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# **Knowledge & Library Services (KLS) Evidence Briefing**

**What is the latest evidence on NHS Health Checks?**

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(search dates: 17 October 2016 to 31 January 2017)

**Issue 1**

## What is the latest evidence on NHS Health Checks?

This briefing summarises the findings from research papers identified from the [most recent Expert Scientific and Clinical Advisory Panel \(ESCAP\) literature search on NHS Health Checks \(search dates: 17 October 2016 to 31 January 2017\)](#)(1). It is presented in a summary format, using the three key research priorities of the NHS Health Check programme – recruitment, delivery and impact.

### Key messages

- Eight relevant studies addressing at least one of the NHS Health Check research priorities were identified in the current ESCAP literature search (1).
- Attendees at NHS Health Checks were more likely to be older, female, non-smokers & South Asian (2-4).
- Two studies on the deprivation levels of attendees reported conflicting results; a study in London found attendees to be more deprived (3), whereas a study in the West Midlands found attendees to be less deprived (1) – the [Jan 2017 ESCAP report](#) (5) says that coverage was higher among poorer socio-economic groups but there are mixed results regarding take-up.
- Targeted invitations are more efficient than non-targeted invitations in getting people to attend (4).
- One study found that telephone calls attracted more ethnic minority patients to attend and were more successful at completing checks on more deprived patients (3).
- Enhanced question behaviour effect (QBE) invitations with or without financial incentives did not increase take-up (6).
- Attendees of NHS Health Checks are associated with more diabetes diagnosis than non-attendees, more hypertension, more chronic kidney disease (CKD), a reduction in mean Body Mass Index (BMI) and higher prescription of statins (4, 7).
- A small but positive quality-adjusted life year (QALY) gain of 0.05 per participant was observed and an estimated incremental cost-effectiveness ratio of 900/ QALY (7).
- A systematic review identified one trial showing that a Cardiovascular Disease (CVD) risk assessment programme was not cost-effective; in contrast, they also identified observational studies and hypothetical modelling studies that suggested that CVD risk assessment programmes are cost-effective (8).

Evidence Briefings are a summary of the best available evidence that has been selected from research using a systematic and transparent method.

#### What doesn't this briefing do?

The findings from research papers summarised here have **not** been quality assessed or critically appraised.

#### Who is this briefing for?

It is designed for commissioners, providers and academics interested or involved in the NHS Health Check programme.

#### Information about this Evidence Briefing

The findings in this briefing come from the most recent [quarterly NHS Health Check literature search](#) which drew upon a literature search of the sources Medline, PubMed, Embase, Health Management Information Consortium (HMIC), Cumulative Index of Nursing and Allied Health Literature (CINAHL), Global Health, PsycInfo, the Cochrane Library, NICE Evidence Search, TRIP database, Google Scholar, Google, Clinical Trials.gov and the ISRCTN registry from 17 October 2016 to 31 January 2017.

#### Eight highly relevant citations were used to produce this Evidence Briefing.

Disclaimer: Although every effort is made to ensure that the information presented is accurate, articles and internet resources may contain errors or out of date information. No responsibility can be accepted for any action taken on the basis of this information.

## Background

In January 2017 ESCAP summarised the key findings of a rapid evidence synthesis conducted by RAND and the University of Cambridge (5, 9). The descriptive synthesis of quantitative data and thematic synthesis of qualitative data identified a total of 68 papers (from January 1996 to November 2016) that addressed at least one of six research questions posed by Public Health England (PHE).

ESCAP continues to identify evidence relevant to the NHS Health Check programme by producing a quarterly list of citations – the latest literature search is [February 2017](#) (1) (covering search dates 17 October 2016 to 31 January 2017). This briefing aims to translate the evidence from the NHS Health Checks section of the latest quarterly ESCAP literature search into a user-friendly summary format, in order to inform practice. The briefing is summarised under the three key elements of the NHS Health Check programme – recruitment, delivery and impact.

### 1. Recruitment

Three studies addressed the question of who is having an NHS Health Check.

Attendees were more likely to be:

- older (4) (3)
- female (2) (3)
- non-smokers (2)
- more deprived (4) vs less deprived (2)
- of south Asian origin (4)

Three studies addressed the take-up of NHS Health Checks.

Successful approaches:

- targeted invitation more efficient than non-targeted invitation - in Tower Hamlets (targeted) 8.8% were identified at high CVD risk over 5 years, compared with 6.4% in Newham using unselective invites; a 38% increase in those identified at high CVD risk (4)
- telephone call vs non-telephone – telephone calls attracted more ethnic minority patients to attend an NHS Health Check (25.6% compared to 14.6%) and were more successful at completing NHS Health Checks on more deprived patients (3)

Unsuccessful approaches:

- enhanced invitations with financial incentives – the offer of a £5 financial incentive was not associated with a greater return of a QBE questionnaire, or with increased NHS Health Check take-up (6)

## 2. Delivery

In this issue, no research studies were found that addressed the delivery of NHS Health Checks.

## 3. Impact

Three papers addressed the impact of the NHS Health Check programme.

Among people attending an NHS Health Check:

- the diagnosis of type 2 diabetes is 30% higher than among non-attendees (4)
- the diagnosis of hypertension is 50% more than among non-attendees (4)
- the diagnosis of CKD is 80% more than among non-attendees (4)
- there was a higher prescription of statins – 37% of attendees at high CVD risk ( $\geq 20\%$ ), were prescribed statins (4)
- there was a reduction in mean BMI of 0.27 (95% CI 0.20 to 0.34), compared to no check (7)

Robson et al. state that the finding that statins were more likely to be prescribed to attendees than non-attendees is of great public health importance (4), as replicated nationally, statin use resulting from NHS Health Checks would prevent an estimated 4600 to 8400 heart attacks, strokes or death from these causes in 5 years.

Cost effectiveness of NHS Health Check:

- a small but positive QALY gain of 0.05 per participant was observed and an estimated incremental cost-effectiveness ratio of 900/ QALY (7)
- One randomised controlled trial (RCT) found that a CVD risk assessment and management programme was not cost-effective, either over the one year duration of the trial, or from 10 year modelled projections (8)
- In contrast, observational studies and hypothetical modelling studies suggested that CVD risk assessment and management programmes are cost-effective (8)

**Summary table showing key information for the research studies included in this evidence briefing**

<b>Title</b>	<b>Aim</b>	<b>Design</b>	<b>Participants</b>	<b>Results</b>
Lang et al. (2)	To investigate the association between socioeconomic deprivation and uptake of screening in people with incomplete risk factor recording and with actual CVD risk.	A cross-sectional study involving nine general practices in West Midlands.	7987 people included in the analysis. 5466 (68%) had insufficient data to calculate CVD risk, so were invited to a screening clinic.	2321 (42%) attended the screening - 852 (37%) were subsequently found to be at high risk.
Coghill et al. (3)	To assess the effectiveness of a telephone outreach service (12 GP practices) versus the standard invitation approach (5 GP practices) on the take-up of NHS Health Checks in Bristol.	A service evaluation.	1038 patients responded to the telephone call. 71% (n=734) made an appointment to have a health check. 21% (n=213) decided against attending for a check. 9% (n=91) unclear why the patient didn't make an appointment.	Telephone outreach practices were more successful at attracting ethnic minority patients to attend for NHS Health Check (25.6%), compared to non-telephone outreach practices (14.6%).  Practices offering the telephone outreach initiative were more likely to complete an NHS Health Check on more deprived patients compared to practices not offering the telephone outreach initiative.
Robson et al. (4)	To describe the coverage and impact of the NHS Health Check programme.	Observational study in 139/143 general practices in City & Hackney, Newham and Tower Hamlets Clinical Commissioning Groups.	85, 122 patients aged 40-74 years with no pre-existing disease attended over 5 years (from 2009 to 2014).	Attendance increased from 7.3% in 2009 to 17.0% in 2013 to 2014, representing increasing coverage from 36.4% to 85.0%. Attendance was higher in the more deprived quintiles and among South Asians.  Statins were prescribed to 11.5% of attendees and 8.2% of non-attendees.

## What is the latest evidence on NHS Health Checks?

McDermott et al. (6)	To evaluate the effectiveness of an enhanced invitation method using the QBE, with or without the offer of a financial incentive to return the QBE questionnaire, at increasing the take-up of NHS Health Checks.	Three-arm randomised trial and cohort study in 18 general practices.	12,459 participants were allocated.	An enhanced invitation method using the QBE was not associated with increased uptake of health checks overall - among the 23% of trial arm participants who returned the QBE, uptake of health checks was 32%. The offer of a financial incentive was not associated with a greater return of the QBE.
Hinde et al. (7)	To establish if the impact of NHS Health Checks on BMI is sufficient to justify their cost to the NHS.	Difference in difference analysis. The tool (EConDA) evaluates long term cost and health related outcomes.	An obese cohort of patients.	Checks are associated with a reduction in mean BMI of 0.27 (95% CI 0.20 to 0.34), compared to no check.  Small but positive QALY gain of 0.05 / participant was observed. Estimated incremental cost-effectiveness ratio of 900/ QALY.
Lee et al. (8)	To conduct a systematic review to evaluate whether population-wide CVD risk assessment and management programmes are supported by cost-effectiveness evidence.	Systematic review of economic evaluations.	-	14 economic evaluations – 5 RCTs, 7 observational studies and 2 hypothetical modelling studies.  1 RCT found a screening programme was not cost-effective.  Most observational studies suggested that screening programmes are cost-effective.  Both hypothetical modelling studies found that screening is likely to be highly cost-effective.

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