



Public Health
England

Protecting and improving the nation's health

Guide to the cardiovascular disease (CVD) prevention programme supporting data packs

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Summary

These packs were developed to support the work of the Public Health England (PHE) Centre CVD prevention leads and to inform local conversations. This guidance refers to the updated packs released in February 2021.

The packs estimate the progress of local health economies towards the PHE CVD prevention diagnosis and treatment ambitions for hypertension and atrial fibrillation (AF).

The updated packs (Feb 2021) include data on behavioural risk factors and NHS Health Checks.

There is one pack for each STP, which displays information at STP, CCG and practice level for the most recent geographies. The packs vary in size depending on the number of CCGs that are covered by the STP.

The data displayed in the packs come from several different sources:

- The Quality and Outcomes Framework (QOF)
- PHE National Cardiovascular intelligence Network (NCVIN) disease prevalence models
- PHE Fingertips profiles

All this data is in the public domain, however the analysis in this pack relates this information directly to the PHE CVD prevention ambitions. This means that the methodology used to generate these figures may differ slightly from other published figures.

This document serves as a guide to the packs. It covers some of the issues discussed in the production of the packs and pre-empt some queries that may come up in their use. Please do not hesitate to get in touch (ncvin@phe.gov.uk) if you have any other questions about the data or its presentation in these packs.

Note: In response to stakeholder feedback, CCG level packs have been produced showing the hypertension and AF detection and treatment data by Primary Care Network (PCN). For specific details of these, please see the [Addendum](#).

Background

These CVD Prevention Programme data packs were developed jointly by PHE's National Cardiovascular Intelligence Network (NCVIN) and PHE's Local Knowledge and Intelligence service (LKIS) in consultation with Centre CVD prevention leads and the National Clinical Director for CVD prevention.

They were provided to support PHE's CVD prevention programme and designed specifically for PHE Centre CVD prevention leads to use in their work with system partners. The packs reflect the local opportunities to address the national PHE CVD Prevention Programme ambitions which were published in February 2019:

<https://publichealthmatters.blog.gov.uk/2019/02/14/health-matters-preventing-cardiovascular-disease/>.

These packs are available on the PHE Fingertips cardiovascular disease profile webpages: <https://fingertips.phe.org.uk/profile-group/cardiovascular-disease-diabetes-kidney-disease>.

The original request was to display local data on the three risk conditions for CVD agreed by the programme: hypertension, atrial fibrillation (AF) and dyslipidaemia. However, the focus remains on the first two conditions because there is currently no comprehensive national collection of data on cholesterol.

The pack does not include any information on the return on investment (ROI) associated with improving the detection and the management of the conditions. This has been excluded as this information can be accessed from the [CVD ROI tool](#) which provides comprehensive estimates of the impact of improving CVD prevention at local level (for more details see the 'Events avoided and costs saved' section).

Local users have requested the inclusion of data on behavioural risk factors and NHS Health Checks. Addressing behavioural risk factors and identifying people with CVD risk factors through the NHS Health Check Programme are important areas of action in helping to achieve the national ambitions. Data on these topics, including inequalities data where available, have been included in this update to the packs.

This is the fourth update to the original packs.

Explanation of the slides in the packs

The slides in the packs are split into five main sections: behavioural risk factors, behavioural risk factors inequalities, NHS Health Checks, hypertension and AF. Data is presented either at General Practice (GP), Clinical Commissioning Group (CCG) and Sustainability and Transformation Partnership (STP) geographies or by local authority (LA) depending upon the data source.

Behavioural risk factors

The first slide in this section details the rationale for including data on behavioural risk factors and highlights the link between some of these risk factors and COVID-19 outcomes.

The following slide provides an overview table of the CCG values and RAG rating for the following Quality Outcomes Framework (QOF) indicators:

- Smoking prevalence
- Smoking status recorded in the last 12 months
- Record of offer of support and treatment for smokers in last 24 months
- Record of blood pressure in last 5 years
- Obesity prevalence

What follows is a series of slides for each of the above indicators:

- Variation across the STP:
A vertical bar chart showing the variation across the STP at GP practice level. GP practice bars are coloured according to how their values compare to the England value. Red = statistically significantly worse, Amber = statistically similar, Green = statistically significantly better. Horizontal lines for the England and relevant STP values are also shown.
- Variation within CCGs:
A horizontal bar chart showing the variation across the CCG at GP practice level. GP practice bars are coloured according to how their values compare to the England value (as above). Vertical lines for the England and relevant CCG values are also shown. The CCG line is coloured based on how it compares to the England value (as above).

Charts may split over multiple slides if a CCG has many GP practices. These charts are shown for each CCG within the STP and are ordered alphabetically.

At the end of this section are horizontal bar charts for the following indicators:

- Adult physical inactivity
- Adults meeting the 5 a day fruit and veg recommendation
- Alcohol related CVD admissions

These indicators are not available at CCG/GP practice level, and so are shown at lower tier local authority level. As before, bars are coloured according to how their values compare to the

England value. 95% confidence intervals are shown as error bars on the chart and the England value is presented as a vertical line.

Behavioural risk factors inequalities

This section includes charts for the following local authority based indicators broken down by inequality dimensions where available:

- Adult smoking prevalence
- Adult overweight/obese prevalence
- Adult physical inactivity
- Adults meeting the 5 a day fruit and veg recommendation
- Alcohol related CVD admissions

The charts are in the same format as those described above and are at a national level. They are grouped onto one or two slides for each inequality breakdown in the following order:

- Deprivation
- Education
- Socioeconomic class
- Working status
- Age group
- Disability
- Ethnicity
- Sex

NHS Health Checks

The first three slides in this section show horizontal bar charts at upper tier local authority level for the following NHS Health Checks metrics:

- % of the eligible population offered an NHS Health Check
- % of the eligible population who have received an NHS Health Check
- % of those invited for an NHS Health Check who have received an NHS Health Check (uptake)

Again, bars are coloured according to how their values compare to the England value. 95% confidence intervals are shown as error bars on the chart and the England value is presented as a vertical line.

The remaining slides focus on non-attendances at NHS Health Checks by the following inequality dimensions:

- Deprivation (within area quintile)
- Ethnicity
- Age group
- Sex

There is one slide for each upper tier local authority with four horizontal bar charts on each slide (one for each of the inequality dimensions listed above). For these charts, the values which relate to 2017/18 for each inequality breakdown are benchmarked against the overall local authority value and coloured accordingly. The overall LA value is shown as a vertical line along with dashed vertical lines to represent the 95% confidence interval.

Hypertension and AF detection and treatment data against the national ambitions

For each condition the current ambitions are outlined, then there are slides on diagnosis and management. Where possible the estimated gap between current performance and the PHE ambition has been included. Each section contains an STP level graph detailing CCG values, followed by a chart showing GP practice level variation across the STP and then a series of GP practice level graphs for each CCG. To ease readability, the GP practice level charts may be split across multiple slides, depending on the number of GP practices within a CCG. These charts are outlined in more detail below.

Hypertension

Hypertension diagnosis section

The PHE hypertension diagnosis ambition is to diagnose 80% of the expected number of people with hypertension by 2029.

For the graphs in this section, the number of people diagnosed/recorded with hypertension comes from the QOF disease register for hypertension. The expected number is taken from the latest hypertension prevalence model (for more details of these data sources see the data section).

The graphs show the percentage of the expected number of people who have been diagnosed/recorded with hypertension.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG compared with England and the STP.

The blue and yellow charts show the same information at different geographies:

- STP/CCG: **'Hypertension QOF recorded prevalence compared with estimated prevalence and estimated additional number of people with hypertension required to be diagnosed to meet the PHE ambition, by CCG, STP and England, 2019/20'**
- GP practice level: **'Hypertension QOF recorded prevalence compared with estimated prevalence and estimated additional number of people with hypertension required to be diagnosed to meet the PHE ambition, by GP practice, 2019/20'**

The graphs show the percentage of the expected number who have been diagnosed (blue bar) and the gap (yellow bar) to the PHE ambition. The number shown at the end of the bar is an estimation of the number of additional people required to be identified and diagnosed to meet the ambition. It should be noted that these numbers are based on modelled estimates and are therefore an approximation.

The graphs are ordered with the CCGs or practices that have the lowest recorded to estimated ratio at the top. These may not necessarily be the CCGs or practices with the highest estimated number of people with unrecorded/undiagnosed hypertension.

GP practice level variation across the STP: **'Hypertension QOF recorded prevalence compared with estimated prevalence, by GP practice'**

This graph (grey bars) highlights the range in the recorded/diagnosed to estimated prevalence at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order. The range of values across the STP is shown at the bottom right of the slide, along with the estimated number of additional people who need to be diagnosed to meet the national ambition.

Hypertension treatment

The PHE hypertension treatment ambition is to treat 80% of patients diagnosed with hypertension to target as per NICE guidelines by 2029. The NICE treatment target for hypertension varies by age group (and for some high-risk conditions). The treatment level is 140/90 mm/Hg in people aged 79 and under, and 150/90 mm/Hg in people aged 80 and over.

For the first time in 2019/20 QOF, there are two separate indicators for these two age groups. For this section of the pack, the numerators and denominators from these two indicators have been aggregated and a new percentage calculated for the percentage of all patients who have been treated to target as per NICE guidelines. Whilst this isn't a perfect measurement against the national ambition (as it does not take into account the different thresholds for individuals with high risk conditions), it is the best that can be achieved with the available data.

The slides in the appendices provide charts for the two age groups and their respective targets separately. Please see the appendices section below for more details.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG.

The first chart in this section is a horizontal stacked bar chart which breaks down patients diagnosed with hypertension into the following categories:

- % treated to the relevant target (blue bar)
- % not treated to target (light grey bar)
- % who have had a Personalised Care Approach Recorded (dark grey bar)

The number of patients which fall in each of these categories is also shown (in thousands) on the relevant part of the bar. There is one bar for each CCG within the STP.

The next slide shows STP/CCG level information (all CCGs within the STP compared with England and the STP) and is followed by practice level information for each CCG.

These charts (blue and yellow bars) show the proportion of diagnosed patients who are treated to the relevant threshold at different geographies:

- STP/CCG: **'Estimated additional number of patients with recorded hypertension whose blood pressure needs to be managed to target, to meet the PHE ambition, England, STP and CCG level, 2019/20'**
- GP practice level: **'Estimated additional number of patients with recorded hypertension whose blood pressure needs to be managed to target, to meet the PHE ambition, by GP practice, 2019/20'**

The graphs show the percentage of patients diagnosed with hypertension who have been treated to target (blue bar) and the gap (yellow bar) to the PHE ambition. The number shown at the end of the bar is an estimation of the number of additional patients needed to be treated to target to meet the ambition.

The graphs are ordered with the CCGs or GP practices with the lowest percentage of patients treated to target shown at the top. These may not necessarily be the CCGs or GP practices with the highest number of patients with hypertension not treated to the recommended blood pressure level.

GP practice level variation across the STP:

- **'The proportion of patients with recorded hypertension whose blood pressure is managed to target, by GP practice, 2019/20'**

This graph (grey bars) highlights the range in the percentage of patients with recorded hypertension who are managed to target at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order. The range of values across the STP is shown at the bottom right of the slide, along with the estimated number of additional patients who require blood pressure management to target to meet the national ambition.

Atrial fibrillation (AF)

Atrial Fibrillation diagnosis

The PHE AF diagnosis ambition is to diagnose 85% of the expected number of people with AF by 2029.

For all the graphs in this section, the number of people diagnosed with AF comes from the QOF disease register for AF, and the expected number is taken from the AF prevalence model (for more details of these data sources see data section). The graphs show the percentage of the expected number of people who have been diagnosed with AF.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG. The blue and yellow charts show the same information at different geographies:

- **STP/CCG: 'AF QOF recorded prevalence compared with estimated prevalence and estimated additional number of people with AF required to be diagnosed to meet the PHE ambition, CCG, STP and England, 2019/20'**
- **GP practice level: 'AF QOF recorded prevalence compared with estimated prevalence and estimated additional number of people with AF required to be diagnosed to meet the PHE ambition, by GP practice, 2019/20'**

The graphs show the percentage of the estimated number who have been diagnosed (blue bar) and the gap (yellow bar) to the PHE ambition of 85% of the estimated number of people with AF being diagnosed. The number at the end of the bar is an estimation of the number of people required to be identified and diagnosed to meet the ambition. It should be noted that these numbers are based on modelled estimates and are therefore an approximation.

The graphs are ordered with the CCGs or GP practices that have the lowest percentage of patients diagnosed/recorded at the top. These may not necessarily be the CCGs or GP practices with the highest numbers of people with undiagnosed/unrecorded AF.

GP practice level variation across the STP:

- **'AF QOF recorded prevalence compared with estimated prevalence, by GP practice, 2019/20'.**

This graph (grey bars) highlights the range in the recorded to estimated prevalence at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order. The range of values across the STP is shown at the bottom right of the slide, along with the estimated number of additional people who need to be diagnosed to meet the national ambition.

Atrial fibrillation treatment

The PHE AF treatment ambition is for 90% of patients with AF who are known to be at high risk of a stroke to be adequately anticoagulated by 2029.

For all the graphs in this section the data comes from the QOF.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG.

The first chart in this section is a horizontal stacked bar chart which breaks down the high risk AF patients who have been diagnosed into the following categories:

- % treated with anticoagulation (blue bar)
- % not treated with anticoagulation (light grey bar)
- % who have had a Personalised Care Approach Recorded (dark grey bar)

The number of patients which fall in each of these categories is also shown (in thousands) on the relevant part of the bar. There is one bar for each CCG within the STP.

The next slide shows STP/CCG level information (all CCGs within the STP compared with England and the STP) and is followed by GP practice level information for each. These charts (blue and yellow bars) show the percentage of high risk AF patients who are anticoagulated at different geographies:

- STP/CCG: **'Estimated additional number of high risk AF patients who need to be anticoagulated to meet the PHE ambition, England, STP and CCG level, 2019/20'**
- GP practice level: **'Estimated additional number of high risk AF patients who need to be anticoagulated to meet the AF treatment ambition, by GP practice, 2019/20'**

The graphs show the percentage of high risk AF patients who have been anticoagulated (blue bar) and the gap (yellow bar) to the PHE ambition. The number at the end of the bar is an estimation of the number of additional patients needed to be anticoagulated to meet the national ambition.

The graphs are ordered with the CCGs or GP practices that have the lowest percentage of patients anticoagulated at the top. These may not necessarily be the CCGs or GP practices with the highest number of high risk AF patients not anticoagulated.

GP practice level variation across the STP:

- **'The proportion of high risk AF patients who are anticoagulated, by GP practice, 2019/20'**

This graph (grey bars) highlights the range in the percentage of patients with high risk AF who are anticoagulated at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order.

NB: The treatment charts and gaps to the AF treatment ambition are based on the number of patients recorded in QOF 2019/20 as being anticoagulated. Some of these individuals may not be adequately anticoagulated. The number required to meet the national ambition is therefore likely to be higher than indicated.

Personalised Care Approach (PCA) reporting for QOF indicator AF anticoagulation

The variation in exception reporting was raised as an issue by the CVD prevention leads during the consultation for these packs. Exception reporting in QOF has now been replaced with 'Personalised Care Approach' reporting. This slide provides an overview of the variation in PCA reporting by showing the lowest and highest percentages of high risk AF patients who have a PCA recorded at a GP practice level within each CCG. The range across each CCG is also shown. This slide has been removed for the February 2021 update of the packs.

Events avoided and costs saved

This slide directs users to the PHE CVD Prevention Return on Investment (ROI) tool.

A comprehensive CVD prevention return on investment tool has been published and is available on this link <https://cvd-prevention.shef.ac.uk/>. The NHS RightCare Optimal Pathway highlighted six CVD high risk conditions that are currently underdiagnosed and insufficiently managed despite a range of available interventions, and therefore represent targets for improvement:

- High blood pressure;
- Atrial fibrillation (AF);
- High cholesterol/high CVD risk including Familial Hypercholesterolemia (FH);
- Diabetes (Type 2 and Type 1);
- Non-diabetic hyperglycaemia;
- Chronic kidney disease (CKD).

PHE identified that whilst several tools pre-existed for assessing ROI for CVD prevention, these used a variety of different evidence sources and assumptions and there was no common platform for the assessment of ROI across different risk conditions and different interventions. Hence, there was a need for an integrated, single platform ROI tool to support NHS and public health decision makers at both national and local level.

What does the ROI tool do?

The tool is based on a simulation model that will calculate the health benefits and cost savings made through changes in detection and management of people with six key high CVD risk factors: hypertension; atrial fibrillation, diabetes; non-diabetic hyperglycaemia; chronic kidney disease and high cholesterol/high QRISK score. It can be used for the whole of England, an STP, CCG or local authority area.

The user can answer two types of question with the ROI tool:

1. What happens when I improve detection or management of key CVD risk factors?

This allows users to consider the impact of changing the proportion of people detected or "well managed" out of the people who have one or many of the six CVD risk factors above. "Well managed" is defined in the tool as receiving all interventions that are NICE recommended for CVD prevention in people with that condition.

2. What happens when I improve usage of the key interventions for people at risk of CVD?

This allows the user to consider the impact of improving the usage of interventions in people who have identified CVD risk factors. The user also has the option to create their own intervention that might impact on the risk conditions.

The tool allows the user to enter impact data and then receive a report with the outcomes, including clinical events avoided, costs and cost-effectiveness over a time period of up to 20 years into the future.

Appendix 1: Hypertension treatment to 140/90 mmHg target for patients aged 79 years and under

For all the graphs in this section, the hypertension treatment figures come from the QOF.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG.

The first chart in this section is a horizontal stacked bar chart which breaks down patients aged 79 years and under diagnosed with hypertension into the following categories:

- % treated to 140/90 mmHg (blue bar)
- % not treated to 140/90 mmHg (light grey bar)
- % who have had a Personalised Care Approach Recorded (dark grey bar)

The number of patients which fall in each of these categories is also shown (in thousands) on the relevant part of the bar. There is one bar for each CCG within the STP.

The next slide shows STP/CCG level information (all CCGs within the STP compared with England and the STP) and is followed by practice level information for each CCG.

These charts (blue and yellow bars) show the proportion of diagnosed patients (aged 79 years and under) who are treated to 140/90 mmHg at different geographies:

- STP/CCG: **'Estimated additional number of patients aged 79 years and under with recorded hypertension who need to achieve a blood pressure of 140/90 mmHg, to reach the 80% treatment level, England, STP and CCG level, 2019/20'**
- GP practice level: **'Estimated additional number of patients aged 79 years and under with recorded hypertension who need to achieve a blood pressure of 140/90 mmHg, to reach the 80% treatment level, by GP practice, 2019/20'**

The graphs show the percentage of patients aged 79 years and under diagnosed with hypertension who have been treated to 140/90 mmHg (blue bar) and the gap (yellow bar) to the 80% treatment level. The number shown at the end of the bar is an estimation of the number of

additional patients aged 79 years and under needed to be treated to 140/90 mmHg to meet the 80% treatment level.

The graphs are ordered with the CCGs or GP practices with the lowest percentage of patients aged 79 years and under treated to 140/90 mmHg shown at the top. These may not necessarily be the CCGs or GP practices with the highest number of patients aged 79 years and under with hypertension not treated to 140/90 mmHg.

GP practice level variation across the STP:

- **‘The proportion of patients aged 79 years and under with recorded hypertension who are treated to 140/90 mmHg, by GP practice, 2019/20’**

This graph (grey bars) highlights the range in the percentage of patients aged 79 years and under with recorded hypertension who are managed to 140/90 mmHg at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order. The range of values across the STP is shown at the bottom right of the slide, along with the estimated number of additional patients aged 79 years and under needed to be treated to 140/90 mmHg to meet the 80% treatment level.

Appendix 2: Hypertension treatment to 150/90 mmHg target for patients aged 80 years and over

For all the graphs in this section, the hypertension treatment figures come from the QOF.

The section is split into two: showing STP/CCG level information (all CCGs within the STP compared with England and the STP) and then GP practice level information for each CCG.

The first chart in this section is a horizontal stacked bar chart which breaks down patients aged 80 years and over diagnosed with hypertension into the following categories:

- % treated to 150/90 mmHg (blue bar)
- % not treated to 150/90 mmHg (light grey bar)
- % who have had a Personalised Care Approach Recorded (dark grey bar)

The number of patients which fall in each of these categories is also shown (in thousands) on the relevant part of the bar. There is one bar for each CCG within the STP.

The next slide shows STP/CCG level information (all CCGs within the STP compared with England and the STP) and is followed by practice level information for each CCG.

These charts (blue and yellow bars) show the proportion of diagnosed patients (aged 80 years and over) who are treated to 150/90 mmHg at different geographies:

- **STP/CCG: ‘Estimated additional number of patients aged 80 years and over with recorded hypertension who need to achieve a blood pressure of 150/90 mmHg, to reach the 80% treatment level, England, STP and CCG level, 2019/20’**

- GP practice level: **'Estimated additional number of patients aged 80 years and over with recorded hypertension who need to achieve a blood pressure of 150/90 mmHg, to reach the 80% treatment level, by GP practice, 2019/20'**

The graphs show the percentage of patients aged 80 years and over diagnosed with hypertension who have been treated to 150/90 mmHg (blue bar) and the gap (yellow bar) to the 80% treatment level. The number shown at the end of the bar is an estimation of the number of additional patients aged 80 years and over needed to be treated to 150/90 mmHg to meet the 80% treatment level.

The graphs are ordered with the CCGs or GP practices with the lowest percentage of patients aged 80 years and over treated to 150/90 mmHg shown at the top. These may not necessarily be the CCGs or GP practices with the highest number of patients aged 80 years and over with hypertension not treated to 150/90 mmHg.

GP practice level variation across the STP:

- **'The proportion of patients aged 80 years and over with recorded hypertension who are treated to 150/90 mmHg, by GP practice, 2019/20'**

This graph (grey bars) highlights the range in the percentage of patients aged 80 years and over with recorded hypertension who are managed to 150/90 mmHg at GP practice level for all GP practices in the STP. Each bar in the graph represents a single GP practice and they are shown in ascending value order. The range of values across the STP is shown at the bottom right of the slide, along with the estimated number of additional patients aged 80 years and over needed to be treated to 150/90 mmHg to meet the 80% treatment level.

Data sources and methodology notes

Data sources

LSOA to STP Lookup, April 2020 (Office for National Statistics (ONS)):

https://geoportal.statistics.gov.uk/datasets/d30531b5888a4e34be4746399d696409_0

This look up file was used to assign local authorities to STPs (see methodology section below for more details).

Lower layer Super Output Area Mid-year Population Estimates 2019 (ONS):

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimatesnationalstatistics>

These population estimates were used to help assign local authorities to STPs (see methodology section below for more details).

PHE Fingertips: <https://fingertips.phe.org.uk/>

Data for the behavioural risk factors and NHS Health Checks (offers, received and uptake) charts is taken from the PHE Fingertips platform and includes number of primary data sources:

- NHS Digital: QOF 2019/20
- Sport England: Active Lives Survey 2018/19
- NHS Digital: Hospital Episode Statistics (HES) 2018/19
- ONS: Mid-year Population Estimates 2018

NHS Digital: NHS Health Check programme, Patients Recorded as Attending and Not Attending, 2012-13 to 2017-18 - NHS Digital

Data for the NHS Health Checks non-attendance charts by inequality breakdowns are taken from the following csv files downloaded from the above website:

- NHS Health Check programme, Patients Recorded as Attending and Not Attending, 2012-13 to 2017-18: Age band, Sex breakdown (Local authority geography) Version 2
- NHS Health Check programme, Patients Recorded as Attending and Not Attending, 2012-13 to 2017-18: Ethnic category breakdown (Local authority geography) Version 2
- NHS Health Check programme, Patients Recorded as Attending and Not Attending, 2012-13 to 2017-18: Index of Multiple Deprivation (Local authority geography)
- NHS Health Check programme, Patients Recorded as Attending and Not Attending, 2012-13 to 2017-18: Summary tables Version 3

The Quality and Outcomes Framework (QOF): Quality and Outcomes Framework, 2019-20 - NHS Digital

The recorded/diagnosed hypertension and AF figures are taken from the QOF 2019/20. Please note that these figures represent people who have been diagnosed and recorded on a GP disease register. These form the numerator for the diagnosed (recorded) to estimated ratio analysis in the hypertension and AF diagnosis sections.

The hypertension treatment charts in the main body of the body are based on an aggregation of the numerators and denominators of the following indicators:

- HYP003: The percentage of patients aged 79 years or under with hypertension in whom the last blood pressure reading (measured in the preceding 12 months) is 140/90 mmHg or less
- HYP007: The percentage of patients aged 80 years or over with hypertension in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less

The charts in Appendix 1 use the first of these indicators (HYP003) and those in Appendix 2 use the second indicator (HYP007).

The AF treatment charts use the figures from the following indicator:

- AF007: In those patients with atrial fibrillation with a record of a CHA₂DS₂-VASc score of 2 or more, the percentage of patients who are currently treated with anti-coagulation drug therapy

The denominator used for this indicator represents people with AF who are at a high risk of developing stroke and is therefore a subset of the AF disease registers in QOF.

Hypertension prevalence estimates (NCVIN):

<https://www.gov.uk/government/publications/hypertension-prevalence-estimates-for-local-populations>

The prevalence estimates for hypertension are taken from a prevalence model produced by the NCVIN. They are based on information taken from the Health Survey for England 2016 and 2017 combined. The statistical model takes into account age, sex and general health status. The definition of hypertension is the same as the published data from the Health Survey for England: "people who are taking blood pressure lowering medicine and/or have high blood pressure reading of 140/90 mmHg or higher".

The 2017 estimates were uplifted to ensure they are comparable to the 2019/20 recorded hypertension figures. The 2017 estimated prevalence counts (rounded to the nearest 10) were divided by the total registered population in April 2017 and multiplied by the 2019/20 QOF list sizes at GP, CCG, STP and England level to create the 2019/20 prevalence estimates for the hypertension diagnosis section.

AF prevalence estimates

AF prevalence estimates have been calculated by applying the age-sex specific prevalence rates reported by Norberg et al (2013)¹ to GP practice registered populations as at April 2020².

Table1: Norberg et al (2013)¹ prevalence rates

Age group	Male			Female		
	Population	AF	Prevalence %	Population	AF	Prevalence %
0-19	8984	0	0.0%	8394	0	0.0%
20-29	4389	4	0.1%	3804	0	0.0%
30-39	4445	15	0.3%	4076	4	0.1%
40-44	2502	26	1.0%	2360	1	0.0%
45-49	2483	22	0.9%	2417	4	0.2%
50-54	2575	53	2.1%	2575	10	0.4%
55-59	2710	86	3.2%	2549	17	0.7%
60-64	2736	115	4.2%	2596	43	1.7%
65-69	2383	164	6.9%	2450	83	3.4%
70-74	1874	212	11.3%	1957	112	5.7%
75-79	1405	228	16.2%	1797	183	10.2%
80-84	1015	206	20.3%	1478	231	15.6%
85-89	549	126	23.0%	924	180	19.5%
90-94	157	44	28.0%	355	86	24.2%
95-99	24	4	16.7%	67	14	20.9%
100+	1	0	0.0%	4	1	25.0%

GP practice registered populations by sex and quinary age bands were aggregated to match the age groups in Table 1. As 95+ is the highest group in the GP registered population figures, the data from the Norberg et al study for the 95-99 and 100+ age groups was combined to produce a prevalence rate for a 95+ age group; 16% (males) and 21.1% (females).

The age/sex specific prevalence rates were then applied to each age/sex cohort, rounded to the nearest whole number, and then summed to produce a prevalence estimate for each GP practice included in the QOF 2019/20 results. The process was repeated to produce CCG and STP prevalence estimates, based just on registered populations for GP practices included in the QOF 2019/20 results.

It is important to stress that both the hypertension and AF prevalence figures are estimates and there may be local population factors which are not accounted for in the underlying prevalence models which affect how accurate the estimates are at a local level.

¹ Norberg *et al.* Estimating the prevalence of atrial fibrillation in a general population using validated electronic health data. *Clin Epidemiol.* 2013; **5**: 475-481.

² NHS Digital: Number of Patients Registered at a GP practice – April 2020: [Patients Registered at a GP Practice - April 2020 - NHS Digital](#).

Methodology notes

Assigning lower tier and upper tier local authorities to STPs

There is not a direct one to one mapping from lower tier local authority (LTLA) or upper tier local authority (UTLA) to STP, and so some residents of a given local authority may reside in one STP's boundary whereas others may reside in a different STP's boundary. In order to know which local authorities to include in which STP pack a lookup was created. Local authorities are made up of Lower Super Output Areas (LSOAs) which do map directly to an individual STP. The NHS Digital LSOA to STP April 2020 lookup spreadsheet was used to extract all LTLA to STP matches. The population numbers within each LSOA were obtained from the ONS 2019 mid-year population estimates. For each LTLA, the population numbers in each matched STP were calculated by summing the population estimates for each respective LSOA. If a LTLA had at least 10% of its population within a given STP, then that LTLA to STP match was included in the lookup.

UTLA to STP matches were then assigned based on the LTLA to STP matches. Hence if a LTLA is included in an STP pack, its respective UTLA will also be included.

This process was repeated for April 2019 configurations of local authority geographies (as not all indicators were available for 2020 configurations).

Rounding of data

The final prevalence estimates have been rounded to the nearest whole number.

In order to not imply erroneous accuracy to the prevalence estimates, the gap to ambition figures for the diagnosis charts have been rounded. In order to avoid confusion in the packs all figures which represent the gap to diagnosis and treatment ambitions have been rounded to the nearest 10, regardless of the levels of uncertainty associated with the underlying data.

Ranking presentation in the graphs

Both the CCG and GP practice level graphs show the CCGs/GP practices with the lowest percentage of people diagnosed or treated at the top. These may not be CCGs/GP practices with the largest numbers of people undiagnosed or untreated.

This has been done so that local teams can easily pick out the areas where inequalities in diagnosis or treatment are present, and it is hoped that this will be useful in identifying targets for quality improvement.

GP practice level graphs

The NHS Digital reported QOF data have been used to generate a list of GP practices for these prevention packs.

The detection charts exclude practices which do not have a prevalence estimate. This may occur where practices have opened, closed or changed codes in the period between the generation of the estimates and the collection of QOF data. Only practices with a QOF register

and a prevalence estimate are included in the detection GP level graphs. This means that the practices displayed in these charts may not be the same as those returning QOF data.

Both the hypertension and AF treatment charts contain the GP practices as reported in the QOF data.

Capping detection values

Some geographies may have diagnosed more patients than the expected prevalence number. In these cases, the value is capped at 100%.

Other sources of CVD prevention data

The data in these packs are tailored towards the PHE ambitions on CVD prevention. There are other data tools and resources that are available to help to build the case for CVD prevention locally. The list below includes key resources from NCVIN and partner organisations. This is not exhaustive, so please contact your local LKIS team if there is information required that is not available in this list:

- CVD profiles (pdf profiles and Fingertips)
<https://fingertips.phe.org.uk/profile/cardiovascular>
- CVD prevalence information www.gov.uk/guidance/cardiovascular-disease-data-and-analysis-a-guide-for-health-professionals
- NHS RightCare Evidence and high value intervention resources
www.england.nhs.uk/rightcare/products
- The National General Practice profiles
<https://fingertips.phe.org.uk/profile/general-practice>

Addendum – CCG level packs

In response to stakeholder feedback, CCG level packs have been produced showing the hypertension and AF detection and treatment data by Primary Care Network (PCN). For related behavioural risk factors and NHS Health Checks data please see the relevant STP level pack.

These CCG level packs use the same style charts as the STP level packs and follow the same format. Each section begins with an overview chart showing the England, STP, CCG and PCN level values. GP practice variation across the CCG is then shown in a vertical bar chart, followed by the GP practice horizontal bar charts with identified gaps to the national ambitions, grouped by PCN. For PCNs with large number of practices, these charts may span multiple slides.

GP practices are grouped into PCNs based on the allocated PCN reported in the underlying QOF data. PCNs are assigned to a single CCG using the April 2021 [Primary Care Networks file](#) (ePCN) from NHS Digital. If a PCN crosses CCG boundaries, then the CCG with most GP practices within the PCN is taken as the assigned CCG. This could mean that a CCG has GP practices which fall in a PCN which is not reported in the pack. In this case, they would be included in any CCG level values but would not be shown separately at GP practice level. For CCGs with only one PCN this could result in different values for the CCG and the one PCN.

For QOF data (diagnosed and treated to target) and hypertension prevalence estimates, PCN values are calculated by summing the respective values from constituent GP practices. GP practices with no hypertension prevalence estimates are removed from the calculation for the PCN diagnosed number. For CCGs with only one PCN, this might mean that the % detected at PCN level will be different to that reported for the CCG (the CCG prevalence estimate is calculated by applying a statistical model to the underlying CCG population). AF prevalence estimates for PCNs have been calculated by applying the age/sex specific rates from Norberg et al (2013)¹ to the PCN registered population as at April 2020 (excluding those practices with no QOF data).

As mentioned in the methodology section above, values are capped at 100% for detection indicators. There are some instances where a PCN is reported as having 100% detection, but the constituent practices do not all have 100% detection. This is because some of the constituent practices with reported 100% detection values have actually diagnosed more people than the estimated prevalence. These 'excess' patients are included in the sum of the diagnosed patients at PCN level and hence, the overall PCN diagnosed numbers may well exceed the estimated prevalence at PCN level.

¹ Norberg *et al.* Estimating the prevalence of atrial fibrillation in a general population using validated electronic health data. *Clin Epidemiol.* 2013; **5**: 475-481.