.
• Overall, staff were pleased with the organisation and delivery of the Health Check
• Staff felt well supported and trained to deliver Health Checks
• Staff received positive feedback from most participants regarding the Health Checks
• Areas for improvement suggested were:
  o Better access for some venues
  o Better access to equipment in good working conditions
  o Better communication about Health Checks to participants before attending
  o More training to improve knowledge of guidelines for Health Checks
10 Implications of evaluation and recommendations for the NHS Health Check PLUS community outreach programme

This report provides a comprehensive evaluation of the NHS Health Check PLUS outreach programme in Greenwich. We evaluated outcomes from the Health Checks, and the structure and processes involved in the delivery of the programme – we evaluated the service from the perspectives of the service users as well as service providers.

10.1 Summary of results from the evaluation

In keeping with the objectives and themes of the evaluation, the results are summarised as follows:

Response rates:

- High response rate was achieved in those who made an appointment for a Health Check (97%)
- However, general practices incorrectly identified some individuals eligible for a Health Check (8%)
- A substantial proportion of individuals eligible for a Health Check were not contactable (44%) due to lack of contact details or inability to contact despite attempts; these individuals were mostly from more deprived areas of Greenwich
- Of those eligible for a Health Check 24% made an appointment and 28% refused. One of the main reasons for refusals was a lack of interest in Health Checks.
- Most participants were motivated to attend the Health Check because of concern about future health and reassurance about current health

High-risk identification and equity of high-risk identification:

- The programme was effective in identifying individuals at high-risk of chronic diseases including CVD (25%) and pre-diabetes (20%)
- The Health Checks also identified those with high levels of adverse health behaviours/lifestyle such as overweight or obesity (85%) and smoking (16%)
• The Health Checks were effective at identifying those with greater risk of chronic diseases such as ethnic minority groups – a higher risk of CVD and pre-diabetes was identified in black and minority ethnic groups compared to Caucasians.
• The Health Checks also identified those at high risk of falls (4% in those aged >65 years)

Lifestyle advice and referrals:
• The Health Checks were effective in providing lifestyle advice to participants during consultations – 84% of those at high risk of CVD were given dietary advice
• Referrals were made to health improvement programmes and GPs after a Health Check (82% of those with high CVD risk)
• Preliminary results from three general practices showed that 80% of clients were followed-up for an appointment after a Health Check
• Participants felt their knowledge of their health status and ways of improving their health had increased from the Health Check consultations

Data collection at Health Checks:
• Data at Health Checks was not collected accurately and consistently for all variables, particularly, information on cancer screening
• Better adherence to protocol for data collection at Health Check consultation is needed

Patient satisfaction:
• Overall, participants were satisfied with the community outreach programme of Health Checks
• However, some participants did not receive clear information about Health Checks in the phone invitation, and some were not given adequate notice for an appointment or did not receive a follow-up confirmation of appointment.
Clinic staff and community-based venues were the main reasons for overall satisfaction with the Health Checks.

Most participants found the Health Checks locations to be accessible and appropriate since the venues were community-based.

However, a couple of staff were found to be unprofessional during clinic sessions and did not deliver advice in detail.

Attendees found the Health Checks to be thorough and were pleased with receiving results immediately.

Some participants felt they needed better sign-posting for referrals after the Health Check.

The Health Checks were an extremely positive experience for ethnic minority groups attending Checks at a local temple and mosque, although they suggested having more advertising of Health Checks through leaflets in their native language.

Participants from minority ethnic groups perceived the Health Checks as a ‘wake-up call’ to improve health behaviours especially high BMI.

**Clinicians’ satisfaction:**

- Staff delivering the Health Checks were also pleased with the overall delivery and organisation of the programme.
- Venue: one of the venues was difficult to find for clients and another has inadequate provision for privacy in appointments.
- Equipment: one clinic session had difficulties with use of equipment such as diabetes machine and a computer.
10.2 Recommendations for future NHS Health Check PLUS community outreach initiatives

The results of the evaluation highlight areas of improvement and recommendations for future delivery of Health Checks in the community:

Invitation for attendance at Health Checks:

- Identifying participants eligible for Health Checks: General practices need to have better systems to obtain more complete and accurate information on participants eligible for Health Checks
- Information at invitation: Clearer information regarding Health Checks should be given to participants at the time of initial contact such the benefits of a Health Check, that it is provided by the NHS and is free.
- Appointments: adequate notice should be given to all participants to allow them to make an appointment; follow-up of the invitation by a postal confirmation should be ensured for all clients.

Improving overall response rates at Health Checks:

- More efforts are required to obtain up-to-date contact information on clients at general practices
- Other call-recall systems such as door-knocking or leafleting need to be considered to supplement telephone invitations
- Contact with hard-to-reach groups in more deprived areas needs to be further developed in addition to phone invitations – for example use of leaflets, or ‘ambassadors’ to promote Health Checks can be effective
- Ethnic minority groups can be reached more effectively through messages in their native language and through community leaders
- Greater awareness of Health Checks in Greenwich and their benefits can help improve response rates to Health Checks since lack of interest was one of the main reasons for refusals for appointments
**Delivery of Health Checks:**

- **Venue:** all venues for Health Checks need to be easily accessible and easy to find. Detailed instructions with directions and maps can be provided to participants to help locating the venue. There is also a need to ensure that adequate privacy can be maintained during appointments at all venues.

- **Resources:** There is a need to ensure that there are adequate resources to anticipate and handle problems with functioning of equipment – this would ensure that replacement of equipment is provided immediately if the need arises.

- **Training clinicians delivering the Health Checks:**
  - **Consultation at Health Checks:** While the majority of participants were satisfied with their Health Check, there is a need to improve the nature of consultations delivered by staff to participants – it needs to be ensured that advice is given in an appropriate manner with complete information regarding follow-up.
  - **Use of equipment:** further training is required for use of equipment to minimise error in use of equipment
  - **Professional conduct:** the necessity to adhere to high standards of professional conduct during clinic sessions needs to be reinforced.

**Data collection at Health Checks:**

- **Data at Health Checks** need to be collected more accurately and with a higher level of consistency

- **Better adherence to protocol for data collection is needed; further training and support can help improve data collection**

- **Regular monitoring of data** can ensure areas that need better data collection

Positive feedback from clients was gathered as part of the evaluation. This can be used as a marketing tool to advertise Health Check PLUS and raise awareness of the benefits of the programme (see text box below).
Recommendations for future evaluations:

- Further evaluation also needs to be done to assess the extent to which follow-up of participants is done after the Health Check, for example referrals to and uptake of health improvement programmes (Greenwich Health Living Service and Stop Smoking service).
- Evaluation need to be undertaken to assess outcomes from Health Checks such as management of high risk of CVD and other conditions identified at the Health Check.

Overall, the evaluation revealed a successful delivery of the NHS Health Check PLUS programme in Greenwich. Implementation of the above recommendations will further improve the delivery and effectiveness of the service in future service provision.

Positive feedback for marketing Health Check PLUS

- **Location**
  - “This was the best location, easy to get to and convenient”

- **Timing**
  - “I could go before work, which was fantastic.”

- **Health Checks**
  - “I liked the instant results on sugar levels and cholesterol – I didn’t have to call and pick up results.”

- **Advice**
  - “very simple and clear.”
  - “I liked the advice given concerning diet and improvement to my general health”
  - “it woke me up...It has changed me. I have increased my exercise...because I found out that I have high cholesterol and high BMI....” (BME attendee)
11 Appendices

11.1 Script used for phone appointments for Health Check PLUS community outreach programme

To be added

11.2 Postal letter to confirm appointment for NHS Health Check PLUS community outreach programme

To be added

11.3 Patient Satisfaction - Questionnaire

Thank you for agreeing to complete this questionnaire, which will help us improve the Health Check PLUS programme to make it a better service and experience for our patients.

Age: __________ Sex □ Male □ Female
Ethnicity: ___________________ Postcode: ______________

1. What prompted you to attend today’s Health Check PLUS programme? (Check all that apply)
   □ Concern/re-assurance about my current health
   □ Concern about my future health
   □ Family history of illness
   □ Age milestone (e.g. age 40 or 60)
□ Encouraged by family or friends □ Other (please state below):

2. How would you rate your overall satisfaction with your consultation?

Very dissatisfied □ 1 □ 2 □ 3 □ 4 □ 5

Very satisfied

3. Did any of the following factors contribute to your score in question 2? (Check all that apply)

□ Clinic Location □ Clinic Timing □ Clinic Setting □ Clinic Staff

□ Other (please state):

4. What did you like in particular about the Health Check PLUS programme?

5. What could be improved about the Health Check PLUS programme?

6. If invited back in the future to the Health Check PLUS programme, how likely are you to return?

Very unlikely □ 1 □ 2 □ 3 □ 4 □ 5

Very likely

Why or why not?

Are you interested in receiving a £20 high street voucher to take part in a focus group with our independent research agency, onedeeppbreath? □ Yes □ No

Thank you for your time. Have a nice day!
11.4 Questionnaire to health care assistants delivering the Health Checks

Evaluation of NHS Health Check PLUS Megaclinics

We are keen to continuously improve the delivery of our NHS Health Check PLUS programme and would like to have your feedback on the recent ‘mega-clinics’. Thank you very much for your time!

Name (optional): ……………………………… Date: __ ___ / __ ___ / __ ___

Name of your Practice/ GP Surgery: …………………………………

Venue(s) at which you participated in the ‘mega-clinics’ for NHS Health Check PLUS:

| 1.1 Barnfield Estate- Plumstead |        |
| 1.2 Charlton Athletic Football Ground- Charlton |        |
| 1.3 The Forum – Greenwich |        |
| 1.4 St Marys Community Centre – Eltham |        |
| 1.5 Greenwich Centre for Racial Equality – Woolwich |        |

Section 1 – Staff/ personnel

<table>
<thead>
<tr>
<th>In order to deliver the Health Checks effectively, did you…</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderate</th>
<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6 …consider that you had enough staff at each session?</td>
<td>1 ☐</td>
<td>2 ☐</td>
<td>3 ☐</td>
<td>4 ☐</td>
</tr>
<tr>
<td>1.7 …receive adequate support?</td>
<td>1 ☐</td>
<td>2 ☐</td>
<td>3 ☐</td>
<td>4 ☐</td>
</tr>
<tr>
<td>1.8 …feel you were adequately equipped/ skilled?</td>
<td>1 ☐</td>
<td>2 ☐</td>
<td>3 ☐</td>
<td>4 ☐</td>
</tr>
</tbody>
</table>

1.9 Please provide any other comments or views on staff-related issues:

………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

Section 2 – Organisation

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
</table>
2.1 Did you have the resources needed to deliver the Health Checks? (e.g. paperwork, registers, consumables etc.)

2.2 Did you have all the equipment needed? (cholesterol machine, HbA1c machine, pulmolife analyser and tubes, etc.)

2.3 Did the equipment function properly?

2.4 Please provide any other comments or views related to the organisation of the Health Check PLUS ‘megaclinics’:

Section 3 – Venue for NHS Health Check PLUS

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Moderately</th>
<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Do you think the venue was accessible by clients?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.2 Was there adequate space available at the venue?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.3 Was there sufficient provision to maintain privacy for clients?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3.4 Please provide any other comments or views related to the venue of the Health Check PLUS ‘megaclinics’:

Section 4 – Acceptability by clients

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Were the Health Checks organised and delivered appropriately for client groups such as females and minority ethnic groups?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.2 Did you consider that the timings of the Health Checks suitable for clients?</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.3 Did you consider that the Health Checks were well-received by clients?</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
4.4 Were there any comments from clients that expressed concerns about how appropriate or acceptable the programme was?

4.41 If Yes, please provide further details below:

4.5 Please provide any other feedback related to the NHS Health Check PLUS 'mega-clinics':

………………………………………………………………………………………………………………
………………………………………………………………………………………………………………
………………………………………………………………………………………………………………

Thank you!

12 References

1 Putting Prevention First, Vascular Checks: risk assessment and management, Department of Health, 2008
2 Greenwich JSNA, 2009
6 Economic Modelling for Vascular Checks(DH-085917), DoH, 2008
10 Rosenstock IM (1966), "Why people use health services", *Milbank Memorial Fund Quarterly* 44: 94–127