

Briefing Paper: NHS Health Check for adults aged 40 – 74 years data extraction

For the Joint GPC and RCGP IT
subcommittee targeted consultation on GP
metrics

To be shared on 24 October 2016

Information and technology
for better health and care

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Introduction

This Briefing Paper provides information on the 'NHS Health Check for adults aged 40 – 74 years' data extraction (referred hereafter to as the 'NHS Health Check' data extraction). The Joint General Practitioners Committee (GPC) and Royal College of General Practitioners (RCGP) IT subcommittee are asked to consider this information as part of the targeted consultation on this data extraction, which is required for the Standardisation Committee for Care Information (SCCI) assurance of this work.

Background

Public Health England (PHE) wish to use the General Practice Extraction Service (GPES) to extract general practice data on the NHS Health Check programme in order to evaluate this programme and inform better decisions on its delivery. This will involve GPES extracting identifiable patient level data, which will be held by NHS Digital.

Pseudonymised patient level data will be disseminated to PHE. PHE also wish to link these data to other relevant clinical data, including, but not limited to, Hospital Episode Statistics (HES) data. This is why identifiable patient level data need to be extracted (that is: for linkage purposes).

Link primary care data to HES data will allow PHE to track patient outcomes following their interaction with the NHS Health Check programme. Analysis of these data is expected to better understand the long term health impacts of the NHS Health Check programme and provide a robust evidence base for this.

A Direction, issued under section 254 of the Health and Social Care Act 2012 (the Act), from the Department of Health (DH), on behalf of PHE, to NHS Digital is required to ensure the legal extraction of the primary care data. Type 1 objections will be upheld in extracting the primary care data and Type 2 objections will be upheld in disseminating the data to PHE.

Justification

The NHS Health Check has been in place since 2009 but there has been a lack of data collected on the programme as a whole. Using GPES to extract general practice data on the NHS Health Check programme would provide national level data, which could then be broken down by local authority / Clinical Commissioning Group (CCG) as required. This is something that PHE have not had access to since the NHS Health Check was launched.

Analysis of the extracted data is expected to better understand the long term health impacts of the NHS Health Check and show variation across this programme. Without this extraction, PHE is unable to provide sufficient robust evidence concerning the performance of the NHS Health Check.

In summary, the extraction is needed because:

- Currently only offers and uptake of NHS Health Check recorded nationally, so PHE lack sufficient data on performance of the programme.
- No current research shows variation between areas.
- The extract will provide PHE with missing detail: assessments, interventions and referrals linked to NHS Health Check.

- The NHS Health Check programme needs a stronger robust evidence base.
- The extract will allow comparisons between areas, which will give PHE and health care planners, commissioners and providers with opportunities to target risks / groups / areas for improvement.
- By linking to pseudonymised data, in the long term, PHE hope to be able to track patient outcomes to hospital and mortality data.

Data

Data being extracted

The data being extracted via GPES will be patient level – this is for a number of reasons:

- **To perform data linkage:** PHE wish to link the primary care general practice data with secondary care Hospital Episode Statistics (HES) data, and possibly mortality data in the future, in order to track patient outcomes and determine what happens to patients before and after an NHS Health Check has been completed (or declined or if the patient did not attend).
- **To simplify the extract:** The NHS Health Check programme covers an range of different areas and if GPES were to extract aggregate level indicators, as opposed to extracting patient level data, there would be numerous (likely several thousand) indicators once any breakdowns (such as age, sex, ethnicity, etc.) were accounted for.
- **To improve the analysis:** Extracting patient level data will allow a more in-depth analysis of the data in comparison to if only aggregate level indicators were extracted. This will allow PHE to look more closely at the outcomes of patients following their interaction with the NHS Health Check programme.

Cohorts

The data extract will include patients aged 18 years or over, even though the NHS Health Check concerns adults aged 40 – 74 years. The reason for this is that there is evidence to suggest that some groups of patients are invited at a younger age than the average population and outside of the formal age group that the Health Check is aimed at (that is: individuals aged 40 – 74 years).

By looking for patients over the age of 18 years, PHE can isolate where this is happening and understand if the NHS Health Check programme is being delivered appropriately and if tailoring it to these groups would be an appropriate strategy.

There will be four patient cohorts:

- Cohort 1 – patients invited to an NHS Health Check only
- Cohort 2 – patients who either commenced, completed (by a GP or third party), did not attend or declined a NHS Health Check
- Cohort 3 – patients who are recorded as inappropriate for an NHS Health Check and who have not commenced, completed (by a GP or third party), did not attend or declined a NHS Health Check
- Cohort 4 – patients with the four appropriate risk factors recorded within a six month period when they are continuously eligible for an NHS Health Check

A patient will be included in the appropriate cohort due to the Read code(s) that are recorded in their medical record. This means that PHE will be able to break down cohort 2 as required (for example: only looking at patients who have completed an NHS Health Check). See [Appendix A: Cohorts](#) for further details regarding the cohorts.

Data items

There are nine different groups of data items included in this data extraction. All of these data items will be extracted for patients included in all four of the cohorts listed above.

- 1. Patient characteristics – demographic and key data items:** This group includes the identifiers (for example: date of birth, NHS Number and postcode) and demographic information (for example: gender, ethnicity and first language) for each patient, as well as the other key data items (for example: date patient registered with the general practice) that are required.
- 2. Patient characteristics – carer status and employment status data items:** There is a strong government initiative to ensure that carers have good health due to the demands that being a carer can place on the quality of a person's life. PHE require these data items to support this initiative and to determine if patients who are carers are interacting with the NHS Health Check programme as per the rest of the population. A key objective of the programme is to reduce health inequalities and ensure good uptake in more disadvantaged populations. Together with other data items, employment status will be used to estimate any inequalities of access to the NHS Health Check programme and will help to identify whether or not deprived communities are currently being reached by this programme.
- 3. Patient characteristics – disability data items:** PHE require these data items to estimate the reach of the NHS Health Check programme to disadvantaged populations. These data items cover both high risk and vulnerable patients and it is critical that PHE are able to monitor access and service provision of the NHS Health Check programme to these patients.
- 4. NHS Health Check data items:** This group includes information regarding each patient's interaction with the NHS Health Check programme (that is: if a patient has been offered / invited to complete an NHS Health Check, as well as if a patient has either completed, declined, did not attend, or was inappropriate for receiving, the NHS Health Check). Also included in this group is the profession of the Health Care Professional (HCP) responsible for each Read coded item recorded in a patient's medical record. GPES does not allow the profession of the HCP to be returned against specific Read coded items and therefore this data item will be returned against all Read coded items recorded in a patient's medical record.
- 5. CVD risk factor data items:** Required so that PHE can estimate the following:
 - If the necessary CVD risk factor checks are being recorded at the time of the NHS Health Check.
 - The extent to which the NHS Health Check programme is working as it is intended to (for example: if a patient who is deemed as high risk for one or more of the CVD risk factors then goes on to receive the appropriate intervention).
- 6. CVD risk factor test (and accompanying value) data items:** Required so that PHE can estimate the following:

- If the necessary CVD risk factor tests are being performed following the NHS Health Check.
- The extent to which the NHS Health Check programme is working as it is intended to (for example: if a patient who is deemed as high risk for one or more of the CVD risk factors then goes on to receive the appropriate test, and if that appropriate test then goes on to lead to a diagnosis).

7. CVD diagnosis data items: Required so that PHE can estimate:

- Whether or not patients with an existing CVD diagnosis are engaging with the NHS Health Check programme; such patients should be excluded from the programme as it is aimed at preventing disease as opposed to managing existing disease. Patients who have an existing CVD diagnosis should already be receiving the appropriate management and monitoring through existing care pathways.
- The extent to which the NHS Health Check (and the interventions that follow this) lead to a patient receiving a formal CVD diagnosis.

8. Advice, signposting, information, brief intervention and referral data items:

Required so that PHE can estimate the following:

- Whether or not a patient received the appropriate advice, signposting, information, brief intervention and referrals following their NHS Health Check.
- Whether or not the appropriate advice, signposting, information, brief intervention and referrals led to a change (ideally a positive change) in the patient's health.

9. Prescribed CVD medication data items: Required so that PHE can estimate the following:

- Whether or not patients prescribed with an existing CVD medication are engaging with the NHS Health Check programme; such patients should be excluded from the programme as it is aimed at preventing disease as opposed to managing existing disease. Patients prescribed an existing CVD medication should already be receiving the appropriate management and monitoring through existing care pathways.
- Whether or not a patient received the appropriate prescribed CVD medication following their NHS Health Check and the intervention(s) that followed.

Data item timescales

The document embedded below lists the data items included in the NHS Health Check extraction and demonstrates the timescales associated with each group of data items:



NHS_Health_Check_
Data_Items.pdf

Data being disseminated

The data that are disseminated to PHE will be pseudonymised patient level data with the key patient identifiers (that is: postcode, date of birth, NHS Number, etc.) removed. PHE require

certain potential identifiers (for example: year of birth, gender, first language, ethnicity, indices of deprivation, etc.) in order to perform their analysis. Note that the data will be disseminated in the least identifiable form where possible (for example: year of birth will be used instead of date of birth).

PHE will need to make an application to NHS Digital's Data Access Request Service (DARS) before the data are disseminated. Due to the nature of the data, this will involve going through the Data Access Advisory Group (DAAG). DAAG is an independent group, hosted by NHS Digital, which considers applications for sensitive data made to DARS.

Timescales

We are seeking SCCI acceptance of this extraction at the November committee meeting so that the Direction can be approved at the November NHS Digital Board meeting. Both of these meetings take place on the same day: 30 November 2016.

A Data Provision Notice will be issued to all general practices in England following the SCCI assurance of this extraction and NHS Digital Board acceptance of the Direction. This will be issued at least six weeks prior to the data extraction, which is anticipated to take place before the end of the 2016-17 financial year.

Considerations

Patient objections management

In line with patient rights contained within the NHS Constitution, NHS Digital will ensure it respects the rights of individual patients to request that their confidential information is not used beyond their own care and treatment and to have their objection considered. Type 1 opt-outs will be upheld when extracting the primary care data via GPES and Type 2 opt-outs will be upheld before disseminating the data to PHE.

Fair processing

GPs / general practices are legally required to provide fair processing information to their patients as they are the data controllers. However, NHS Digital and PHE have a responsibility to provide information to GPs / general practices to ensure good practice and a clear message.

NHS Digital is responsible for providing information on the technical and legal aspects of this extraction. Information on the technical aspects will include details of the data extraction, how the data will be extracted, where the data will be stored, etc. and information on the legal aspects will include details of the legal basis (in this case a Direction) and the issuing of the Data Provision Notice, etc. NHS Digital needs to meet its statutory responsibilities as set out in the Health and Social Care Act 2012.

PHE is responsible for providing information on the policy aspects of this extraction, such as why the data are being extracted, what the data will be used for, etc. This information should cover the wider purpose of this programme of work and the benefits that it will bring. It is anticipated that a national fair processing notice will be produced, which general practices will be able to reference.

Appendix A: Cohorts

There will be four patient cohorts:

Cohort 1 – patients invited to an NHS Health Check only

Patients who have been invited to an NHS Health Check **AND** who do not have any of the following codes recorded in their record:

- Inappropriate for NHS Health Check
- NHS Health Check commenced
- NHS Health Check completed
- Did not attend NHS Health Check
- Declined NHS Health Check
- NHS Health Check completed by third party

Justification: This cohort is required so that PHE can estimate the characteristics of patients who are invited to an NHS Health Check but who do not respond to this invite. Certain patients (for example: those of a specific ethnicity group or level of deprivation) may be less likely than others to not respond to an NHS Health Check invite. PHE will use this information to try and improve patient uptake in responding to an NHS Health Check invite. The outcomes (for example: CVD risks, diagnoses, tests, referrals etc.) from patients in this cohort will also be compared against the outcomes from patients in cohorts 2, 3 and 4 (see overall justification of cohorts below).

Cohort 2 – patients who either commenced, completed (by a GP or third party), did not attend or declined a NHS Health Check

Patients who have **ANY** of the following codes recorded in their record:

- NHS Health Check commenced
- NHS Health Check completed
- Did not attend NHS Health Check
- Declined NHS Health Check
- NHS Health Check completed by third party

Justification: This cohort is required so that PHE can estimate the characteristics of patients who have had some form of contact with the NHS Health Check programme; this includes patients who commenced, completed (either by GP practice or by third party), did not attend or declined an NHS Health Check. Certain patients (for example: the ‘worried well’) may be more likely than others to engage with the NHS Health Check programme. PHE will use this information, in conjunction with cohort 1, to estimate the characteristics of patients that either do or do not engage with the NHS Health Check programme. As above, the outcomes (for example: CVD risks, diagnoses, tests, referrals etc.) from patients in this cohort will also be compared against the outcomes from patients in cohorts 1, 3 and 4 (see overall justification of cohorts below).

Cohort 3 – patients who are recorded as inappropriate for an NHS Health Check and who have not commenced, completed (by a GP or third party), did not attend or declined a NHS Health Check

Patients who are recorded as inappropriate for an NHS Health Check **AND** who do not have any of the following codes recorded in their record:

- NHS Health Check commenced
- NHS Health Check completed
- Did not attend NHS Health Check
- Declined NHS Health Check
- NHS Health Check completed by third party

Justification: This cohort will be used by PHE to check that patients recorded as inappropriate for an NHS Health Check is being done so accordingly (for example: if a patient is diagnosed with a cardiovascular disease then they should not be invited for an NHS Health Check). PHE will use this information to estimate whether or not the reasons for not inviting patients to an NHS Health Check are valid. This cohort will help PHE to evaluate the NHS Health Check programme as a whole and ensure that it is working as it should whereby the correct patients are invited / not invited for an NHS Health Check. As above, the outcomes (for example: CVD risks, diagnoses, tests, referrals etc.) from patients in this cohort will also be compared against the outcomes from patients in cohorts 1, 2 and 4 (see overall justification of cohorts below).

Cohort 4 – patients with the four appropriate risk factors recorded within a six month period when they are continuously eligible for an NHS Health Check

If a patient is not in cohort 1, 2 or 3 then they can be selected into cohort four using the following rule:

A patient who has the following four appropriate risk factors recorded within a six month period when they are continuously eligible for an NHS Health Check:

1. Blood pressure
2. Body mass index (BMI)
3. Cholesterol
4. Smoking status

Being continuously eligible for an NHS Health Check is defined as being continuously registered with the practice during the six month period, no record of prior 'vascular disease'* and aged 40 – 74 years throughout the six month period.

*Vascular disease is defined as atrial fibrillation, chronic kidney disease (stage 3 -5), coronary artery disease, familial hypercholesterolemia, heart failure, hypertension, peripheral vascular disease, stroke, transient ischemic attack and diabetes mellitus (type 1 and type 2).

Justification: There was no standard code used to record an NHS Health Check during the first four years of this programme (that is: from 2009 – 2012) and therefore this cohort aims to identify the eligible patients who had received an NHS Health Check during this period. Academic research has identified that patients with the four appropriate risk factors (listed above) recorded within a six month period are likely to have received an NHS Health Check¹.

Overall justification of cohorts: PHE wish to compare the outcomes (for example: CVD risks, diagnoses, tests, referrals etc.) of the patients in the four different cohorts to see if there are any differences between patients who did not respond to an NHS Health Check invitation (cohort 1), patients who responded to an NHC Health Check invitation (cohort 2),

¹ Chang, K.C., Soljak, M., Lee, J. T., Worringer, M., Johnston, D., Khunti, K. et al. (2015). Coverage of a national cardiovascular risk assessment and management programme (NHS Health Check): Retrospective database study. *Preventive Medicine*, (78), 1-8. <http://dx.doi.org/10.1016/j.ypmed.2015.05.022>

patients who are recorded as inappropriate for an NHS Health Check (cohort 3), and patients who may have received an NHS Health Check before it was coded (cohort 4).

For example: PHE will compare those patients who did not respond to an NHS Health Check (cohort 1) to those patients who did engage in the NHS Health Check programme.

These types of comparison will help PHE to evaluate the programme as a whole.