



First findings from the national NHS Health Check primary care dataset analysis



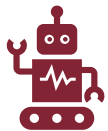
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Public Health
England

Protecting and improving the nation's health

First findings from the national NHS Health Check primary care dataset analysis

Chair



Jamie Waterall

Deputy Chief Nurse,
Public Health England

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Presenter



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First findings from the national NHS Health Check primary care dataset analysis

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Public health
Original research

Evaluation of the uptake and delivery of the NHS Health Check programme in England, using primary care data from 9.5 million people: a cross-sectional study

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Abstract

Objectives To describe the uptake and outputs of the National Health Service Health Check (NHSHC) programme in England.

Design Observational study.



PDF



PDF+

[Supplementary Material](#)

<https://bmjopen.bmj.com/content/10/11/e042963.full>

Background

- CVD remains a major public health priority in England
- Ambitious programme of vascular checks launched in 2009, delivered by the NHS to prevent **9500** heart attacks; **4000** strokes, identify **25000** cases of diabetes each year
- The same risk factors targeted for vascular disease have since been identified to be relevant for other conditions like dementia, liver disease, certain cancers
- NHS Health Checks therefore represent the largest NCD prevention programme in the world

NHS Health Check programme

- Made up of **3 key components**: CVD risk assessment, risk awareness and risk management
- **Commissioned** by local authorities since April 2013 *Local Authorities (Public Health Functions and Entry to Premises by Local Healthwatch Representatives) Regulations 2013*
- **Eligibility**: every 5 years, persons aged 40-74 (if no existing cardiovascular disease, not already on statin)
- **Delivered** by General Practice or other providers (pharmacy, out-reach etc...)
- **Clinical information generated** by the NHS Health Check should be returned to the GP

Questions and Evaluations to date

- Common concerns
 - “Attracts only the worried well”
 - “No evidence of efficacy with RCT data”
 - “Uptake is low, only certain groups attend, elderly, white, affluent etc”
- Multiple observational studies sought to address these questions – e.g. CPRD and QResearch
- Variable results: Small sample sizes, regional variation, earlier timeframes before legislation. Need for national, representative picture of NHSHC programme

National data

7,216 GP practices in England given the opportunity to contribute data

90.4% of practices participating in the NHS Health Check extract

9.6% of practices choosing not to participate

GP system suppliers



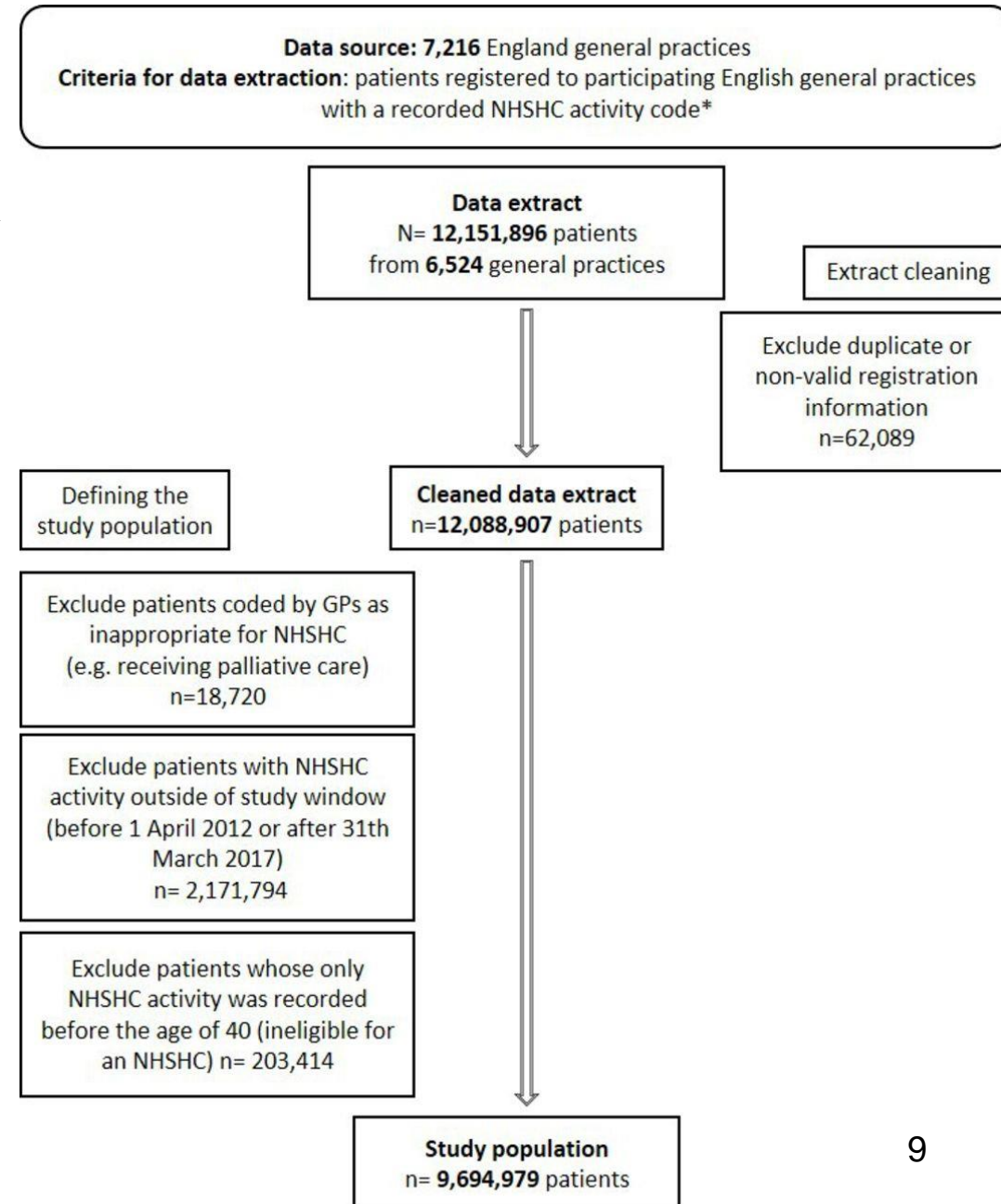
90.4% of participating GP practices within extract (6,524)

12.1 million patients with an NHS Health Check *event* code



Dataset

- **12.1** million patients were **included** if they had a recorded (READ2/CTV3) contact with the NHS Health Check programme: invitation for a check, check completed, DNA, check commenced, check declined
- The data extracted includes socio-demographic characteristics, risk factors for cardiovascular disease, interventions (advice, referrals, prescription), CVD diagnoses
- After data cleaning: **9.7M** people for analysis



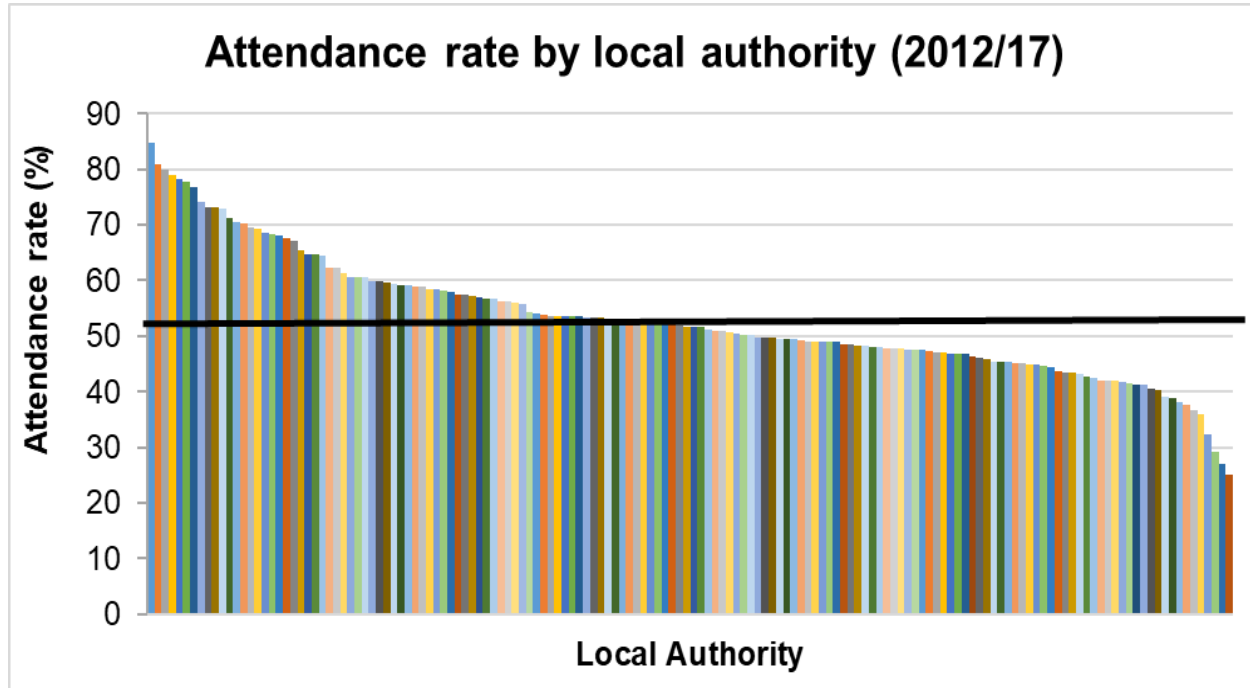
(1) Uptake and Delivery

Financial Year	Individuals offered an NHS health check	Individuals attending for NHSC	Uptake %
2012/2013	1,469,031	742,935	50.6
2013/2014	1,796,483	962,831	53.6
2014/2015	2,162,454	1,135,746	52.5
2015/2016	2,154,129	1,142,151	53.0
2016/2017	2,112,882	1,119,095	53.0
Total	9,694,979	5,102,758	52.6

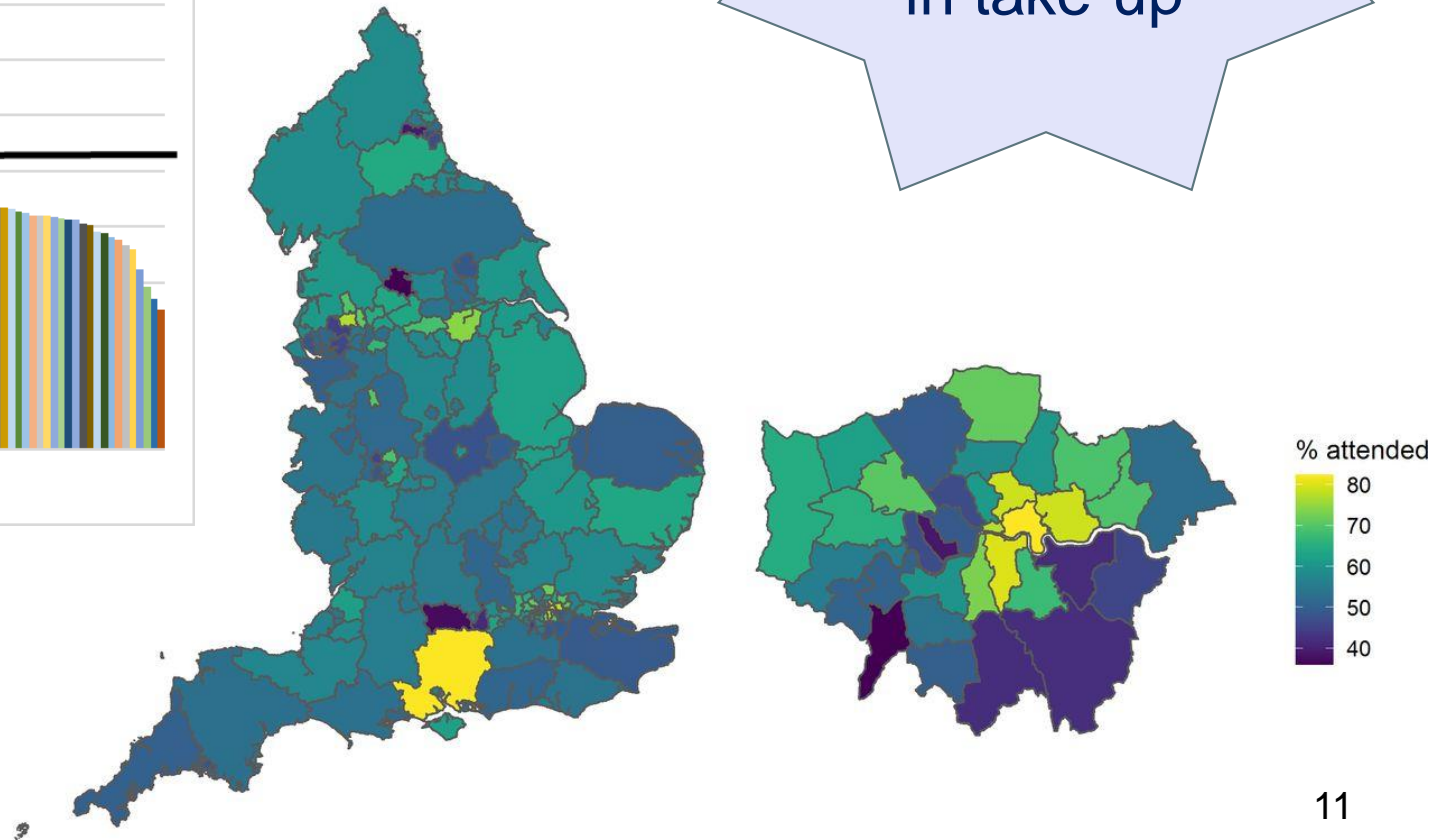


**1 in every
2 offers
taken up**

Regional variation



Local variation in take-up



(2) Characteristics of attendees

- **Who** are the people taking up an NHS Health Check?
 - Age
 - Gender
 - Ethnicity
 - Socio-economic status (IMD)

- Any evidence of inequity?

Attendance by age

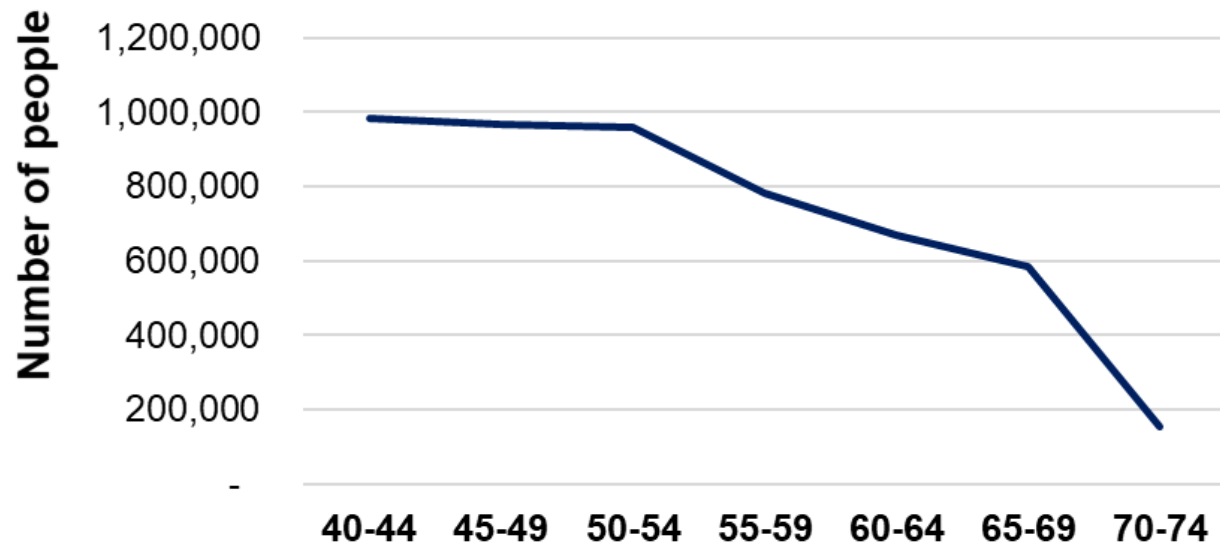
•2012-2017 attendees

•**2.9m** of attendees aged under 55

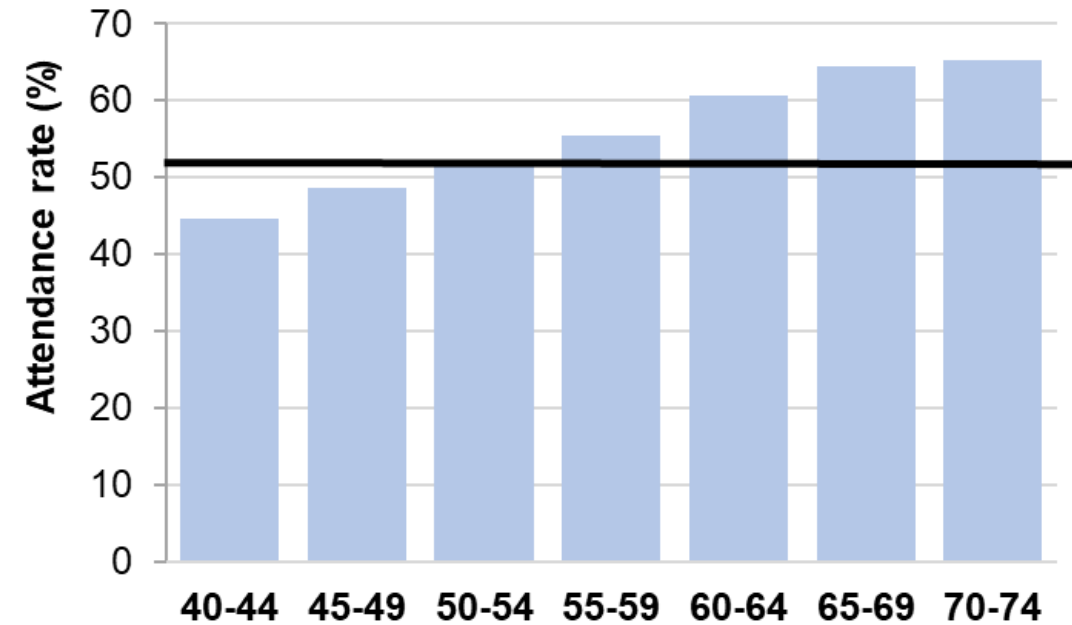
2012-2017 attendees

take-up of offers increases with age

Number of attendees per age group in 2012/17



Attendance rate by age group



Characteristics of attendees versus non-attendees



• **Age** - people aged 55-69 more represented in attendees (40%) than in non-attendees (30%) and opposite trend for 40-55 (57% v 68%)



• **Gender** - women more represented in attendees (54.7%) than in non-attendees (47.5%) - ONS (50.9%)



• **Ethnicity** - ethnic minorities better represented in attendees than non-attendees (*e.g Bangladeshi: ONS=0.4%; Invited 0.5%; Attended 0.7%; Not Attended 0.3%*)

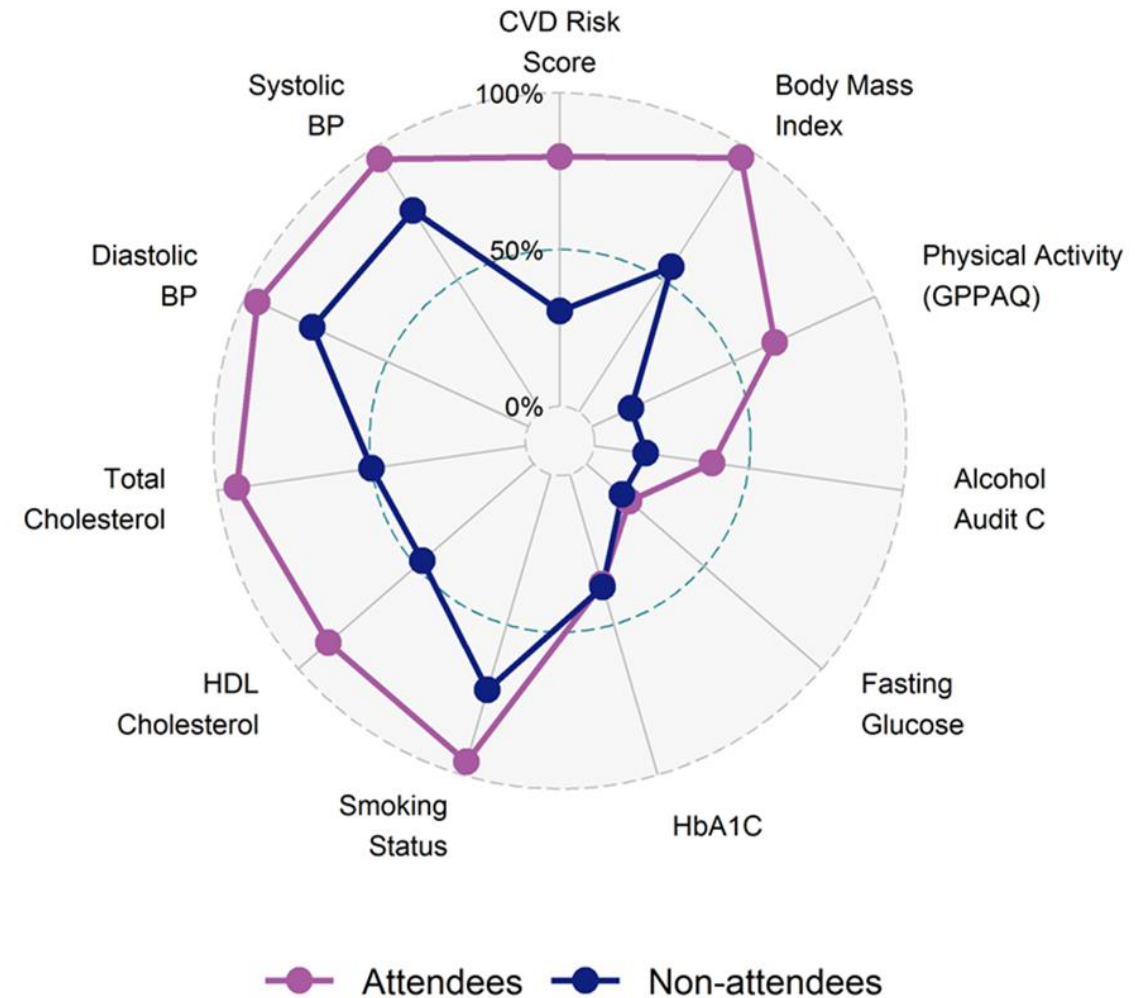


• **Index of multiple deprivation** – few differences between attendees and non-attendees, except at the extreme ends of the index of multiple deprivation spectrum

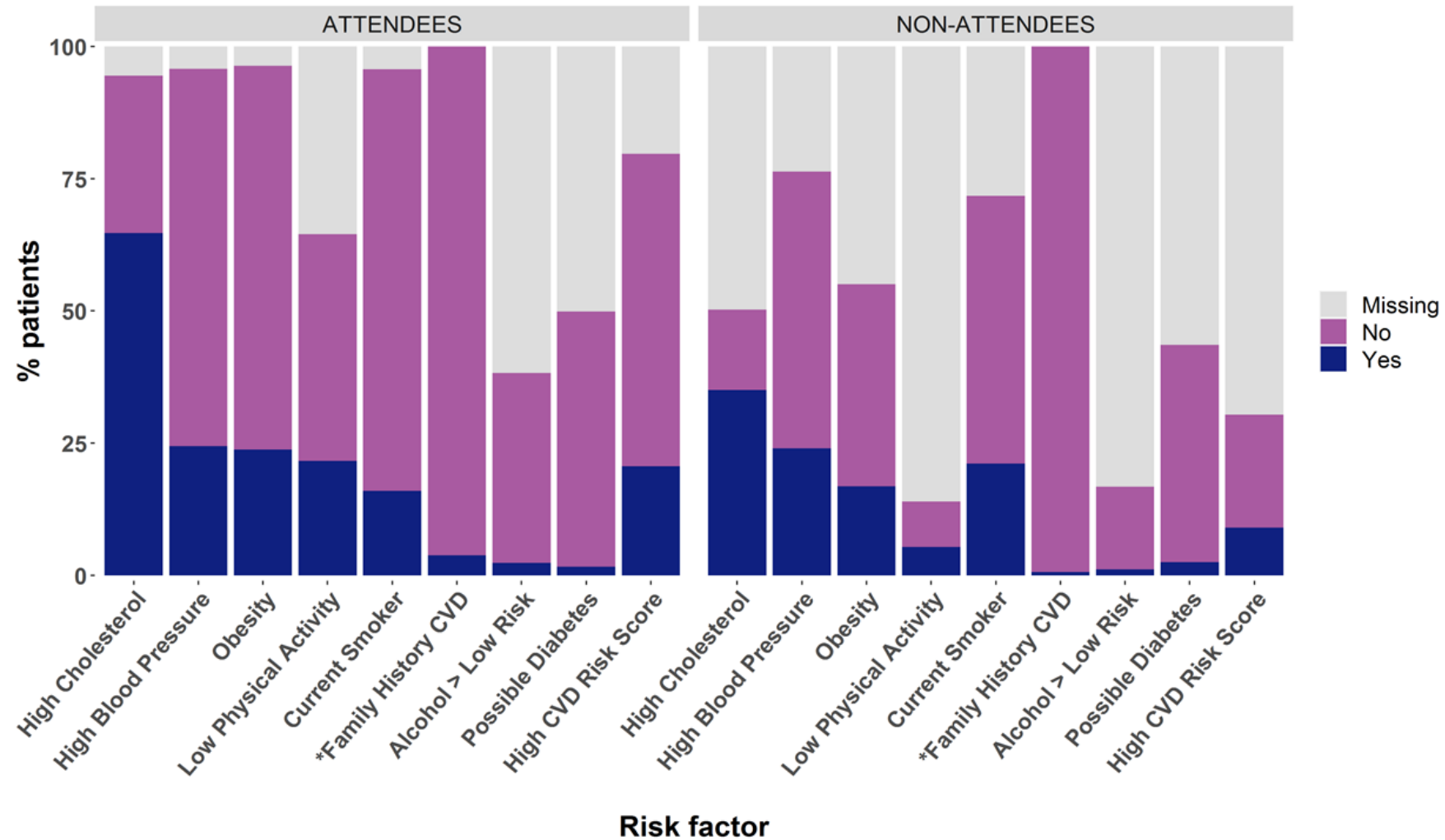
(3) Recording of CVD risk measures

High level (96% or more) of recording in **attendees**: BMI, smoking status, blood pressure, cholesterol level, QRISK score

Lower level (50 to 70%) of recording in **attendees**: physical activity (GPPAQ), alcohol (AUDIT-C), diabetes risk



Proportion of attendees and non-attendees with specific risk factors



For every...



4 NHS Health Checks, a person is identified as obese



42 NHS Health Checks, a person identified as drinking above recommended levels



6 NHS Health Checks, a person is identified as a smoker



5 NHS Health Checks, a person is found to be physically inactive

For every...



4 NHS Health Checks, a person is found to have high blood pressure



61 NHS Health Checks, a person is found to have high blood sugar



3 NHS Health Checks, a person is found to have high cholesterol ratio

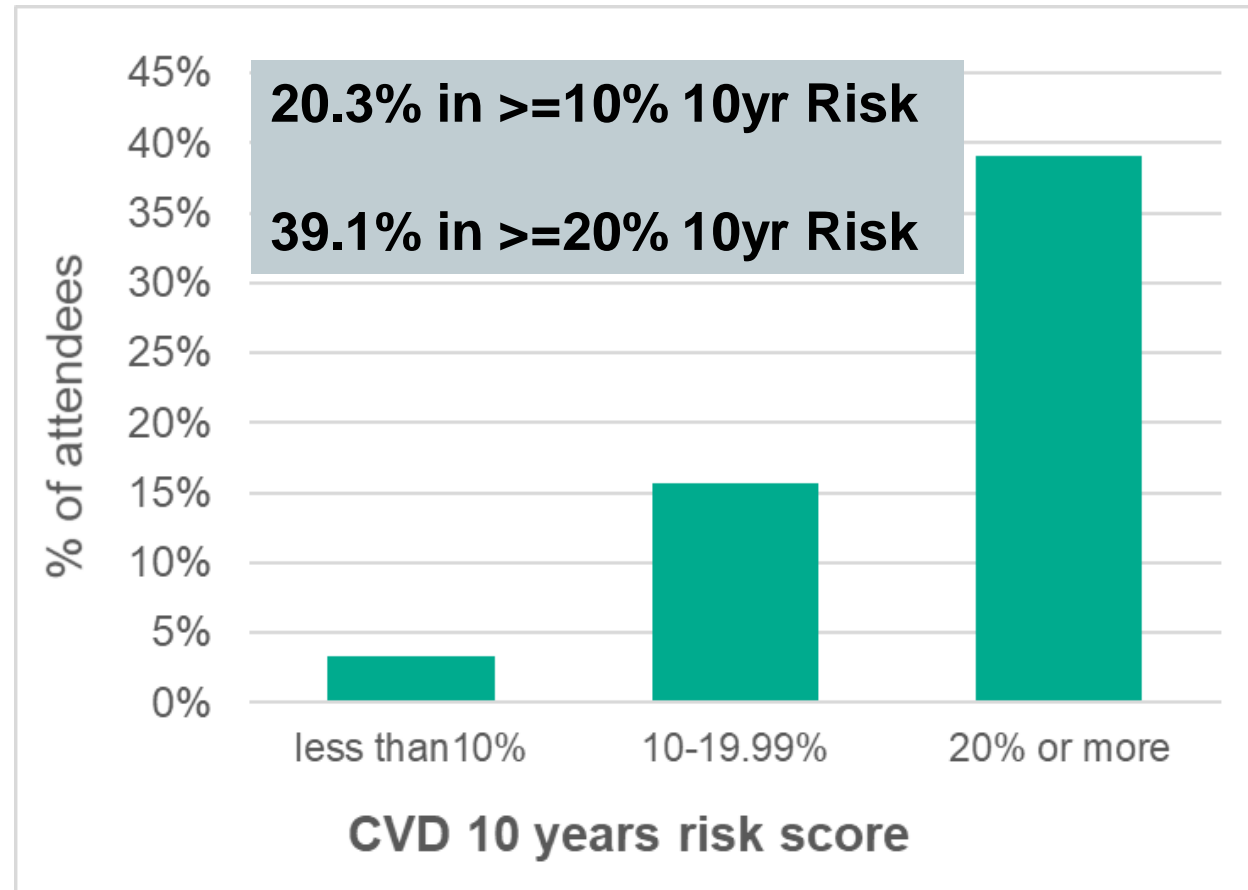


5 NHS Health Checks, a person is found to have a 10 year CVD risk score of $\geq 10\%$

(4) Interventions

- 6M advice, information, referrals recorded for attendees and 2.5M for those with elevated Risk
- Overall 16% of attendees received advice on lifestyle and behaviour
- 50% smokers referred for smoking cessation
- 19% of BMI >30 referred to weight management

New statin prescription (*) in attendees



* prescription data not available for 40% of practices

Limitations...

- Only had data for those coded to have received an NHSHC invitation – unable to estimate eligibility and coverage
- Missing data
 - Among non-attendees limits comparisons
 - 10% of GP practices not included
 - Limited data for those >70 years
 - Prescription data in 60% only
- Read code dependent – for interventions, advice – not quality of encounter

Summary...

- 52% of people invited for an NHSHC take it up
- Significant regional variation in uptake
- No clear evidence to suggest evidence of inequity in invitations or uptake
- Risk factor recording has improved and reveals a high burden of risk in England with opportunities for prevention
- Encouraging levels of interventions being offered with NHSHCs
- **But more work to be done!**

Analysis continues in order to answer...

- What proportion of attendees have **multiple risk factors** for CVD and how do they cluster?
- To what extent do people at risk get **information, advice, referral or a prescription** to help them reduce their risk?
- What interventions are offered to people with **long term risk** of CVD vs **short term risk**?
- What **socio-demographic factors** are associated with an increased likelihood of getting advice, information, referral or a prescription?
- **Clinical outcomes:** linkage to HES-mortality data

Useful links

Paper

Evaluation of the uptake and delivery of the NHS Health Check programme in England, using primary care data from 9.5 million people: a cross-sectional study, Patel et al.

<http://bmjopen.bmj.com/cgi/content/full/bmjopen-2020-042963>

Local dashboard

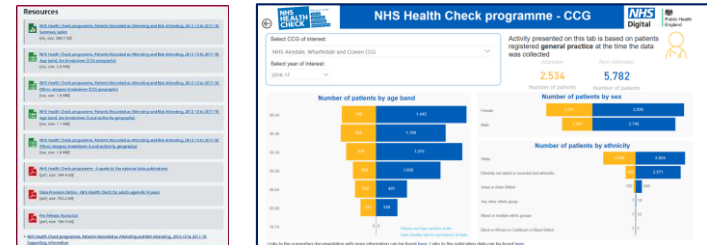
<https://digital.nhs.uk/data-and-information/publications/statistical/nhs-health-check-programme/2012-13-to-2017-18>

Join us for a webinar presenting the new local metrics from the NHS Health Check national primary care dataset on **Tuesday 1st December at 1pm**

Register on [webinar website](#)

Data extract business rules

<https://digital.nhs.uk/services/general-practice-gp-collections/service-information/nhs-health-checks-business-rules>





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Questions

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Thank you for joining

*Our next webinar is based on the **NHS Health Check Data Dashboard** and will be taking place on **01 December, 13:00 – 14:00***

For more information and joining instructions please email nhshealthchecks.mailbox@phe.gov.uk