THIRD ANNUAL AUDIT REPORT

Office for Health Improvement & Disparities

CVDPREVENT

NHS Benchmarking Network

(for the audit period up to March 2022)

Using data to drive cardiovascular disease prevention

HQIP
Healthcare Quality Improvement Partnership

The CVDPREVENT audit is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies. **www.hqip.org.uk/national-programmes**

The CVDPREVENT audit aims to support quality improvement in the prevention of cardiovascular disease (CVD) in primary care in England.

This report was prepared by the NHS Benchmarking Network (NHSBN) and the National Cardiovascular Intelligence Network (NCVIN) team. NCVIN is based in the Office for Health Improvement and Disparities (OHID), part of the Department for Health and Social Care (DHSC). The audit is delivered in partnership between NHS Digital (now NHS England), NCVIN, and the NHSBN. To ensure patient involvement in the audit, the NHSBN work closely with the Patients Association.

NHS BENCHMARKING NETWORK (NHSBN)

The NHS Benchmarking Network is a member led organisation promoting service improvement in the NHS through benchmarking and sharing good practice. Members are providers and commissioners of NHS services, spanning the acute, community and mental health sectors. The NHSBN team support members in sharing data to compare service provision and performance with the aim of identifying improvement opportunities. In addition, the NHSBN run national clinical audits.

NATIONAL CARDIOVASCULAR INTELLIGENCE NETWORK (NCVIN) - OFFICE FOR HEALTH IMPROVEMENT & DISPARITIES (OHID)

NCVIN interprets and translates complex data for national and local stakeholders, to inform policy and local decision making and to improve cardiovascular services and outcomes for patients. The team produces trustworthy cardiovascular health intelligence products including profiles and specialist analyses that are innovative and focus on user needs.

NHS DIGITAL (NOW NHS ENGLAND)

NHS Digital was the trading name of the Health and Social Care Information Centre, which is the national provider of information, data and IT systems. The team design, develop and operate the national IT and data services that support clinicians at work, help patients get the best care, and use data to improve health and care. NHS Digital merged with NHS England on 1st February 2023. This work uses data provided by patients and collected by the NHS as part of their care and support.

PATIENTS ASSOCIATION

The Patients Association is an independent patient charity campaigning for improvements in health and social care for patients. Uniquely for a charity with a remit covering all health and care issues, it works with patients directly: they are its members and supporters, and also the people who benefit from the charity's help and advice services. Through the Patients Association's helpline they support thousands of people each year with their concerns and queries about the health and social care system. The Patients Association speak to government, the NHS and other stakeholders about patients' priorities and concerns, to ensure the patient voice is heard and acted upon.

Authors: Office for Health Improvement & Disparities (OHID) and NHS Benchmarking Network, March 2023

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FOREWORD

Cardiovascular disease kills 136,000 people per year and has a significant impact on ethnic minority and deprived communities. Data is essential to understand how we can prevent these deaths and we are, therefore, pleased to introduce the **Third Annual Audit Report for the CVDPREVENT Audit** covering the period up to March 2022.

10 brand new indicators were introduced to the audit on the Data & Improvement Tool in September 2022 and have been included in this report. These new indicators now cover, for the first time, non-diabetic hyperglycaemia, diabetes and smoking.

The CVDPREVENT Second Annual Audit Report provided insight into the impact of the COVID-19 pandemic on primary care services. It showed that, in particular, the diagnosis and management of hypertension had been significantly disrupted. This report provides insight into the recovery of CVD prevention in primary care one year after the impact of national COVID-19 lockdowns and throughout recurring surges of the virus, during which the vaccination programme which was made a priority.

As well as using the pre-pandemic baseline, this report also compares the national position against key ambitions set out as milestones for the prevention of CVD. These national ambitions were set out alongside the NHS Long Term Plan and cover the detection and management of atrial fibrillation, blood pressure and cholesterol.

Reducing health inequalities across integrated care systems is a priority for the NHS. The CVDPREVENT audit incorporates age, sex, ethnicity and deprivation data, giving users the ability to assess the gaps between different groups. The Third Annual Audit Report includes a section addressing health inequalities. In this section, specific demographic groups have been identified for which the data suggests an increased quality improvement effort is required.

The **CVDPREVENT Data & Improvement Tool** continues to provide systems with the most up to date audit data for their organisations, providing insight across all system levels. From its inception, the ambition of the audit has been to provide new data as regularly as possible. We are pleased to announce that the CVDPREVENT audit now publishes new data on the Tool every three months, with each publication only four months after the published data period.

This report pulls out national key findings whilst the Data & Improvement Tool offers local insight, highlighting variation and potential challenges. We encourage you to use the Data & Improvement Tool for the best and most up to date understanding of cardiovascular disease prevention in your area.

Quality improvement is one of the key ambitions of the audit and an educational outreach programme is currently being piloted to support use of the data. To find out more about the quality improvement workstream, please contact the support team at **nhsbn.cvdprevent@nhs.net.**

We would like to thank the CVDPREVENT Audit Steering Group for their invaluable advice and support and the CVDPREVENT Patient Panel, who ensure the patient perspective is at the heart of audit delivery.

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EXECUTIVE SUMMARY

The Third Annual Audit Report presents analysis of GP recorded data for relevant patient cohorts up to March 2022 (round three). In this latest report, results from data audited on 31st March 2022 are compared to previous iterations of the audit considering recovery from disruption caused by the COVID-19 pandemic (round two, with data up to March 2021) and referring back to the pre-pandemic baseline (round one, with data up to March 2020). This report also looks at results compared to national ambitions, set out as milestones towards achieving the **NHS Long Term Plan** ambition to prevent 150,000 strokes, heart attacks and cases of dementia by 2029. Health inequalities markers, and patterns across conditions and indicators are also considered.

The CVDPREVENT audit has been designed to be transformational in supporting quality improvement on the ground. Alongside this report the online **Data & Improvement Tool** provides quarterly data, from national down to individual practice level, so that organisations can identify the key improvement opportunities in their areas.

KEY FINDINGS

CARDIOVASCULAR DISEASE (CVD) PREVALENCE

The prevalence of cardiovascular disease in adults in England was 6.0%. The prevalence increased with age and males were more likely than females to have the disease.

A FOCUS ON THE ABC

Atrial fibrillation (AF)

Prescription of anticoagulation drug therapy, for those with AF at high-risk of stroke, increased by one percentage point since March 2021 to 88.9% in March 2022. This is 1.1 percentage points below the **90%** national ambition which was set out alongside the NHS Long Term Plan (LTP).

Blood pressure (BP)

Performance on hypertension management started to recover after disruption during the COVID-19 pandemic. In March 2020 88.7% of patients, with hypertension, had a blood pressure reading in the preceding 12 months. In March 2021 this fell to 63.5% and in March 2022 the data showed that 78.5% of patients had a reading recorded. In March 2020 67.5% of 18 to 79 year olds, with hypertension, had their blood pressure treated to target. In March 2021 this fell to 46.1% and in March 2022 the data showed that 57.0% were treated to target. The agreed national ambition is to have **80%** of patients with hypertension treated to target.

The percentage of people with BP readings in the at-risk range for hypertension, without a hypertension diagnosis on their GP record increased slightly from 1.2% in March 2021 to 1.4% in March 2022. This translates into an extra 123,893 people, in the audit sample, with potentially undiagnosed hypertension.

Cholesterol

Nearly 20% of people with CVD did not have a recorded current prescription of lipid lowering therapy (secondary prevention). This translates to just under half a million people in the audit sample. The rate of prescription of lipid lowering therapy for primary prevention of CVD (see definition of CVDP008CHOL, page 19) was at 48.3%.

The audit showed that 6,118 people in the audit sample had genetically confirmed familial hypercholesterolaemia (FH).

The NHS Long Term Plan set out the ambition to have 25% of the estimated 150,000 affected by FH, genetically confirmed by 2024. CVDPREVENT data suggests that there is still some way to go to achieve that ambition.

CODING DIAGNOSES OF CHRONIC KIDNEY DISEASE (CKD) AND DIABETES

Around 300,000 people with CKD and 45,000 people with diabetes did not have a coded diagnosis of their condition, despite recorded readings which indicate that they have these conditions.

LIFESTYLE

Among those with established CVD or a high-risk condition, it is important that a smoking status is taken and recorded to monitor lifestyle factors that could be increasing the risk of heart attack or stroke. For those that are recorded smokers, it is also important for patients to be signposted to support or treatment services. Audit data showed that males were less likely than females to receive this type of help to manage their smoking. People in less deprived groups were also less likely to be monitored or offered treatment than those in more deprived groups.

PUTTING A SPOTLIGHT ON HEALTH INEQUALITIES

The Black and Mixed ethnic groups

The Black and Mixed ethnic groups appeared more consistently than other groups as the least likely to be prescribed drug therapy, receive regular monitoring or be treated to target across multiple conditions and indicators.

Prescriptions for younger females

Females, particularly those between the ages of 18 and 59, were considerably less likely than their male counterparts to receive certain prescriptions. This applied for both secondary prevention of CVD with lipid lowering therapy and treatment of those with AF, at high-risk of stroke, with anticoagulation drug therapy.

Treatment to thresholds in younger age groups

Two audit indicators measure the treatment of a condition to a determined threshold (blood pressure to the age-appropriate threshold and blood cholesterol). Both indicators showed a clear pattern by age, where people of a younger age group were less likely to meet the determined threshold.

Deprivation and lipids

People in more deprived quintiles were more likely than those in less deprived quintiles to receive lipid lowering therapy for both primary and secondary prevention of CVD. However, looking at the secondary prevention group, those in more deprived quintiles with CVD were less likely to have their blood cholesterol treated to non-high-density lipoprotein (non-HDL) less than 2.5mmol/l or low-density lipoprotein (LDL) less than 1.8mmol/l, taken from a reading measured in the preceding 12 months.

RECOMMENDATIONS

Below are the recommendations for round three of the CVDPREVENT audit.

The prevention of cardiovascular disease (CVD) in primary care is a huge undertaking and poses a significant challenge to local systems. Primary care teams are faced with a large number of patients, often with complex comorbidities, and need to overcome local barriers which can exacerbate variation and health inequality. On top of these challenges, COVID-19 continued to disrupt 'normal' working during the period covered by this audit round. Within primary care, it is essential to identify, monitor and treat those at high-risk of CVD with support from across integrated care systems to overcome local barriers.

1. BLOOD PRESSURE (BP) MANAGEMENT

GP practices should continue to maintain a focus on improving the monitoring and management of hypertension to at least pre-pandemic levels and beyond to reach national ambitions.
Primary Care Networks (PCNs) and Integrated Care Boards (ICBs) should support GP practices by developing targeted programmes, such as Making Every Contact Count, Blood Pressure@Home, community pharmacy BP checks as well as opportunities for shared learning.
Policy makers should ensure that such initiatives are easily accessible, both by primary care referrers and patients as appropriate.
Community and secondary care providers should also support a population health focus to aid recovery of long-term condition management.

2. LIPID MANAGEMENT

Commissioners and policy makers should consider how programmes, funding and incentivisation could be used to help primary care teams increase the number of people on optimal lipid lowering therapy treatment, for both primary and secondary prevention of CVD. To manage capacity in primary care, this should include seeking support from other stakeholders such as community pharmacy, the voluntary sector and other parts of the system to make every contact count. Mapping of secondary care services to identify gaps in local provision (e.g. genetic testing for familial hypercholesterolaemia (FH), medicines optimisation clinics, lipid clinics) may be necessary to support primary care to achieve the national ambition and implement NICE guidance for secondary prevention of CVD in particular.

3. HEALTH INEQUALITIES

Local systems including practices, PCNs and ICBs (with support from community and secondary care providers) should consider how to address health inequalities, using the **Data & Improvement Tool** to identify the greatest gaps in care. Particular focus should be given to the Black ethnic group and the Mixed ethnic group, however, systems should also consider the challenges that are specific to their local communities with CVDPREVENT data highlighting that CVD is a complex issue across demographic factors.

4. QUALITY IMPROVEMENT

ICBs, working with primary care, should take an equity-focused quality improvement (EF-QI) approach towards cardiovascular disease prevention.[1] Systems should review health inequalities dimensions on the **Data & Improvement Tool** and use this data alongside QI methodologies which ensure measurable and sustained improvement for disadvantaged groups, as outlined by the **Core20PLUS5** programme. Arrangements in place should reduce unwarranted practice variation and health inequalities.

5. DATA QUALITY

Primary care teams should improve completeness of ethnicity coding in general practice to support analysis of health inequalities. This aligns with the ambitions of the **Core20PLUS5** programme.

INTRODUCTION

CVDPREVENT is a national primary care audit that uses data extracted from GP records.[2] It supports primary care in understanding how many people with cardiovascular disease (CVD) or conditions that lead to a higher risk of developing CVD are potentially not identified, undiagnosed, under treated or possibly over-treated. Analysis and reporting of the audit supports systematic quality improvement (QI) to reduce health inequalities and improve outcomes for individuals and populations. The CVDPREVENT audit is part of broader strategic objectives outlined in the **NHS Long Term Plan** and **national CVD prevention ambitions** to prevent 150,000 strokes, heart attacks and cases of dementia by 2029.

Data[3] is extracted for people that fall within the following cohorts:

COHORT 1 – people with a coded diagnosis of at least one of the following six high-risk conditions:

- Atrial fibrillation (AF)
- Hypertension
- Familial hypercholesterolaemia (FH) and other hyperlipidaemias
- Chronic kidney disease (CKD)
- Non-diabetic hyperglycaemia (NDH)
- Type 1 or type 2 diabetes mellitus

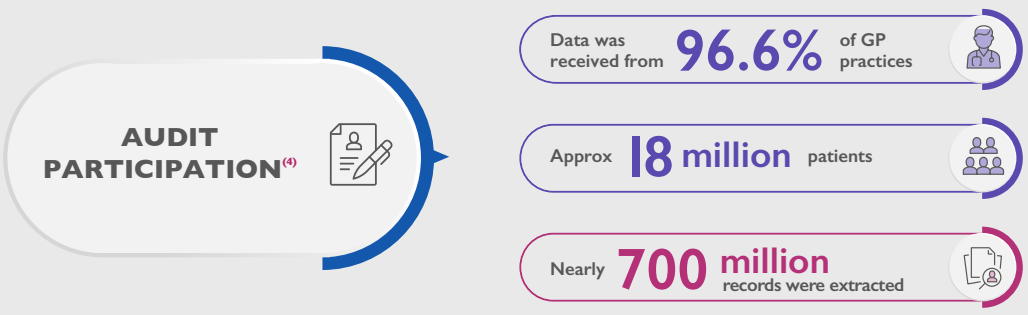
COHORT 2 – people with pre-existing cardiovascular disease comprising at least one of the following:

- Peripheral arterial disease (PAD)
- Stroke or transient ischaemic attack (TIA)
- Coronary heart disease (CHD)
- Heart failure (HF)
- Abdominal aortic aneurysm (AAA)

COHORT 3 – case finder cohort consisting of people with clinical records with readings that suggest the possibility of an undiagnosed high-risk condition

This report summarises the key findings relating to data from relevant patient records, up to March 2022, at a national level. Comparable data at a local level is provided on the **CVDPREVENT Data & Improvement Tool**, which provides detailed analysis by age, sex, ethnicity and deprivation for individual Integrated Care Boards (ICB), sub-ICBs, Primary Care Networks (PCN) and GP practices across England (some breakdowns of the data are not available due to small numbers).

Indicators can be updated with new data more regularly on the Tool than in audit reports. Therefore, the publication of data in this report does not align with the latest publication of data on the Tool. However, this report provides essential narrative on the key national improvement opportunities that have been highlighted by the data.



STRUCTURE OF THIS REPORT

The driver diagram (figure 1) illustrates how the overall aim of the audit is linked to the CVDPREVENT quality improvement effort. The audit is working towards answering four key questions, shown in the diagram, to support the overall audit aim. Audit indicators have been developed to begin to address these key questions for each of the six high-risk conditions.

Adding to the 21 indicators reported on in the **CVDPREVENT Second Annual Audit Report**, ten new indicators were introduced to the audit on the Data and Improvement Tool alongside the publication of the **CVDPREVENT 2022 New Indicator Guide** in September 2022. Two cholesterol indicators were retired (CVDP001CHOL and CVDP002CHOL) and in their place CVDP009CHOL and CVDP010CHOL were included with slight adjustments to the original indicator definitions.

The Third Annual Audit Report marks the introduction of the first indicators relating to non-diabetic hyperglycaemia (NDH) and diabetes, meaning all six high-risk conditions are now being covered by the audit. The aim is to continue to add indicators over subsequent iterations of the audit and, where relevant, point readers to other data sources to get the full picture of CVD prevention.

Future CVDPREVENT indicators will continue to align with developments within the CVD prevention Directed Enhanced Service (DES), Investment and Impact Fund (IIF), Quality and Outcomes Framework (QOF), National Institute for Health and Care Excellence (NICE) guidance, **Core20PLUS5** and other policy and guidance where possible.

This report has been structured around the key findings and national priorities that have been highlighted by the March 2022 extract. This report is published one year after the data period end date (March 2022) in March 2023. Key findings are summarised in the 'Executive summary' and explored in more detail in the 'Findings' section of this report, where indicators have been selected to demonstrate how the data supports each one. This means that this report does not include every audit indicator, however, all of the indicators can be found on the **Data & Improvement Tool**.

The report also only reviews geographical variation at Clinical Commissioning Group (CCG) and System Transformation Partnership (STP) level, with March 2022 data pre-dating the establishment of Integrated Care Boards (ICBs). Reporting to region, ICB, sub-ICB, Primary Care Network (PCN) and GP practice levels are available on the **Data and Improvement Tool**, with ICB and sub-ICB boundaries introduced from the June 2022 extract onwards.

Ethnicity codes were missing for approximately 14.6% of people in the audit sample in round three, compared to 18.3% in round two. This improvement has been supported by incentives in the IIF, however, further improvement is encouraged. Analysis of prevalence by ethnicity is not reported on due to missing ethnicity data[5] as well as the absence of an accurate ethnicity breakdown of the general population. We hope that this can be addressed in the future with data from the 2021 census and improved recording of ethnicity on GP records.

96.6% of GP practices contributed data to the March 2022 extract. The remaining 3.4% have either declined or not responded to the offer. The section 'Reading this report' (**page 38**) provides an explanation of the chart formats used.

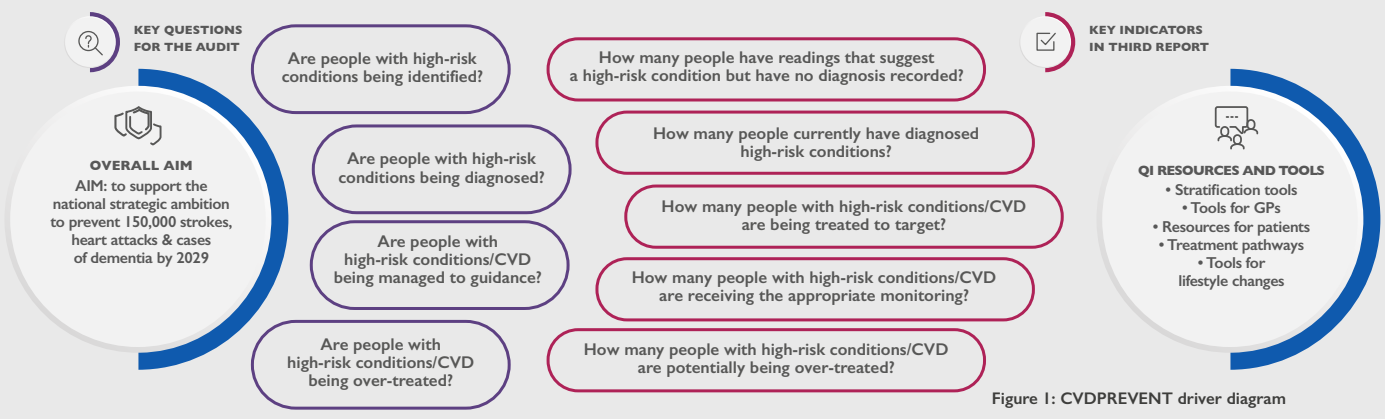


Figure 1: CVDPREVENT driver diagram

CARDIOVASCULAR DISEASE PREVALENCE

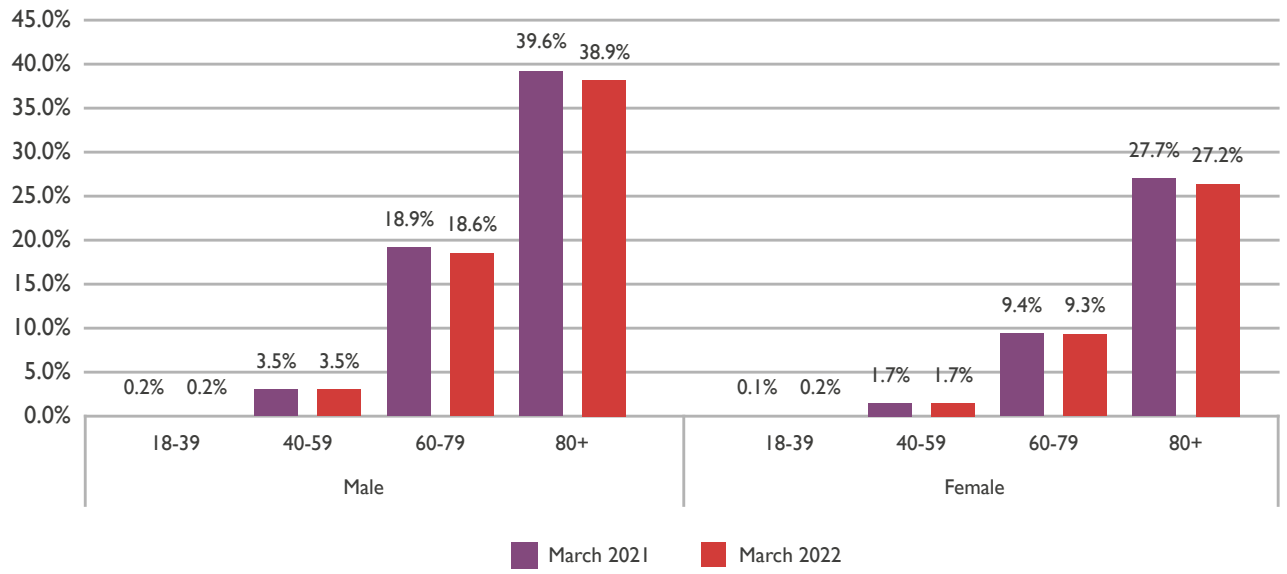
KEY FINDING

The prevalence of cardiovascular disease (CVD) in adults in England was 6.0%. The prevalence increased with age and males were more likely than females to have the disease.

CVDP001CVD: Prevalence of GP recorded cardiovascular disease (wide definition) in patients aged 18 and over[6]

- In March 2022 the prevalence of cardiovascular disease in adults in England was **6.0%**
- The prevalence increased with age and males (**7.4%**) were more likely than females (**4.7%**) to have the disease
- When an adjustment for age was undertaken, CVDPREVENT data showed that prevalence of CVD increases with deprivation

Figure 2: CVDP001CVD by sex and age



COMMENTARY

In March 2022, the prevalence of CVD in adults in England was 6.0%, affecting over 2.5 million people in the audit sample. The prevalence increased with age and males were more likely than females, across all age groups, to have the disease. In line with research suggesting that people in more deprived communities are four times more likely to suffer premature CVD mortality[7], CVDPREVENT showed that the prevalence of CVD increased with deprivation, after an age adjustment was undertaken.[8]

It should be noted that prevalence of CVD is subject to survivor bias, as patients who die soon after onset of the disease are less likely to be included in the prevalent cohort.

ATRIAL FIBRILLATION

KEY FINDING

Prescription of anticoagulation drug therapy, for those with atrial fibrillation (AF) at high-risk of stroke, increased by one percentage point since March 2021 to 88.9% in March 2022. This is 1.1 percentage points below the **90%** national ambition which was set out alongside the NHS Long Term Plan (LTP).

CVDP002AF: Percentage of patients aged 18 and over with GP recorded atrial fibrillation and a record of a CHA2DS2-VASc score of 2 or more, who are currently treated with anticoagulation drug therapy (secondary prevention).[9]

- The data up to March 2022 showed **88.9%** of people with GP recorded AF and a CHA2DS2-VASc score of 2 or more had been prescribed an anticoagulant, compared to 87.9% in March 2021
- STP variation decreased, ranging from a minimum of **83.8%** to a maximum of **92.8%** (9 percentage points). This was a decrease from 11.2 percentage points in round 2 with the minimum value increasing from 80.9%

Figure 3: CVDP002AF by sex

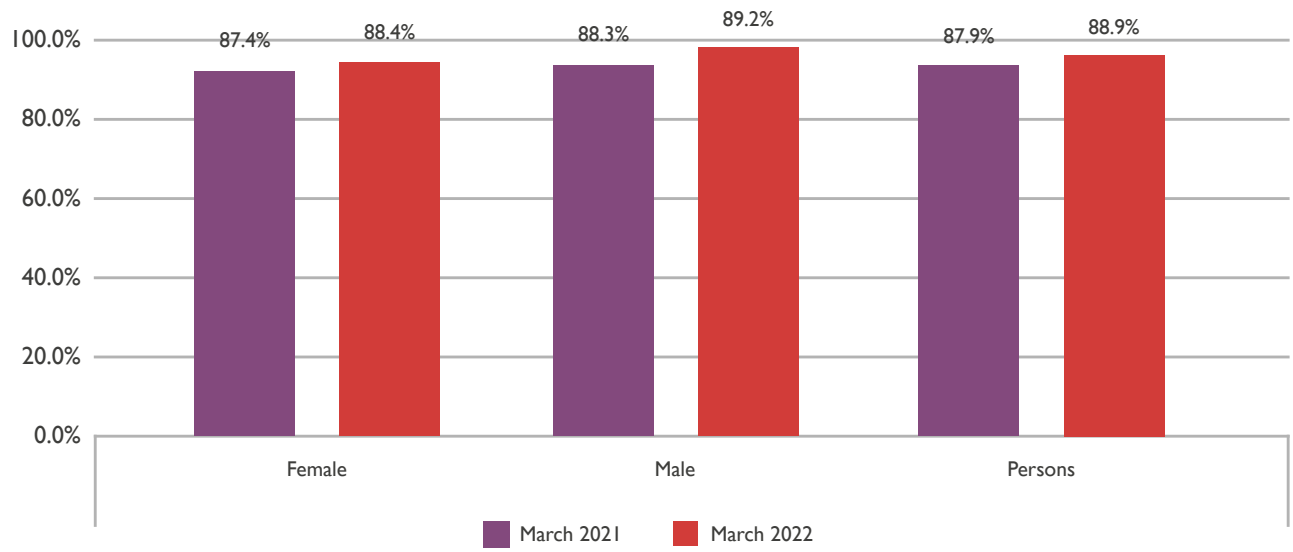
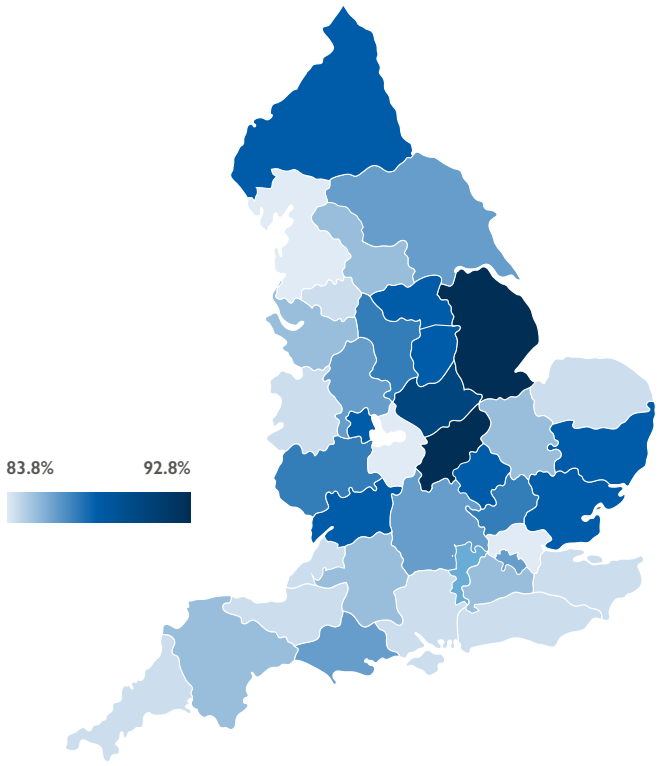


Figure 4: CVDP002AF, STP variation



COMMENTARY

AF is a condition that causes an irregular and often abnormally fast heart rate. People with AF are five times more likely to suffer a stroke, and people who suffer an AF-related stroke are more likely to die or suffer severe disability than any other type of stroke. However, treating AF with blood thinning medications called anticoagulants reduces the risk of stroke by up to two thirds,[10] and according to the NHS Long Term Plan, for every 100 people with AF who are identified and receive anticoagulation medication, an average of four strokes are averted.[11]

Despite the serious impact of AF, many people are unaware they have the condition, and even when diagnosed, many are untreated. Indeed, half of all people with known AF who suffer a stroke have not received anticoagulants before their stroke.[12]

Looking at March 2022 data, CVDPREVENT showed that there was a small increase in the number of patients with GP recorded AF, at high-risk of stroke, that were being prescribed an anticoagulant when compared to March 2021 (from 87.9% to 88.9%). Geographical variation decreased, with the minimum STP value increasing by 2.9 percentage points and therefore narrowing the gap between highest and lowest performance.

10-year national ambitions for the detection and management of the high-risk conditions were agreed in 2019, aligning with NHS Long Term Plan. The 'cardiovascular ABCs' outline the ambition that by 2029 **90%** of patients with AF who are known to be at high-risk of stroke are adequately anticoagulated.[13] CVDPREVENT shows that, as of March 2022, there were only 1.1 percentage points, nationally, between reality and this ambition. However, the audit cannot currently show whether patients have had their anticoagulation optimised.

Using the **Data & Improvement Tool**, systems can evaluate how close they are locally, to achieving the 90% goal. CVDPREVENT data showed that the range for STPs was from 83.8% to 92.8%.

It is worth noting that QOF data suggests that the assessment of stroke risk of patients with AF using a CHA2DS2-VASc might have been affected by the pandemic. QOF indicator AF006 reported that the percentage of patients with a recorded assessment fell from 93.4% in 2019/20 to 79.1% in 2020/21. 2021/22 figures report 86.2% which is an increase from the previous year but still sits below the pre-pandemic baseline.[14]

BLOOD PRESSURE

KEY FINDING

Performance on hypertension management started to recover after disruption during the COVID-19 pandemic. In March 2020 88.7% of patients, with hypertension, had a blood pressure (BP) reading in the preceding 12 months. In March 2021 this fell to 63.5% and in March 2022 the data showed that 78.5% of patients had a reading recorded. In March 2020 67.5% of 18 to 79 year olds, with hypertension, had their blood pressure treated to target. In March 2021 this fell to 46.1% and in March 2022 the data showed that 57.0% were treated to target. The agreed national ambition is to have **80%** of patients with hypertension treated to target.

CVDP004HYP: Percentage of patients aged 18 and over with GP recorded hypertension, who have had a blood pressure reading within the preceding 12 months.[15]

- The percentage of patients with hypertension with a BP reading in the last 12 months was **78.5%**, an increase of 15 percentage points from the round two value (63.5%). However, this is still 10.2 percentage points below the March 2020 pre-pandemic baseline (88.7%)
- **79.5%** of females and **77.5%** of males had a record of a BP reading in the preceding 12 months. As found in previous rounds, working age males (18 to 59 years) were considerably less likely than their female counterparts to have their BP monitored
- The range of STP values decreased to 11.4 percentage points in round three (**73.2%** min, **84.6%** max) from 18.2 percentage points in round two (53.3% min, 71.5% max)

Figure 5: CVDP004HYP by sex

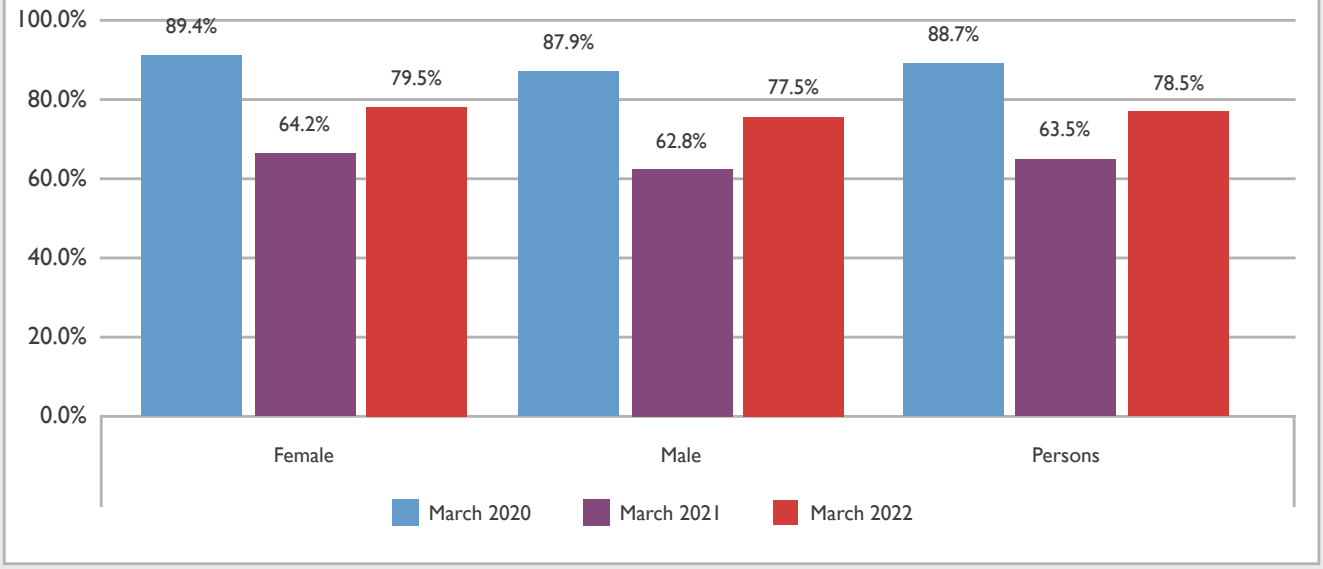
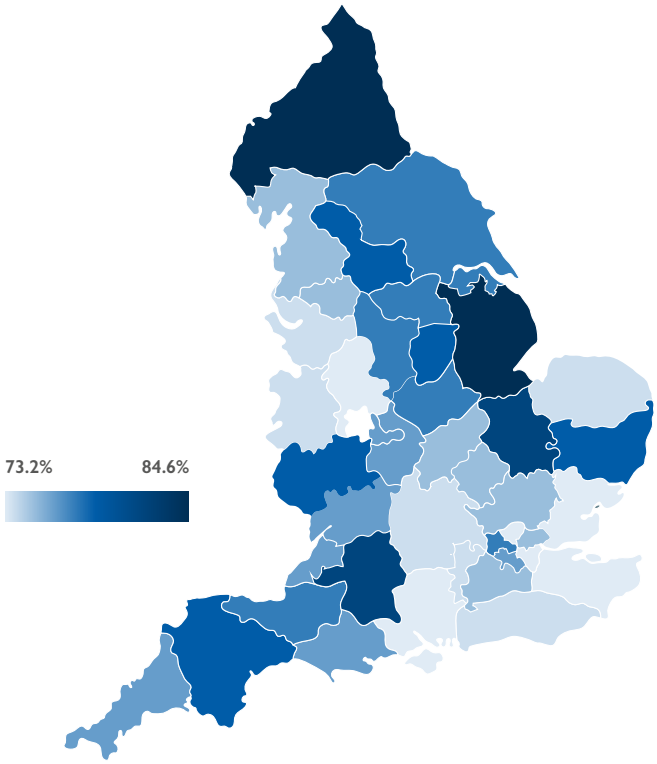


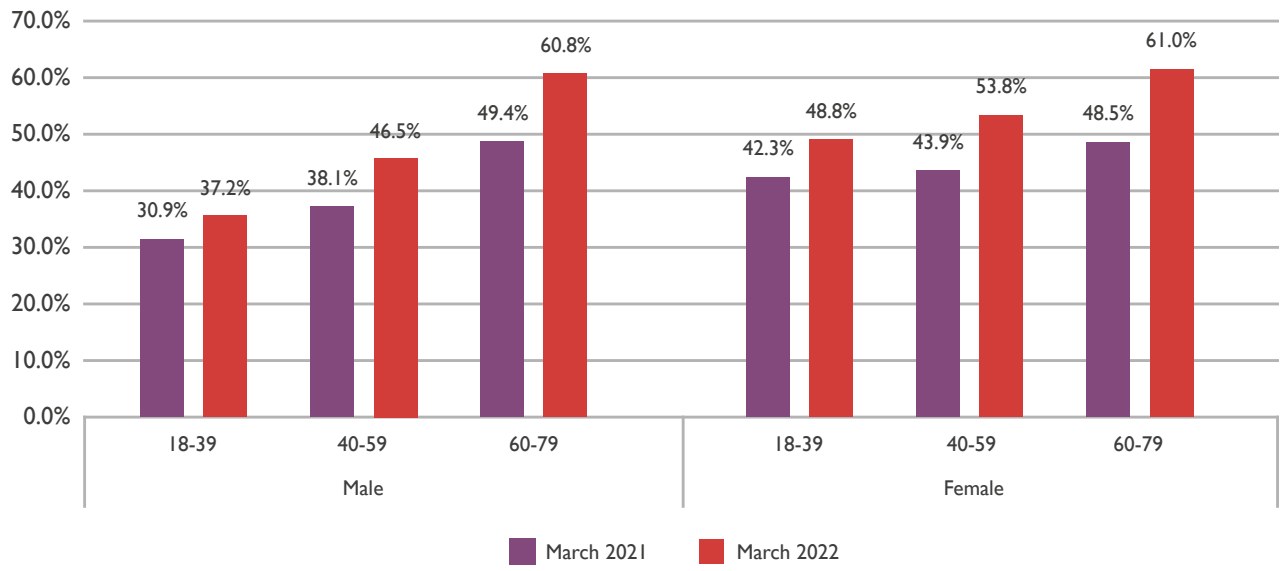
Figure 6: CVDP004HYP, STP variation



CVDP002HYP: Percentage of patients aged 18 to 79 years with GP recorded hypertension, in whom the last blood pressure reading within the preceding 12 months is equal to 140/90 mmHg or less.[16]

- For those aged 18 to 79 years, **57.0%** were treated to the 140/90 mmHg target. This was an increase by 10.9 percentage points from the March 2021 figure (46.1%), but still sits 10.5 percentage points below the pre-pandemic baseline from March 2020 (67.5%)
- Females (**58.6%**) were more likely than males (**55.6%**) to be treated to target. This gap increased slightly when compared to March 2021 which showed a smaller difference (1.7 percentage points) between males and females
- STP variation shifted from a minimum of 38.8% and maximum of 51.8% in round two (13 percentage point range) to a minimum of **51.3%** and a maximum of **63.1%** in round three (11.8 percentage point range)

Figure 7: CVDP002HYP by sex and age



CVDP007HYP: Percentage of patients aged 18 and over, with GP recorded hypertension, in whom the last blood pressure reading (measured in the preceding 12 months) is below the age appropriate treatment threshold.[17]

- A new indicator for round three was introduced to show the percentage of all patients, with hypertension, that are treated to the age-appropriate target. Therefore, it is not possible to compare the 'all-ages' value to a pre-pandemic baseline, however, going forward it will be possible to track recovery for the combined all-ages population. March 2022 data showed that **60.0%** were treated to target
- Broken down by age, **57.0%** of 18 – 79 year olds were treated to below 140/90 mmHg, and 71.0% of people aged 80+ years were treated to below 150/90 mmHg (**click here** for data on the 80+ age group)
- Females were more likely to be treated to target than males in the younger age groups (18 to 59 years). This gap closes in the older age groups, and in patients aged 80+ years males were more likely than females to be treated to target
- STPs varied from a minimum of **54.7%** and a maximum of **66.4%** (a range of 11.7 percentage points)

Figure 8: CVDP007HYP, range for CCGs by age and sex

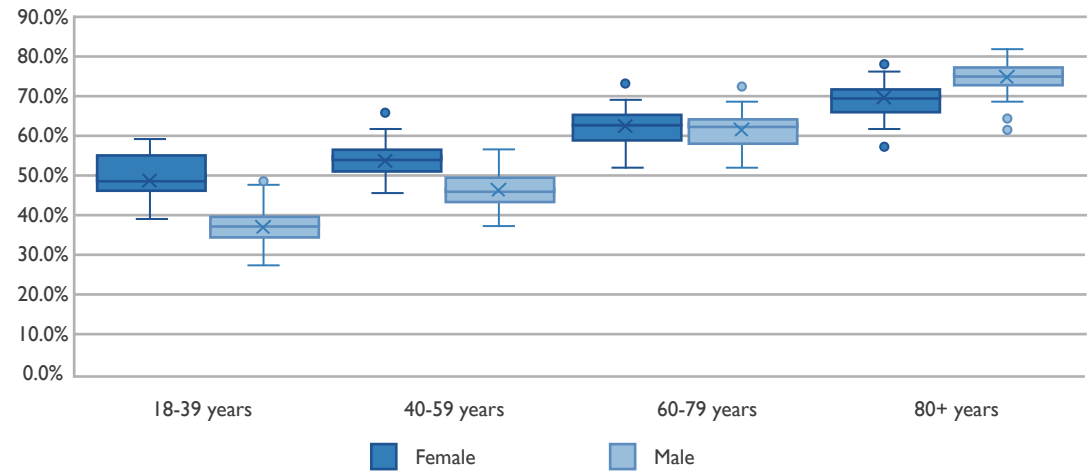
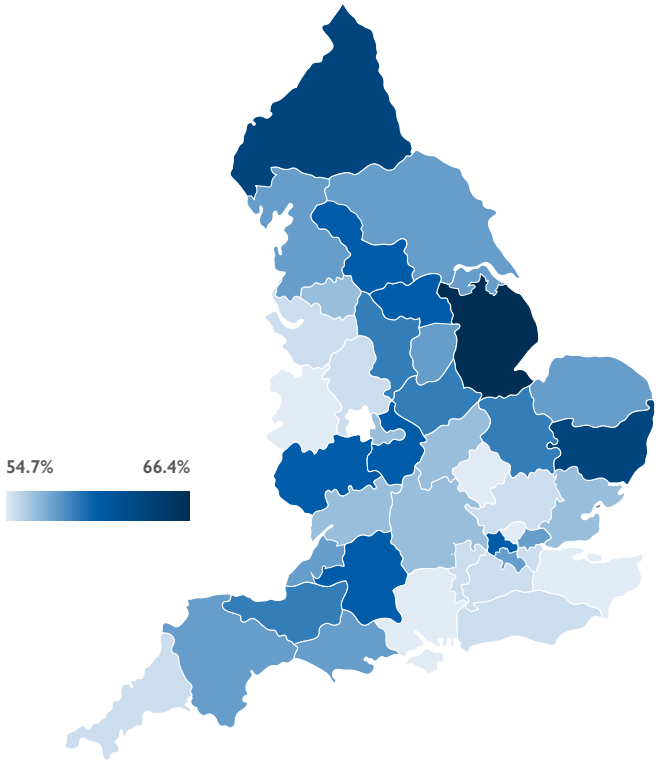


Figure 9: CVDP007HYP, Percentage of patients aged 18 and over, with GP recorded hypertension, in whom the last blood pressure reading (measured in the preceding 12 months) is below the age appropriate threshold

	18-39	40-59	60-79	80+ years
Female	48.8% (36,100)	53.8% (433,201)	61.0% (1,172,714)	69.0% (653,588)
Male	37.2% (29,230)	46.5% (458,897)	60.8% (1,235,063)	74.2% (455,853)

Figure 10: CVDP007HYP, STP variation



COMMENTARY

If untreated, hypertension increases the risk of serious health problems including heart attacks and strokes. CVDPREVENT has shown that during the COVID-19 pandemic, recorded hypertension diagnosis and management fell significantly. March 2022 data starts to show the recovery from this disruption.

CVDPREVENT saw recorded blood pressure monitoring of those with hypertension fall considerably in March 2021 to 25.2 percentage points below pre-pandemic levels. March 2022 data showed some recovery back to pre-pandemic levels, with the percentage of patients with hypertension with a recorded blood pressure reading in the previous 12 months at 78.5%. However, management of hypertension remains a national priority, with data recorded as of March 2022 still sitting 10.2 percentage points below the pre-pandemic baseline.

The impact of the pandemic on blood pressure monitoring was mirrored in blood pressure treatment to target, where there was a 21.4 percentage point reduction in the proportion of 18 to 79 year olds, with hypertension, treated to the NICE guideline target in March 2021. A similar reduction was seen in the 80+ age group. March 2022

data showed that 57.0% of 18 to 79 year olds were treated to target, which is a considerable increase from the pandemic year, but remains 10.5 percentage points below the pre-pandemic baseline.

It should be noted that continuing surges of COVID-19 and an ongoing vaccination programme throughout 2021 disrupted 'normal' working. This, combined with potential changes in patient behaviour, should be considered when interpreting this year's data.

Recovery of blood pressure monitoring and treatment to target back to pre-pandemic levels was outlined as a key priority in the Royal College of General Practitioners (RCGP) Long Term Conditions Recovery Plan[18]. As a result, it was acknowledged that March 2022 data might not capture some of the progress made throughout the year, with GP teams prioritising this area of work. Additional analysis into the CVDPREVENT June 2022 extract was undertaken to check if any further improvement had been made back towards pre-pandemic levels. Nationally, the June 2022 data showed no considerable change from the March 2022 position.

It is important to note that if no blood pressure was taken in the last 12 months, the patient with hypertension would count as not being treated to target in the calculation of these indicators. To adjust for this, additional analysis was undertaken by NCVIN looking at the cohort of hypertensive patients who did have a recorded BP reading within the last 12 months. Of this group, 76.4% were treated to below NICE thresholds in March 2022, showing no movement since March 2021. Therefore, this remains 4.1 percentage points below the 2020 figure of 80.5%.

A new indicator was introduced to the audit in round three to combine age-specific hypertension treatment to target indicators to create an 'all ages' indicator. Data to March 2022 showed that 60.0% of patients, of all ages, with hypertension, were treated to the age-appropriate NICE target. The national ambition is to achieve **80%** of people with hypertension treated to target by 2029.[19]

BLOOD PRESSURE

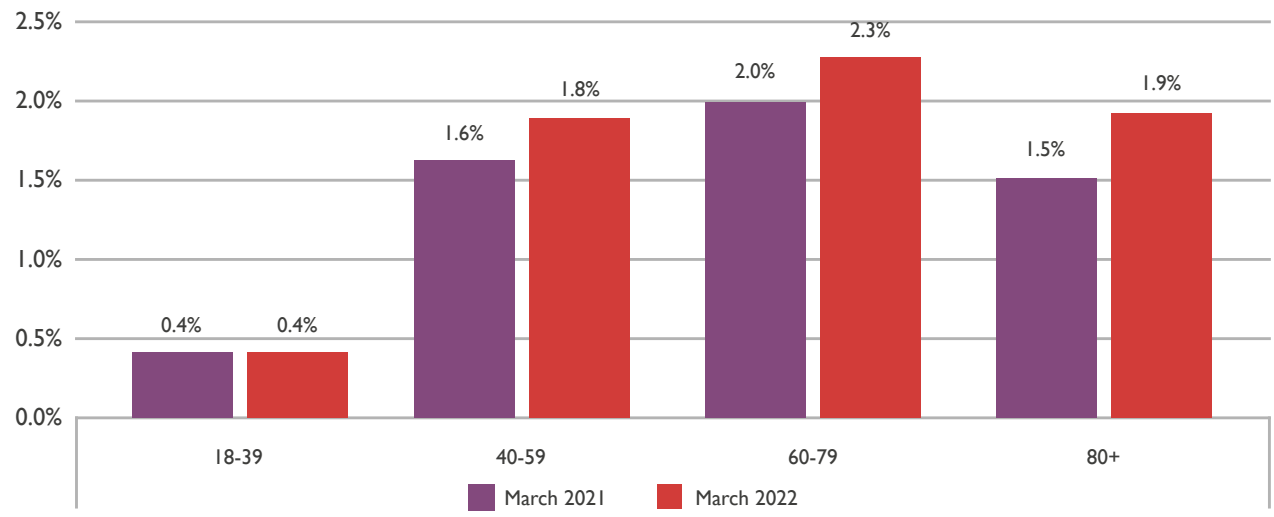
KEY FINDING

The percentage of people with BP readings in the at-risk range for hypertension, without a hypertension diagnosis on their GP record increased slightly from 1.2% in March 2021 to 1.4% in March 2022. This translates into an extra 123,893 people, in the audit sample, with potentially undiagnosed hypertension.

CVDP005HYP: Percentage of patients aged 18 and over, whose latest blood pressure value is in the at risk range for hypertension with no GP recorded hypertension.[20]

- The percentage of GP registered patients whose latest BP value is in the at-risk range for hypertension, with no GP recorded hypertension was **1.4%**, an increase from 1.2% in round two of the audit
- The percentage increased with age up to the 60 to 79 year age group

Figure 11: CVDP005HYP by age group



COMMENTARY

Case finder indicators were developed to review all three audit cohorts for people who have recorded readings which suggest the possibility of an undiagnosed high-risk condition. Hypertension rarely has noticeable symptoms meaning proactive case finding is often needed to ensure individuals have their condition managed appropriately. The prevalence of patients with a latest BP value in the at-risk range for hypertension, with no GP recorded hypertension, was 1.4% in March 2022. This was an increase from 1.2% in March 2021 showing that there are now more people in the audit sample who have records suggesting potentially undiagnosed hypertension.
This indicator aligns with PCN DES, IIF indicator CVD-01 incentivising the case finding of hypertensive patients, which remains a national priority.[21]

CHOLESTEROL

KEY FINDING

Nearly 20% of people with CVD did not have a recorded current prescription of lipid lowering therapy (secondary prevention). This translates to just under half a million people in the audit sample. The rate of prescription of lipid lowering therapy for primary prevention of CVD (see definition below) was at 48.3%.

CVDP009CHOL: Percentage of patients aged 18 and over with GP recorded CVD (narrow definition), who are currently treated with lipid lowering therapy.[22] (Previously CVDP001CHOL).

- This is a new indicator, introduced for round three, to replace CVDP001CHOL which looked at people with CVD that had previously been prescribed lipid lowering therapy
- In March 2022, **81.4%** of people with CVD were being treated with lipid lowering therapy
- This means that, in the audit sample, there were **472,650** people with CVD that were not being treated with lipid lowering therapy
- There was variation amongst STPs from a minimum of **78.0%** and maximum of **84.8% (6.8 percentage points)**

Figure 12: CVDP009CHOL, range for CCGs by age and sex

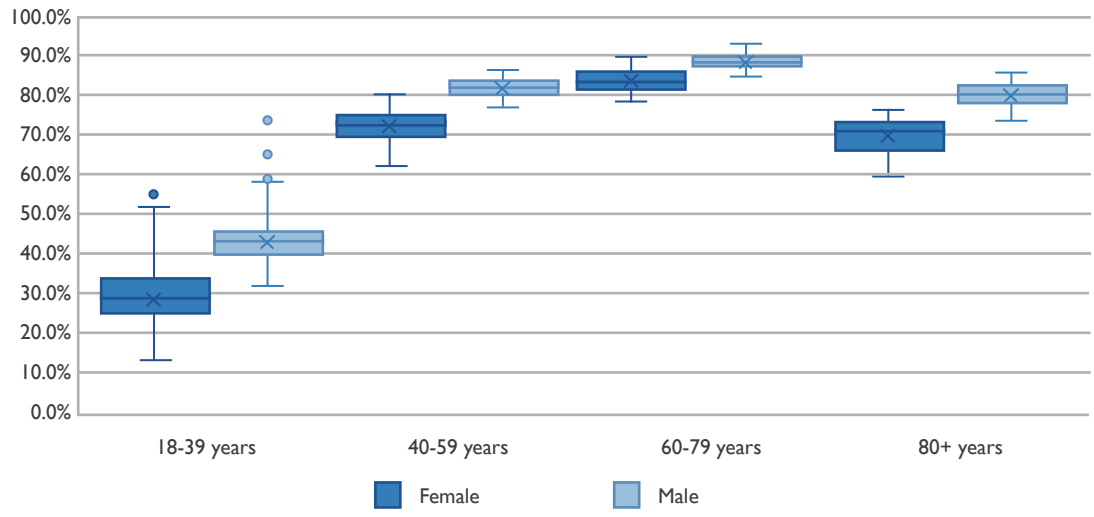


Figure 13: CVDP009CHOL Percentage of patients aged 18 and over with GP recorded CVD (narrow definition), who are currently treated with lipid lowering therapy

	18-39	40-59	60-79	80+ years
Female	26.2% (2,452)	71.8% (82,103)	82.9% (390,316)	69.4% (264,230)
Male	43.5% (5,475)	81.8% (207,750)	88.2% (792,793)	80.4% (317,432)

CVDP008CHOL: Percentage of patients aged 18 and over, with no GP recorded CVD and a GP recorded QRISK score of 10% or more, CKD (G3a to G5), T1 diabetes (aged 40 and over) or T2 diabetes aged 60 and over, who are currently treated with lipid lowering therapy.[23]

- **48.3%** of patients with no CVD and a GP recorded QRISK score of 10% or more, CKD (G3a to G5), T1 diabetes (aged 40 and over) or T2 diabetes (aged 60 and over) were currently being treated with lipid lowering therapy according to data up to March 2022
- There was little difference between males (**47.9%**) and females (**48.8%**). However, looking across age groups, the percentage of males being treated increased with age from 18 years onwards, whilst the percentage of females being treated decreased from 40 years and above
- At an STP level, the percentage varied from a minimum of **41.8%** to a maximum of **54.9%**
- Patients in the Asian ethnic group were the most likely to be treated with lipid lowering therapy (**61.2%**). Patients in the White ethnic group were the least likely (**47.0%**)
- The percentage of patients on lipid lowering therapy was highest in the most deprived quintile (**54.1%**) and lowest in the least deprived (**44.3%**)

Figure 14: CVDP008CHOL, range for CCGs by age and sex

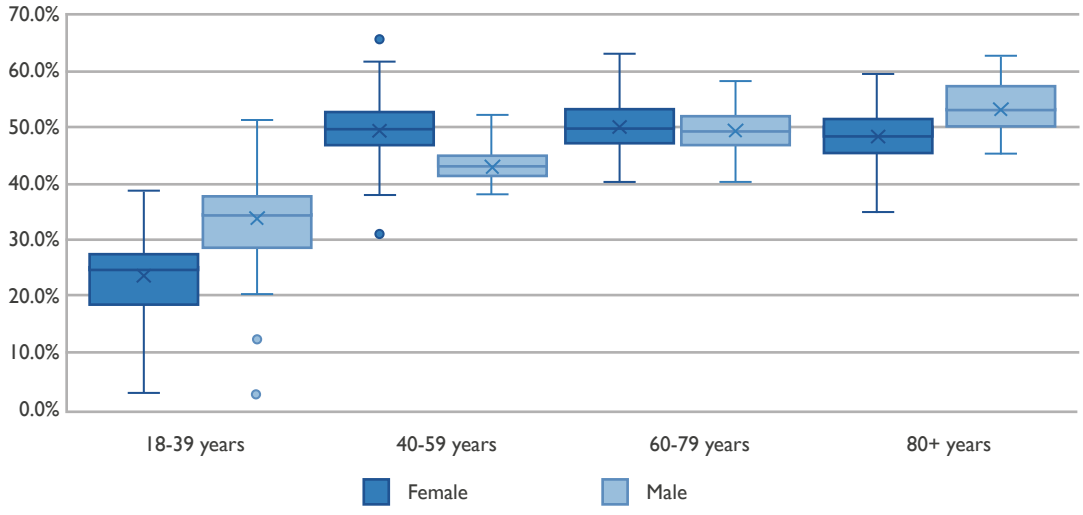
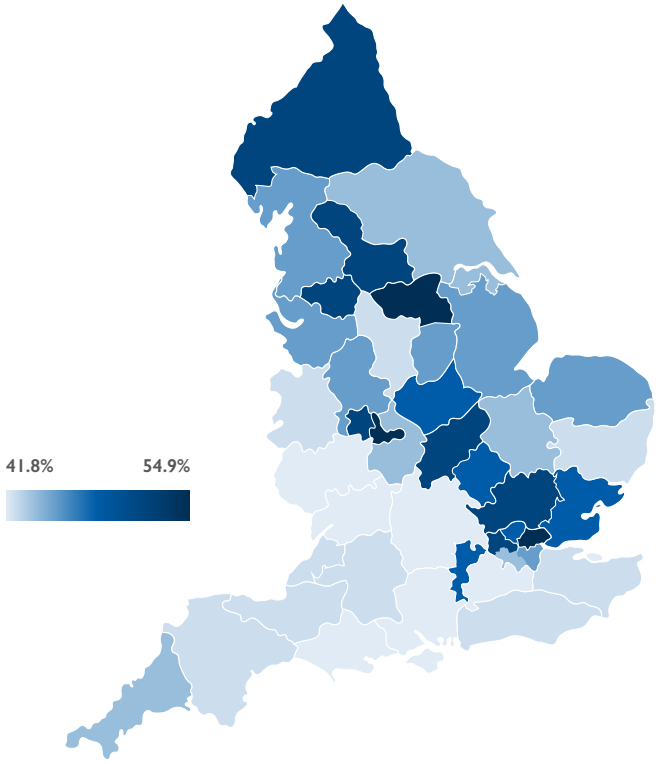


Figure 15: CVDP008CHOL Percentage of patients aged 18 and over, with no GP recorded CVD and a GP recorded QRISK score of 10% or more, CKD (G3a to G5), T1 diabetes (aged 40 and over) or T2 diabetes aged 60 and over, who are currently treated with lipid lowering therapy.

	18-39	40-59	60-79	80+ years
Female	19.4% (2,009)	50.3% (140,834)	49.3% (1,070,465)	46.8% (329,818)
Male	30.1% (4,144)	44.1% (328,891)	48.4% (1,213,320)	52.7% (211,566)

Figure 16: CVDP008CHOL, STP variation



COMMENTARY

Whilst the body needs cholesterol to build healthy cells, high levels of cholesterol can increase the risk of heart disease or stroke by causing fatty deposits to build up in the arteries. High cholesterol can be reduced through healthy lifestyle choices and, where appropriate, by lipid lowering therapy. Lipid lowering therapy is used to reduce high levels of fats, such as cholesterol, in the blood.

Two cholesterol indicators (CVDP001CHOL & CVDP002CHOL) were retired after the September 2021 data extract and were replaced by two new indicators (CVDP009CHOL & CVDP010CHOL) from March 2022. The new indicators mark a change to the definitions, from including a recording of a *previous prescription* of lipid lowering therapy (at any time) to a recording of *current prescription* of lipid lowering therapy (within the last 7 months).

People that are already diagnosed with CVD have a high risk of having future heart attacks or strokes. NICE guidance recommends that lipid lowering therapy treatment is prescribed for patients with CVD for secondary prevention, to lower the risk of repeat heart attacks or strokes.[(24)] In March 2022, 81.4% of patients with CVD had a current prescription for lipid lowering therapy. This means that approximately 1 in 5 people, with CVD, are not receiving this treatment. This translates to just under half a million people in the audit sample.

Lipid lowering therapy can also be used for primary prevention to prevent an individual from developing CVD. CVDP008CHOL combines multiple factors that would make an individual eligible for primary prevention of CVD with a lipid lowering therapy. In March 2022, 48.3% of patients in this group had a prescription for a lipid lowering therapy.

CHOLESTEROL

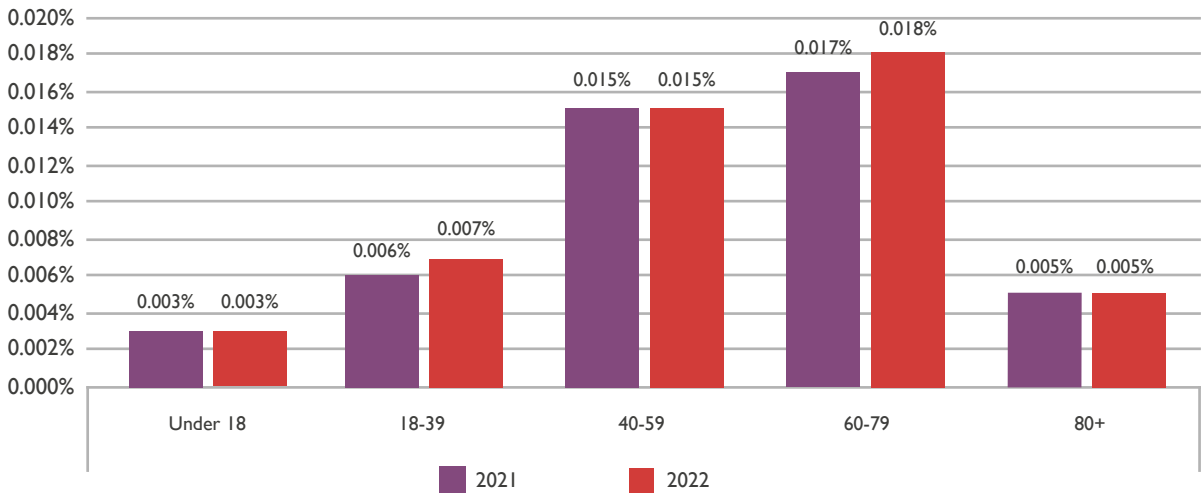
KEY FINDING

The audit showed that 6,118 people in the audit sample had genetically confirmed familial hypercholesterolaemia (FH). The NHS Long Term Plan set out the ambition to have 25% of the estimated 150,000 affected by FH, genetically confirmed by 2024. CVDPREVENT data suggests that there is still some way to go to achieve that ambition.

CVDP003FH: Prevalence of GP recorded genetically confirmed familial hypercholesterolaemia, all ages.[25]

- The prevalence of GP recorded genetically confirmed FH was **0.01%** in March 2022
- This translates to **6,118** people, in the audit sample, in round three of the audit. This was an increase from 5,499 in round two
- The prevalence of genetically confirmed FH increased with age up to 60 to 79 years, in the same pattern as possible, probable and confirmed FH

Figure 17: CVDP003FH by age group



COMMENTARY

FH is a genetic condition causing the level of low-density lipoprotein to be very high. The condition can cause premature cardiovascular disease and is estimated to affect 150,000 people in England, according to the NHS Long Term Plan.[26]

FH can be inferred from evidence of particularly high levels of cholesterol in the blood, however, the only way to confirm a diagnosis of the condition is to genetically test a patient. The NHS Long Term Plan sets out a clear ambition to improve the identification of FH with genetic testing, reaching 25%, of those estimated to have FH genetically identified by 2024.

CVDPREVENT showed that the prevalence of GP recorded genetically confirmed FH, in England, was 0.01% in March 2022. This translates into 6,118 people in the audit sample. Taking a percentage from the estimated 150,000 patients affected by FH in England, this means that the audit estimates 4.1% of patients with FH have been genetically confirmed and identified in primary care. (Note: the NHS Long Term Plan estimations pre-date CVDPREVENT and use a different data source. The audit includes 96.6% of practices in England so may slightly underestimate the prevalence of the condition).

CODING DIAGNOSES OF CHRONIC KIDNEY DISEASE (CKD) AND DIABETES

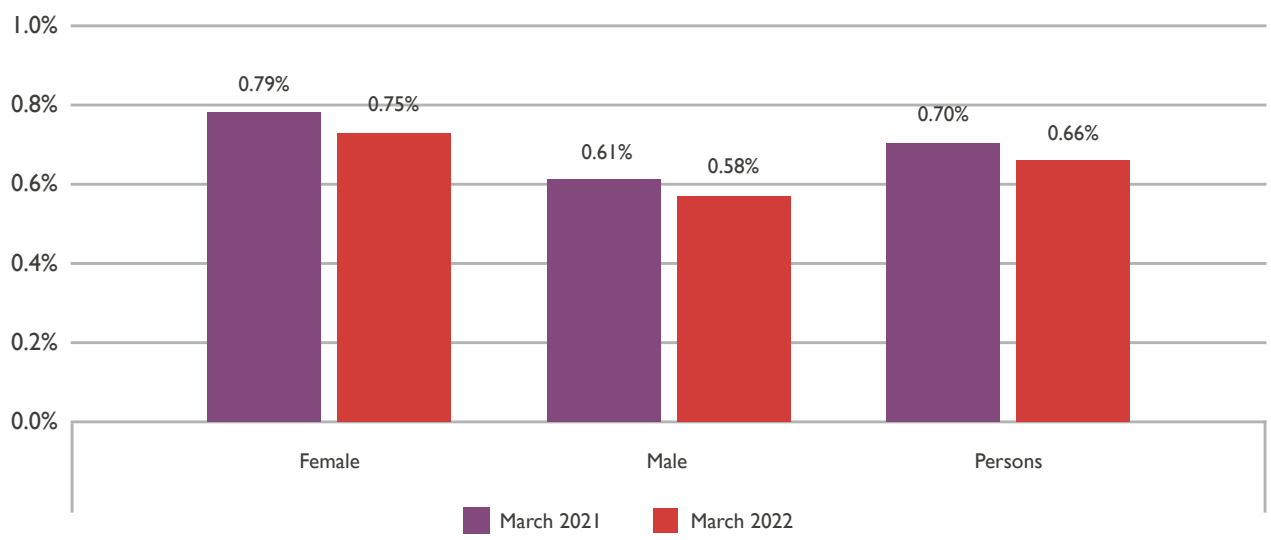
KEY FINDING

Around 300,000 people with chronic kidney disease (CKD) and 45,000 people with diabetes did not have a coded diagnosis of their condition, despite recorded readings which indicate that they have these conditions.

CVDP002CKD: Percentage of GP registered patients aged 18 and over, with 2 low eGFRs with no GP recorded CKD (G3a to G5).[27]

- The percentage of patients, with two GP recorded low eGFRs more than 90 days apart with no GP recorded CKD (G3a to G5), was **0.66%**, (**317,250 people** in the audit sample) showing little change from March 2021

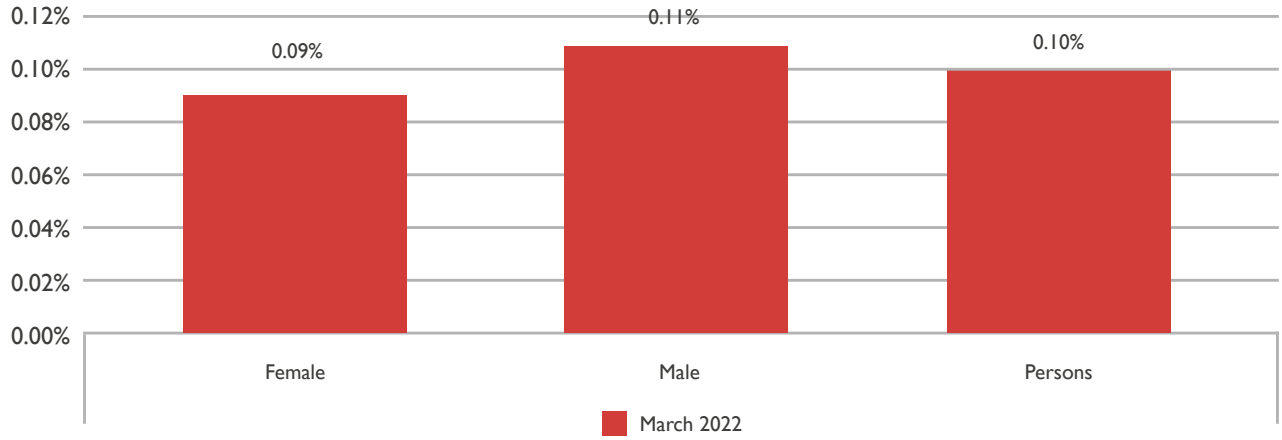
Figure 18: CVDP002CKD by sex



CVDP003DM: Percentage of patients aged 18 and over, whose last two HbA1c records are 48mmol/mol or more (uncoded diabetes), who do not have a GP record of diabetes.[28]

- The percentage of patients, whose last two HbA1c records are 48mmol/mol or more, who do not have a GP record of diabetes, was **0.10%** (**46,469 people** in the audit sample)

Figure 19: CVDP003DM by sex



COMMENTARY

Case finder indicators were developed to identify people in the audit sample who have recorded readings which suggest the possibility of an undiagnosed high-risk condition. The audit can only report on those for whom the relevant recorded readings are available and as a result can not provide a full picture of the undiagnosed population.

An eGFR test can be done to establish whether or not a patient has chronic kidney disease. A single low eGFR reading is indicative of chronic kidney disease, and for patients with one low result it is recommended that the test is repeated to confirm the condition. Recording of two consecutive low eGFR readings, 3 months apart, is sufficient for diagnosis of CKD. The audit showed that the prevalence of patients with two recorded low eGFR results 90 days apart, without a diagnosis of CKD, was 0.66%, a total of 317,250 people in the audit sample. It is a coding exercise to move these patients on to the CKD register.

To check for diabetes, a test is done to check a patient's HbA1c level (average blood sugar level). A single recorded HbA1c above 48mmol/mol is highly suggestive of diabetes. Two consecutive readings above the threshold is sufficient for diagnosis of diabetes. March 2022 data showed that the prevalence of patients with two recorded HbA1c levels above 48mmol/mol, without a diagnosis of diabetes, was 0.10%, a total of 46,469 people in the audit sample. These patients have uncoded diabetes and it is a coding exercise to move them on to the diabetes register.

KEY FINDING

Among those with established CVD or a high-risk condition, it is important that a smoking status is taken and recorded to monitor lifestyle factors that could be increasing the risk of heart attack or stroke. For those that are recorded smokers, it is also important for patients to be signposted to support or treatment services. Audit data showed that males were less likely than females to receive this type of help to manage their smoking. People in less deprived groups were also less likely to be monitored or offered treatment than those in more deprived groups.

CVDP001SMOK: Percentage of patients aged 18 and over with GP recorded CVD or CVD risk factors who are GP recorded current smokers or have no smoking status recorded, whose notes record smoking status in the preceding 12 months.[29]

- The percentage of patients with CVD/CVD risk factors who are recorded as current smokers that have had a smoking status recorded in the preceding 12 months was **66.9%**
- Females (**69.2%**) were more likely than males (**65.3%**) to have their status recorded
- The percentage increased with age up to **71.0%** for the 60 to 79 age group and then dropped off for the 80+ age group (**62.1%**). The 18 to 39 age group were the least likely to have their status recorded (**55.8%**)
- There was variation across STPs by 13.7 percentage points, from a minimum of **59.1%** to a maximum of **72.8%**
- The map on page 25 (figure 23) shows STP variation across the country and highlights a distinct difference between the north and south of England for this indicator
- Evidence of a recent smoking status review was highest in the most deprived quintile (**70.1%**) and lowest in the least deprived quintile (**61.8%**)

Figure 20: CVDP001SMOK, range for CCGs by age and sex

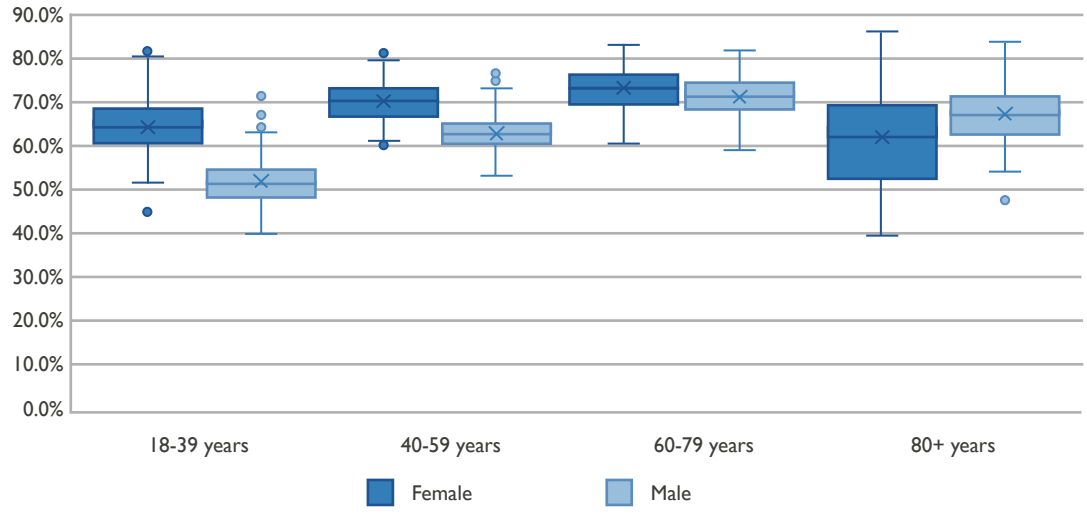


Figure 21: CVDP001SMOK Percentage of patients aged 18 and over with GP recorded CVD or CVD risk factors who are GP recorded current smokers or have no smoking status recorded, whose notes record smoking status in the preceding 12 months.

	18-39	40-59	60-79	80+ years
Female	62.8% (28,786)	69.5% (171,622)	71.7% (222,650)	59.2% (33,801)
Male	50.7% (31,826)	62.3% (239,690)	70.4% (277,904)	65.8% (30,003)

Figure 22: CVDP001SMOK by deprivation quintile

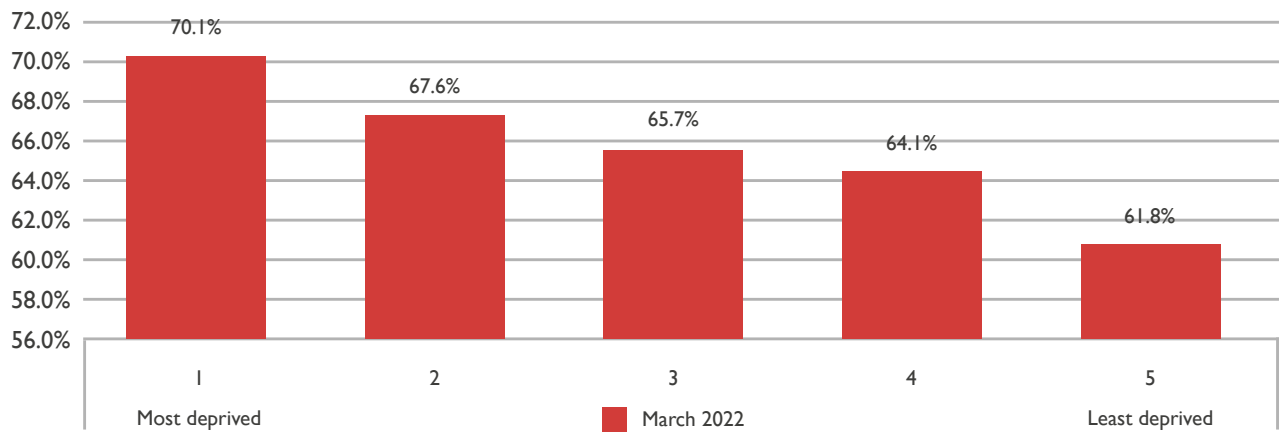
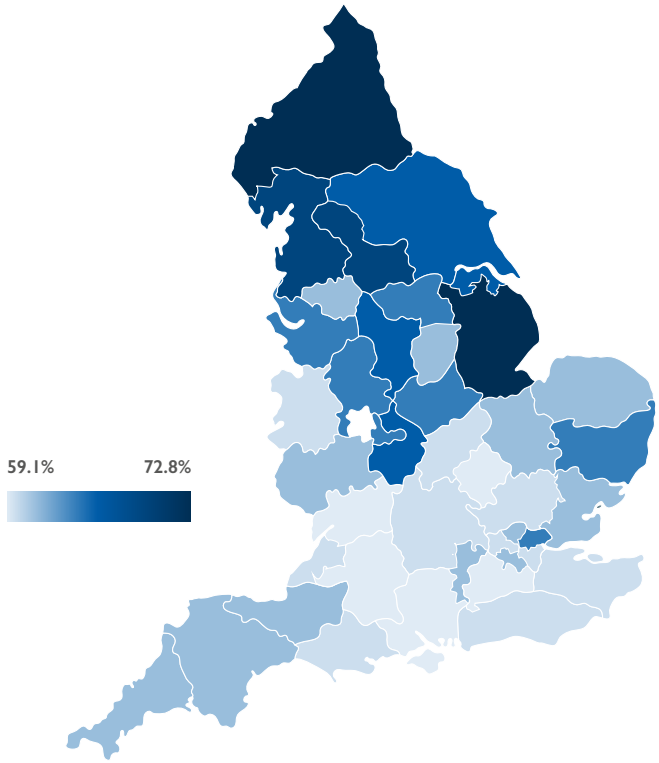


Figure 23: CVDP001SMOK, STP variation



CVDP002SMOK: Percentage of patients aged 18 and over with GP recorded CVD or CVD risk factors who are GP recorded current smokers, who have a record of an offer of support or treatment within the preceding 12 months.[30]

- The percentage of patients with CVD/CVD risk factors who were recorded as current smokers that have a record of an offer of support or treatment in the preceding 12 months was **76.7%**
- **78.0%** of females and **75.8%** of males had a record of the offer
- The percentage increased with age up to **78.4%** in the 60 to 79 age group, and then dropped off for the 80+ age group (**74.3%**). The 18 to 39 age group were the least likely to have a recorded offer (**71.7%**)
- There was wide STP variation, from **65.4%** (minimum) to **82.8%** (maximum)
- The map on page 27 (figure 27) shows STP variation across the country and highlights a distinct difference between the north and south of England for this indicator
- Patients in the most deprived quintile were the most likely (**78.9%**) to have the offer of support and treatment recorded and those in the least deprived quintile were the least likely (**73.5%**)

Figure 24: CVDP002SMOK, range for CCGs by age and sex

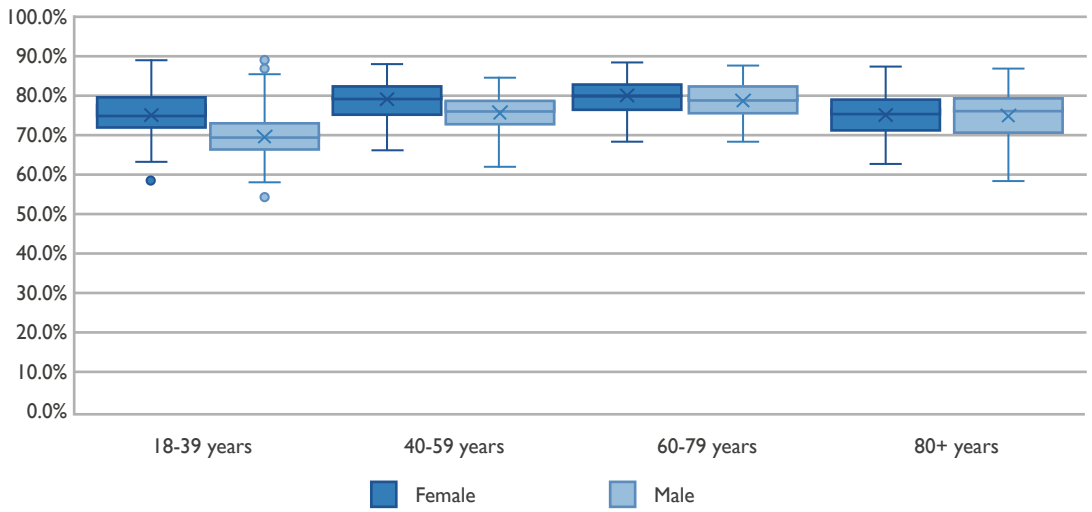


Figure 25: CVDP002SMOK Percentage of patients aged 18 and over with GP recorded CVD or CVD risk factors who are GP recorded current smokers, who have a record of an offer of support or treatment within the preceding 12 months.

	18-39	40-59	60-79	80+ years
Female	74.5% (31,363)	78.3 (189,073)	78.8% (237,997)	74.1% (34,469)
Male	69.6 (39,334)	74.5% (279,542)	78.0% (300,383)	74.5% (30,423)

Figure 26: CVDP002SMOK by deprivation quintile

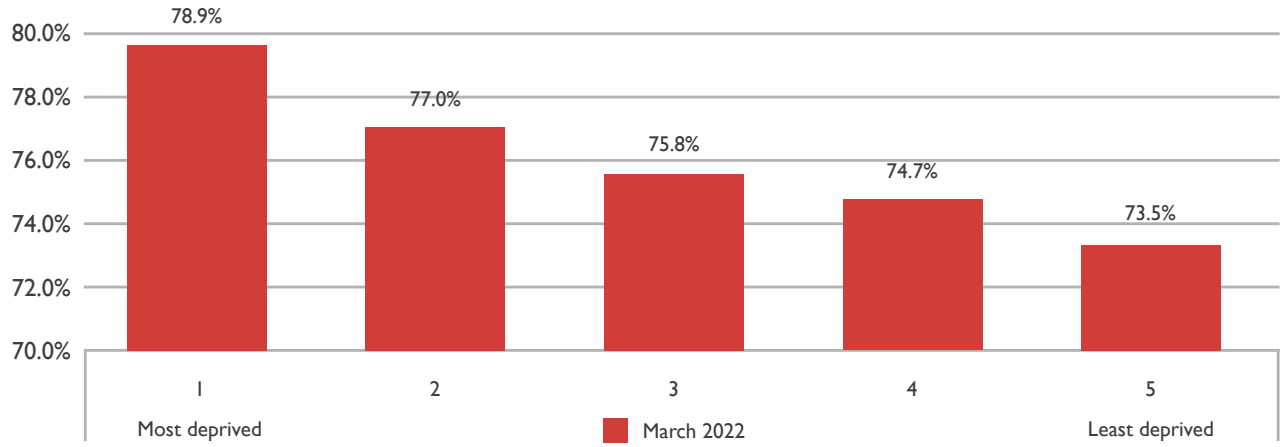
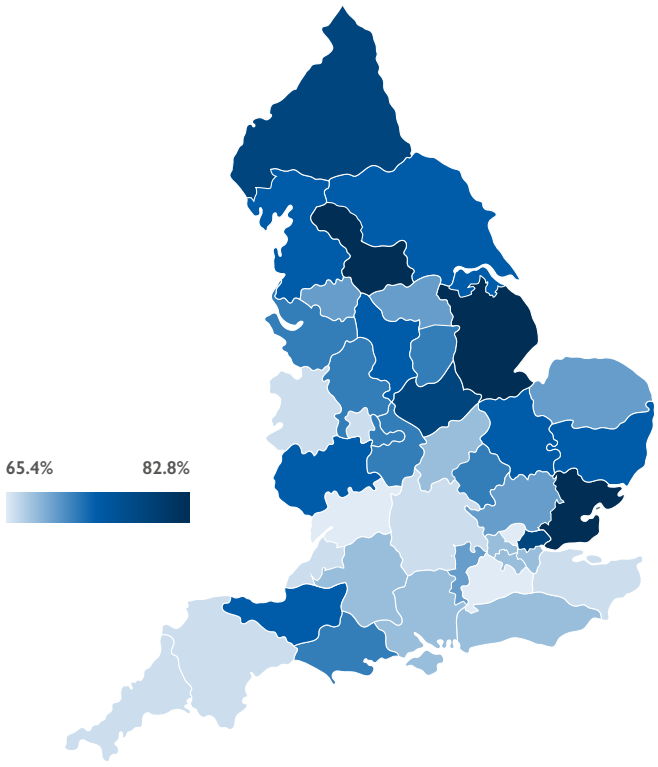


Figure 27: CVDP002SMOK, STP variation



COMMENTARY

New indicators were introduced to the audit in round three to report on the management of smoking in primary care for patients that have CVD or CVD risk factors. Chemicals inhaled from cigarettes make the walls of the arteries sticky, increasing the number of fatty deposits that stick to the artery walls. Build-up of these fatty deposits is the main underlying cause of CVD.[31] Research shows that smoking is more prevalent in more deprived quintiles than in less deprived quintiles.[32]

CVDP001SMOK measures the percentage of patients, with CVD or CVD risk factors, who are GP recorded current smokers or have no smoking status recorded, whose notes record smoking status in the preceding 12 months. March 2022 data showed that females were more likely than males to have their status recorded.

CVDP002SMOK measures the percentage of patients, with CVD or CVD risk factors, who are GP recorded current smokers, who have a record of an offer of support or treatment within the preceding 12 months. The audit showed that females were more likely than males to have a recorded offer of support or treatment.

A clear pattern across deprivation quintiles was highlighted by both indicators, with people in more deprived quintiles more likely to have their smoking status actively monitored and more likely to have an offer of support or treatment than people in less deprived quintiles.

ETHNICITY

The **Black and Mixed ethnic groups** consistently appear across multiple conditions and indicators as the least likely to:

Be prescribed appropriate drug therapy

Receive regular monitoring

Or be treated to target/to treatment thresholds

When compared to other ethnic groups

SEX

Females, aged 18 to 59, appear across multiple conditions as less likely to:

Be prescribed appropriate drug therapy

When compared to males of the same age

AGE

People in **younger age groups** appear across multiple conditions as less likely to:

Be treated to target/to treatment thresholds

When compared to older age groups

DEPRIVATION

People in **more deprived quintiles** are more likely to:

Be prescribed appropriate drug therapy

But less likely to:

Be treated to cholesterol treatment thresholds

When compared to less deprived quintiles

THE BLACK AND MIXED ETHNIC GROUPS

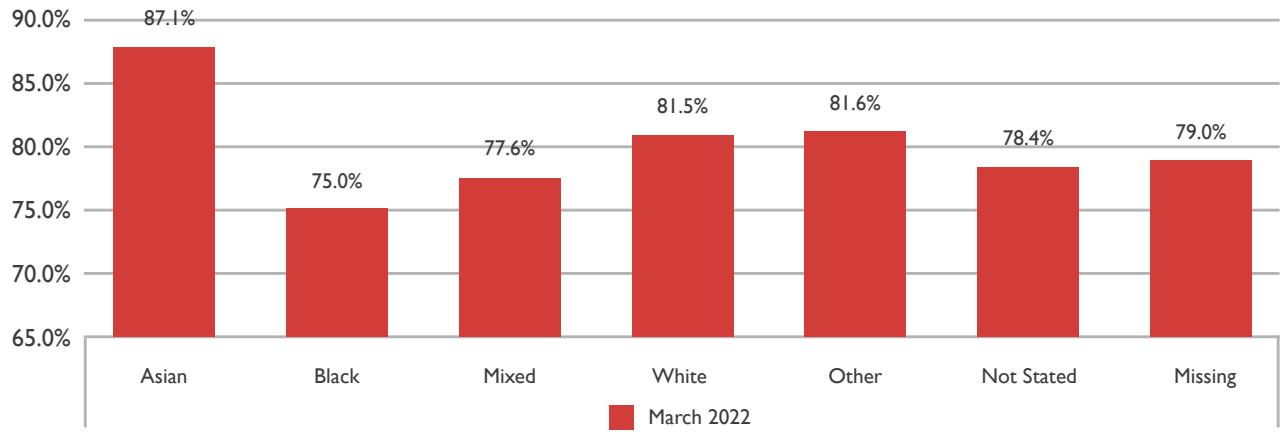
KEY FINDING

The Black and Mixed ethnic groups appeared more consistently than other groups as the least likely to be prescribed drug therapy, receive regular monitoring or be treated to target across multiple conditions and indicators. This section of the report looks at a selection of indicators to demonstrate this pattern and is not a fully comprehensive picture.

CVDP009CHOL: Percentage of patients aged 18 and over with GP recorded CVD (narrow definition), who are currently treated with lipid lowering therapy.[33] (Previously CVDP001CHOL)

- Of those with CVD, patients in the Black ethnic group were the least likely to have a current prescription of lipid lowering therapy at **75.0%** when compared to other ethnic groups, for which there was a max of **87.1%**. This was similar to the Mixed ethnic group (**77.6%**)
- Those in the Asian ethnic group were the most likely have the prescription (**87.1%**)

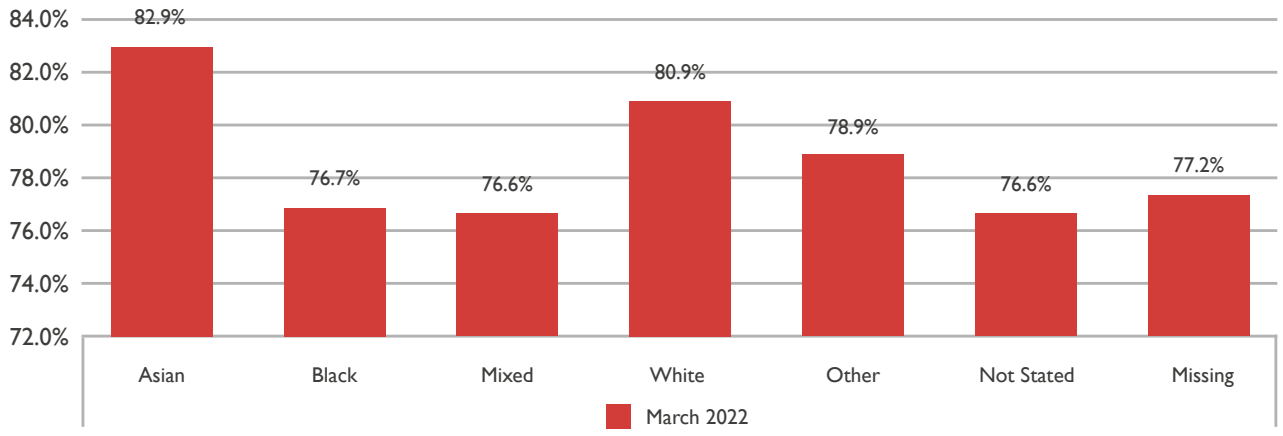
Figure 28: CVDP009CHOL by ethnicity



CVDP006CKD: Percentage of patients aged 18 and over with GP recorded CKD (G3a to G5), with a record of an eGFR test in the preceding 12 months.[34]

- This new indicator for round three showed that **80.3%** of people with CKD had a record of an eGFR test in the preceding 12 months
- Looking across ethnicity groups, the Black (**76.7%**) and Mixed (**76.6%**) ethnic groups were the least likely to have a record of a test in the preceding 12 months
- Those in the Asian ethnic group were the most likely to have a record of the test (**82.9%**)

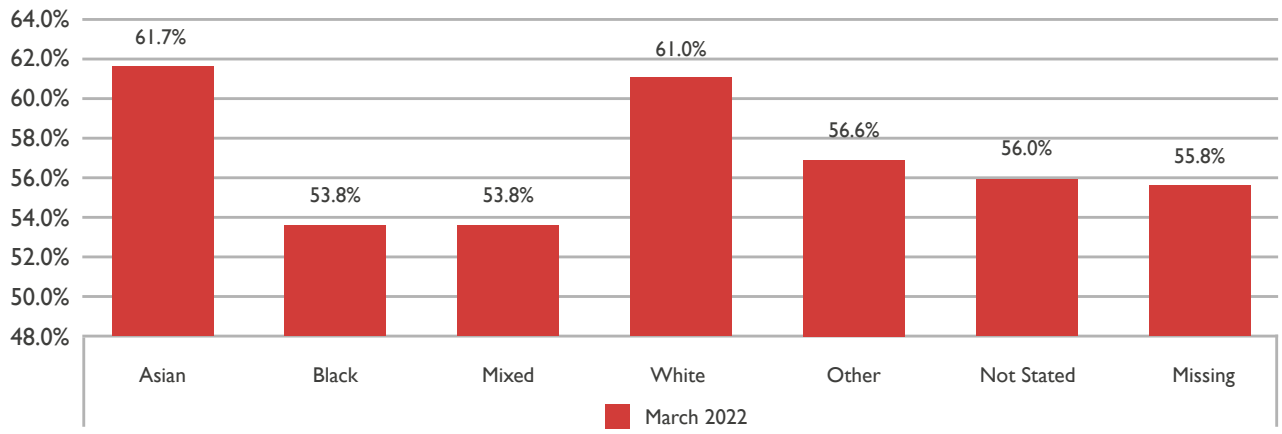
Figure 29: CVDP006CKD by ethnicity



CVDP007HYP: Percentage of patients aged 18 and over, with GP recorded hypertension, in whom the last blood pressure reading (measured in the preceding 12 months) is below the age appropriate treatment threshold.[35]

- March 2022 data showed that, of those with hypertension, the Black (**53.8%**) and Mixed (**53.8%**) ethnic groups were the least likely to be treated to the age appropriate BP target
- Those in the Asian ethnic group were the most likely to be treated to target (**61.7%**) with a similar result as the White ethnic group (**61.0%**)

Figure 30: CVDP007HYP by ethnicity



COMMENTARY

Each CVDPREVENT indicator is broken down by health inequalities markers, to highlight the variation across demographic groups in the identification, diagnosis, and management of the six high-risk conditions. It is now possible to see patterns between demographic groups that have emerged across multiple iterations of the audit and across multiple audit indicators. CVDPREVENT data showed that the Black and Mixed ethnic groups are less likely to receive certain prescriptions, have their condition regularly monitored, or be treated to target when compared to other ethnic groups. The data also showed that the Asian ethnic group were consistently the most likely to receive these care processes, suggesting that the CVD issue is complex amongst ethnic minorities.

This report highlights some key examples to demonstrate the variation across ethnic groups and the consistently lower performance within the Black and Mixed ethnic groups. It should be noted that in round three ethnicity codes were missing for 14.6% of people in the audit sample. Audit data alone cannot explain why this variation exists and instead highlights where further investigation is necessary to improve understanding of these trends.

March 2022 audit data showed that people in the Black and Mixed ethnic groups, with CVD, were less likely than other ethnic groups to be prescribed a lipid lowering therapy. CVDP009CHOL replaced CVDP001CHOL from the March 2022 extract onwards so it cannot be directly tracked back across previous iterations, however, CVDP001CHOL showed a similar pattern in both rounds one and two of the audit.

CVDPREVENT also showed that the Black and Mixed ethnic groups were less likely to have conditions regularly monitored. A new indicator for round three was introduced to measure the regular recording of an eGFR for those with CKD. March 2022 data showed that those in the Black and Mixed ethnic groups were less likely to have an eGFR recorded in the previous 12 months, compared to other ethnic groups.

This pattern also continued when looking at treatment to target. CVDP007HYP was introduced in round three of the audit as a combined age indicator for hypertension treatment to target. March 2022 data showed that people in the Black and Mixed ethnic group, of all ages, with hypertension, were less likely to be treated to the age-appropriate target than other ethnic groups. CVDP002HYP and CVDP003HYP are age-specific indicators and show a similar pattern, across all three rounds of the audit.

Use of the **Data & Improvement Tool** is encouraged to investigate these patterns across various indicators

and time periods. The Tool also shows this variation on a local level and highlights any local patterns and challenges, with ethnicity cuts of the data down to PCN level (this does not apply for prevalence indicators for which there are no ethnicity cuts, as explained on page 9).

PRESCRIPTIONS FOR YOUNGER FEMALES

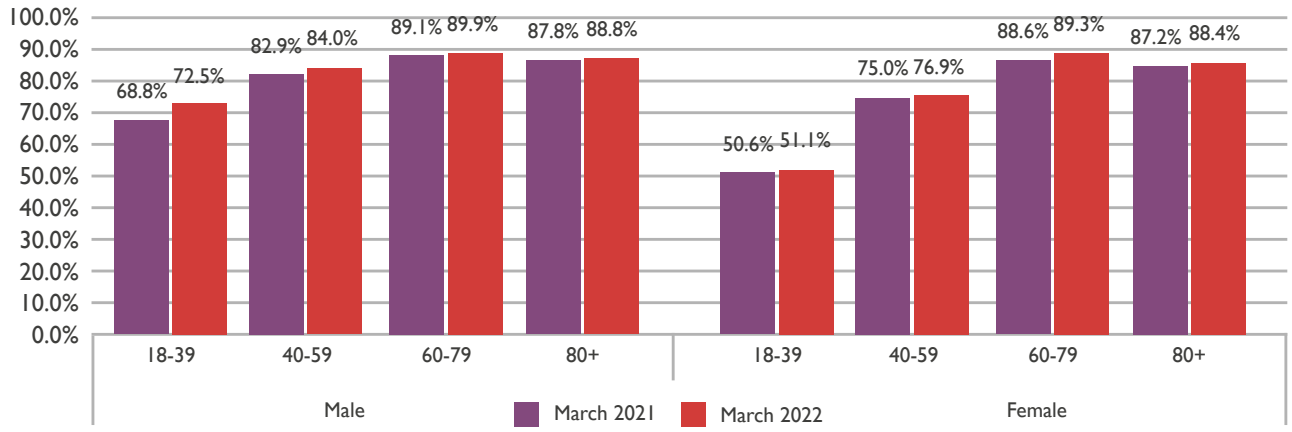
KEY FINDING

Females, particularly those between the ages of 18 and 59, were considerably less likely than their male counterparts to receive certain prescriptions. This applied for both secondary prevention of CVD with lipid lowering therapy and treatment of those with AF, at high-risk of stroke, with anticoagulation drug therapy.

CVDP002AF: Percentage of patients aged 18 and over with GP recorded atrial fibrillation and a record of a CHA2DS2-VASc score of 2 or more, who are currently treated with anticoagulation drug therapy.[36]

- The percentage of patients with high-risk AF prescribed an anticoagulant increased for both the male (**89.2%** from 88.3%) and female (**88.4%** from 87.4) groups in round three
- However, looking across different age groups, it has been highlighted across all three rounds of the audit that females, notably those aged 40 to 59 years, are less likely to have a prescription than their male counterparts (**76.9%** and **84.0%** respectively)

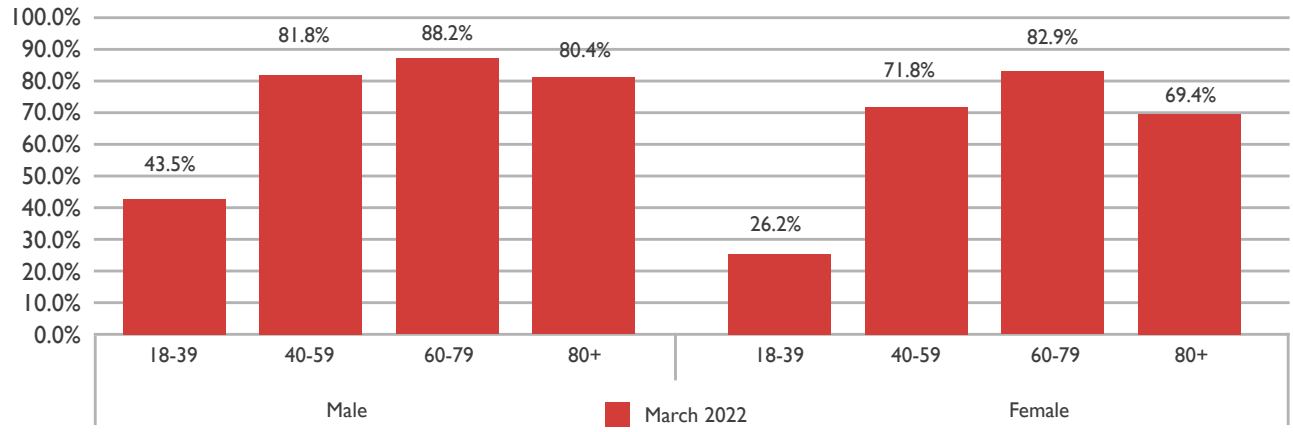
Figure 31: CVDP002AF by sex and age



CVDP009CHOL: Percentage of patients aged 18 and over with GP recorded CVD (narrow definition), who are currently treated with lipid lowering therapy.[37]

- Of patients with CVD, March 2022 data showed that females (**75.8%**) were less likely than males (**84.8%**) to have a current prescription of lipid lowering therapy
- In particular, there was a considerable gap between males and females in the younger age groups, for example **71.8%** of females aged 40 to 59 years had the recorded prescription whilst **81.8%** of males of the same age group had the prescription

Figure 32: CVDP009CHOL by sex and age



COMMENTARY

CVDPREVENT data has shown that females are less likely than males to receive certain prescriptions to manage their conditions. The gap between males and females is particularly clear in the 18 to 59 year age groups.

76.9% of 40 to 59 year old females, with AF at high-risk of stroke, were being treated with anticoagulants in March 2022, 7.1 percentage points below their male counterparts. The data shows that there is a considerable difference within this age group, with the gap between males and females closing to 0.6 percentage points in the 60 to 79 age group.

Similarly, females with CVD are less likely than males with CVD to be prescribed lipid lowering therapy. CVDP009CHOL shows that the gap between males and females is greater in the younger age groups, 17.3 percentage points in those aged 18 to 39 years, 10 percentage points in those aged 40 to 59 years.

TREATMENT TO THRESHOLDS IN YOUNGER AGE GROUPS

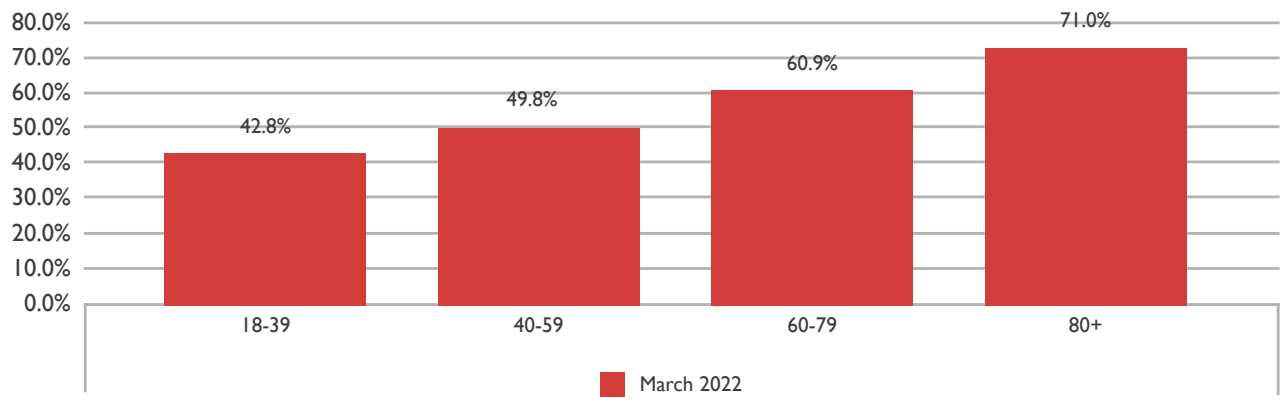
KEY FINDING

Two audit indicators measure the treatment of a condition to a determined threshold (blood pressure to the age-appropriate threshold and blood cholesterol). Both indicators showed a clear pattern by age, where people of a younger age group were less likely to meet the determined threshold.

CVDP007HYP: Percentage of patients aged 18 and over, with GP recorded hypertension, in whom the last blood pressure reading (measured in the preceding 12 months) is below the age appropriate treatment threshold.[38]

- In patients with diagnosed hypertension, March 2022 data showed that those in the youngest age group were least likely to be treated to reach the age-appropriate threshold (42.8%) and those in the oldest age group were most likely (71.0%).

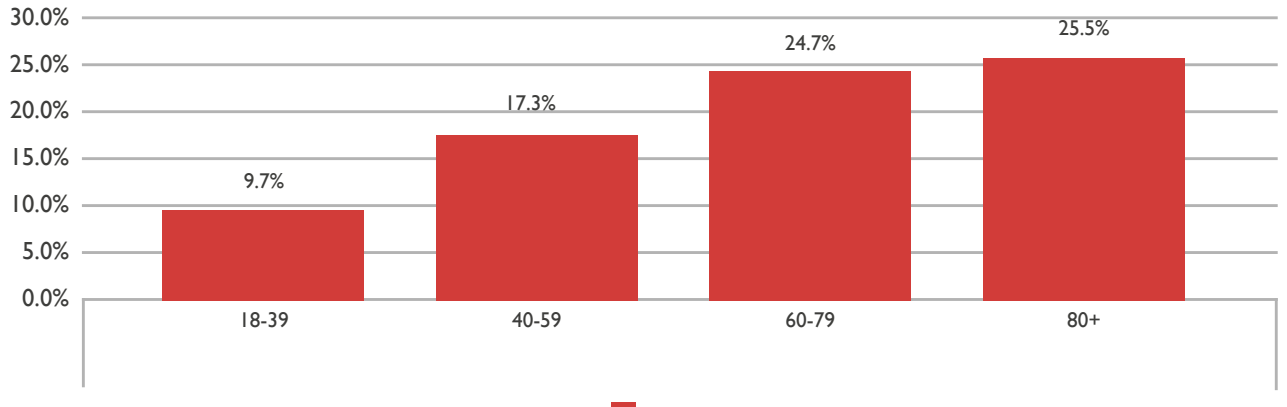
Figure 33: CVDP007HYP by age group



CVDP007CHOL: Percentage of patients aged 18 and over, with GP recorded CVD (narrow definition), in whom the most recent blood cholesterol level (measured in the preceding 12 months) is non-HDL cholesterol less than 2.5mmol/l or LDL-cholesterol less than 1.8mmol/l.[39]

- **23.7%** of patients, with CVD, had cholesterol levels of non-HDL less than 2.5mmol/l or LDL less than 1.8mmol/l
- Looking at the percentages across age groups, March 2022 data showed that people in the youngest age group were least likely to have their cholesterol to the indicator threshold (**9.7%**) and those in the oldest age group were most likely (**25.5%**)

Figure 34: CVDP007CHOL by age group



COMMENTARY

After diagnosis of a high-risk condition, treatment is undertaken to regulate the condition and to reduce risk of CVD. The CVDPREVENT audit reports on two indicators that measure treatment to a specified level. Considering both indicators, CVDPREVENT data suggested that patients in younger age groups, with high-risk conditions, were less likely to have their condition treated to a determined threshold.

The CVDPREVENT indicator CVDP007HYP measures the percentage of patients, with hypertension, that have been treated to the age-appropriate target. March 2022 data showed that the percentage of people treated to target increased with age, from 42.8% in the 18 to 39 year age group to 71.0% in the 80+ age group.

A similar pattern was recorded for cholesterol. March 2022 data showed that the percentage of patients, with CVD, in whom the latest blood cholesterol level is non-HDL less than 2.5mmol/l or LDL less than 1.8mmol/l increased with age from 9.7% in the 18 to 39 year age group and 25.5% in the 80+ age group.

The prevalence of cardiovascular disease is lower in younger age groups (see the **Data & Improvement Tool** for CVD prevalence) and a patient's risk of CVD increases with age, therefore, it is not often considered a young person's 'problem'. However, both of the above CVDPREVENT indicators capture patients that, from a young age, have recorded diagnoses of high-risk conditions, which may be significantly damaging if left unmanaged over a long period of time.

DEPRIVATION AND LIPIDS

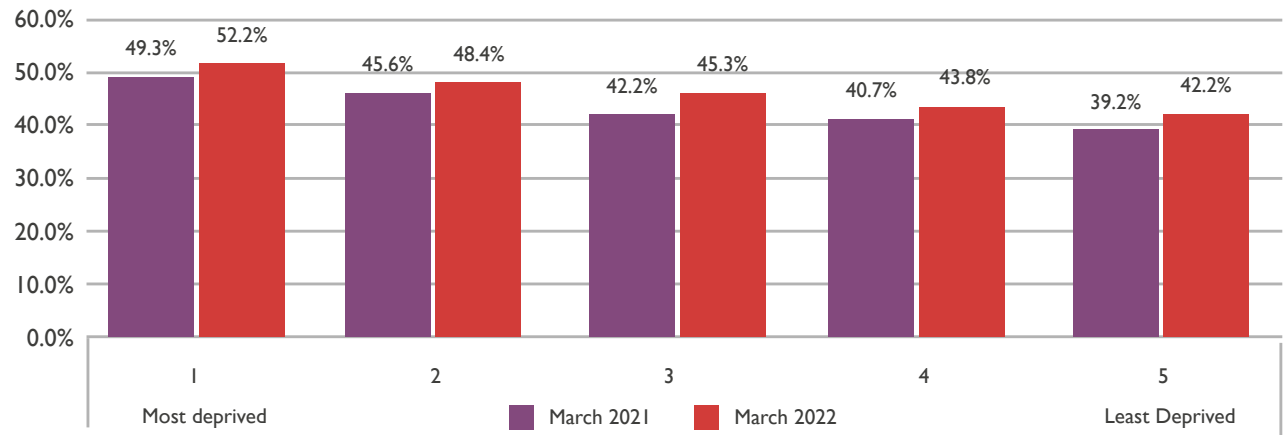
KEY FINDING

People in more deprived quintiles were more likely than those in less deprived quintiles to receive lipid lowering therapy for both primary and secondary prevention of CVD. However, looking at the secondary prevention group, those in more deprived quintiles with CVD were less likely to have their blood cholesterol treated to non-HDL less than 2.5mmol/l or LDL less than 1.8mmol/l, taken from a reading measured in the preceding 12 months.

CVDP006CHOL: Percentage of patients aged 18 and over with no GP recorded CVD and a GP recorded QRISK score of 10% or more, on lipid lowering therapy.[40]

- In round three, **46.2%** of patients with no CVD and a recorded QRISK score of 10% or more were on lipid lowering therapy. This was a slight increase from round two which reported 43.2%
- As in round two, March 2022 data showed that prescription of lipid lowering therapy was highest in the most deprived quintile (**52.2%**) and lowest in the least deprived quintile (**42.2%**)

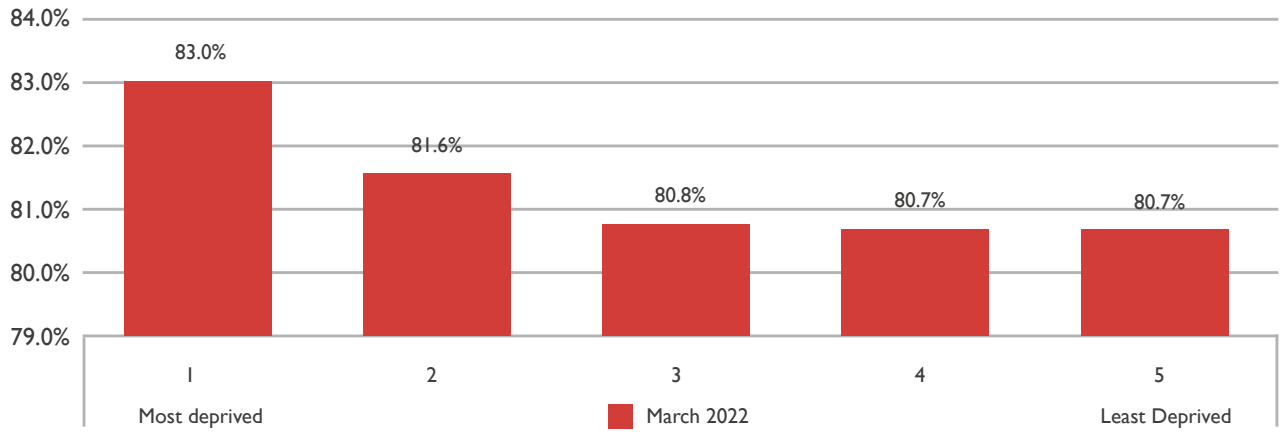
Figure 35: CVDP006CHOL by deprivation quintile



CVDP009CHOL: Percentage of patients aged 18 and over with GP recorded CVD (narrow definition), who are currently treated with lipid lowering therapy.[41] (Previously CVDP001CHOL).

- **81.4%** of people with CVD were treated with lipid lowering therapy
- In round three, data showed that, of people with CVD, those in the most deprived quintile were most likely to be treated with lipid lowering therapy at **83.0%**. People in the least deprived quintile were least likely (**80.7%**)

Figure 36: CVDP009CHOL by deprivation quintile

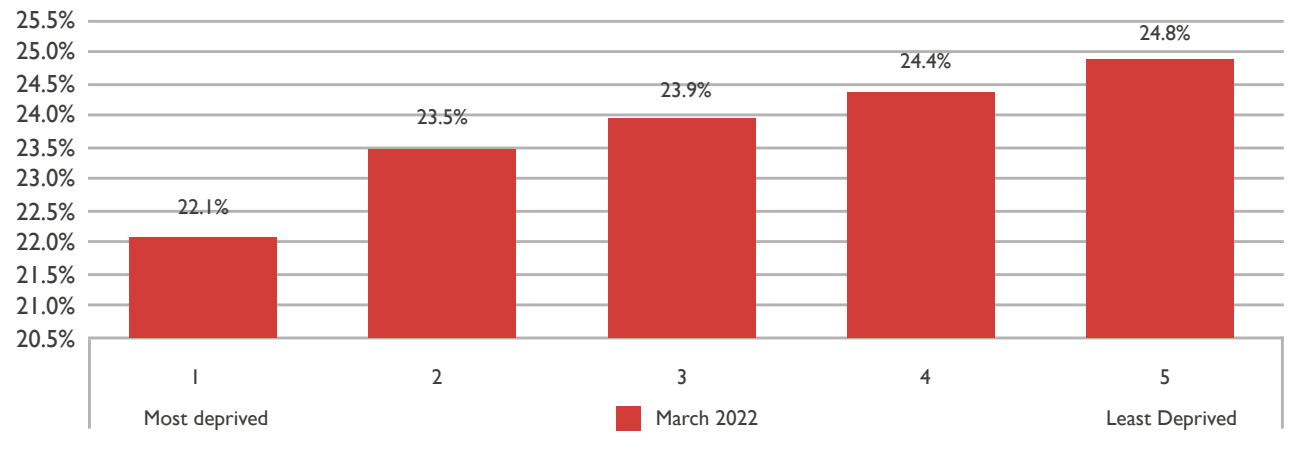


CVD007CHOL: Percentage of patients aged 18 and over, with GP recorded CVD (narrow definition), in whom the most recent blood cholesterol level (measured in the preceding 12 months) is non-HDL cholesterol less than 2.5mmol/l or LDL-cholesterol less than 1.8mmol/l.[42]

Note that if no lipid profile was taken in the last 12 months, the patient with CVD would not count as treated to the specified threshold. For a more detailed explanation please see the commentary section on page 37.

- **23.7%** of patients with CVD had cholesterol levels below non-HDL 2.5mmol/l or LDL 1.8mmol/l
- Patients in the most deprived quintile were the least likely to meet this treatment threshold (**22.1%**) and people in the least deprived were the most likely (**24.8%**)

Figure 37: CVDP007CHOL by deprivation quintile



COMMENTARY

Indices of multiple deprivation are a measure of relative deprivation for small, fixed geographic areas. These areas are classified into five quintiles based on where patients live, with Quintile 1 containing the most deprived areas and Quintile 5 containing the least deprived areas. CVDPREVENT data is broken down by deprivation quintiles to understand where there might be variation across them.

In rounds one and two of the CVDPREVENT audit, a pattern across deprivation quintiles was highlighted in the percentage of people prescribed lipid lowering therapy. This has applied for both primary and secondary prevention of CVD with lipid lowering therapy and continues to be shown in round three of the audit.

QRISK is an algorithm for predicting cardiovascular risk. It estimates the risk of a person developing CVD over the next 10 years. CVDP006CHOL showed that people in more deprived quintiles, without CVD and a QRISK score of over 10%, were more likely to have a prescription for lipid lowering therapy than those in less deprived quintiles. Similarly, considering secondary prevention, CVDP009CHOL showed that people in more deprived quintiles, with CVD, were more likely to have a prescription for lipid lowering than those in less deprived quintiles.

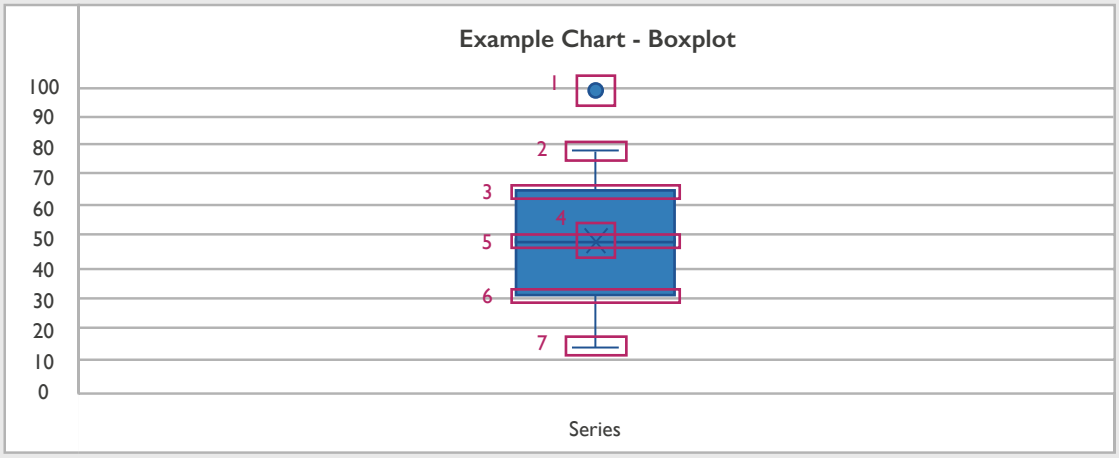
In round three a new indicator was introduced to the audit which measures the percentage of patients, with CVD, in whom the most recent blood cholesterol reading recorded was non-HDL less than 2.5mmol/l or LDL less than 1.8mmol/l. It is not possible to measure the NICE recommended proportionate reduction in non-HDL cholesterol using CVDPREVENT data, so this threshold has been taken from the NHS and Accelerated Access Collaborative (AAC) lipid management pathway (further explanation can be found in the **CVDPREVENT 2022 New Indicator Guide)**. March 2022 data shows that those in more deprived quintiles were less likely to be below this threshold than those in less deprived quintiles.

Note that if no lipid profile was taken in the last 12 months, the patient with CVD would not count as treated to the specified threshold, as measured by this indicator. Therefore low levels of monitoring can result in a low proportion of patients treated to the threshold. Extra analysis into the national figures undertaken by OHID showed that 55.7% of people with CVD had a lipid profile in the last year, either non-HDL or LDL-C. If a percentage is taken of these people that have had a lipid profile, 42.5% had a favourable result, below the defined threshold.

The data shows that people in more deprived groups are less likely to be below the non-HDL/LDL thresholds, despite being more likely to receive lipid lowering therapy. This could be due to a number of external factors. People in the most deprived areas shoulder the greatest burden of death and disability from CVD[42] and as such contributing socio-economic factors need to be addressed locally.

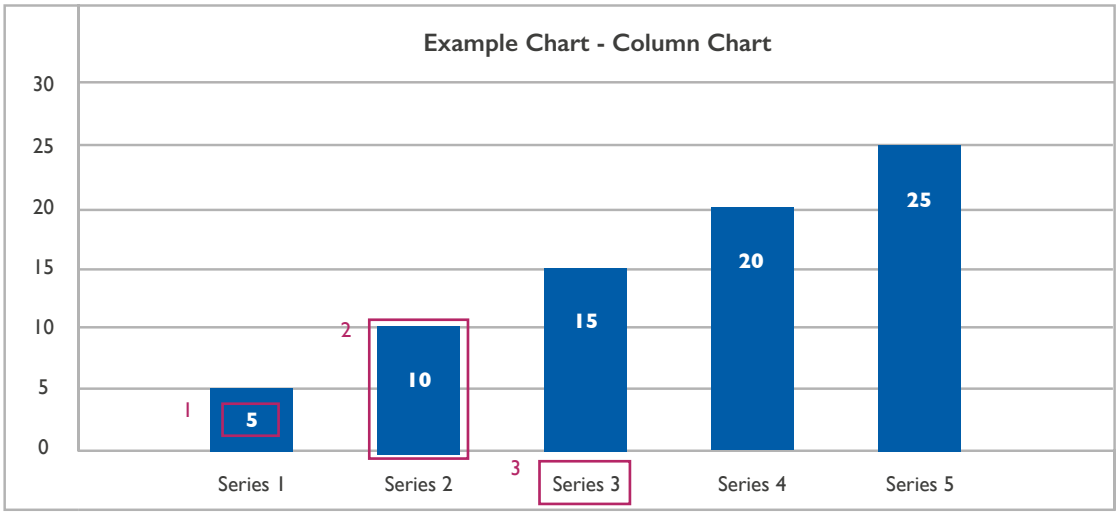
READING THIS REPORT

Throughout the report, boxplots and column charts are used to visualise the data. The boxplot displays the variation in CCG values for the indicator shown and the column charts display the England mean positions. Further detail on these charts is provided below.



1. **Outliers** - Any dots above or below the min or max lines mark the outlier positions. An outlier is a value 1.5 times the inter-quartile range larger than the third quartile or 1.5 times the inter-quartile range smaller than the first quartile.
2. **Maximum** - The top line marks the maximum value, excluding any outliers.
3. **Upper quartile** - The top of the box marks the sample's upper quartile. The upper quartile denotes the value lying between the third and fourth quartiles of the data set.
4. **Mean** - The cross marks the mean value of the data.
5. **Median** - The line within the box marks the sample's median position. The median denotes the value lying at the midpoint of a set of ordered values.
6. **Lower quartile** - The bottom of the box marks the sample's lower quartile. The lower quartile denotes the value lying between the first and second quartiles of the data set.
7. **Minimum** - The bottom line marks the minimum value, excluding any outliers.

The table under each boxplot provides the national values as percentages and counts of patients in the audit sample.



1. **Data label** - The value in each column is the England value for the series.
2. **Column** - Each column charts the England position for the series.
3. **Series name** - The label underneath the column provides the name of each series. These are commonly ethnicities or deprivation scores.

ADDITIONAL INFORMATION

GLOSSARY AND ABBREVIATIONS

Term	Definition
Abdominal aortic aneurysm (AAA)	A bulge or swelling in the aorta (the main blood vessel running from the heart to the stomach).
Anticoagulation/anticoagulants	Medicines that prevent the blood from clotting as quickly or as effectively as normal.
Atrial fibrillation (AF)	A heart condition that causes an irregular and often abnormally fast heart rate.
Blood pressure (BP)	The pressure of the blood in the circulatory system.
Cardiovascular disease (CVD)	A general term for conditions affecting the heart or blood vessels, usually associated with a build-up of fatty deposits inside the arteries and an increased risk of blood clots.
CHA2DS2-VASc	Clinical prediction rules for estimating the risk of stroke in people with atrial fibrillation.
Chronic kidney disease (CKD)	Chronic kidney disease (CKD) is a long-term condition where the kidneys do not work as well as they should.
Clinical Commissioning Group (CCG)	CCGs were created following the Health and Social Care Act in 2012 and commission NHS services in their local areas.
Coronary heart disease (CHD)	Refers to when the blood vessels supplying the heart are narrowed or blocked.
COVID-19	Coronavirus disease – an infectious disease causes by the SARS-CoV-2 virus.
Dementia	This report refers to vascular dementia – a type of dementia caused by reduced blood flow to the brain.
Deprivation quintile	Small, fixed geographic areas of the UK are measured for relative deprivation and are then classified into five quintiles based on relative disadvantage. Quintile 1 is the most deprived and quintile 5 is the least deprived.
Direct Enhanced Serve (DES)	A contract that Primary Care Networks sign up to that sets out core requirements and entitlements for them. Primary Care Networks are entitled to additional funding through IIF. (See definition for Investment and Impact Fund)
Diabetes mellitus	Commonly known as diabetes, when a person's pancreas does not produce enough insulin to control the amount of glucose in the blood. Type 1 diabetes is when the body's immune system attacks and destroys the cells that produce insulin. Type 2 diabetes is when the body does not produce enough insulin, or the body's cells do not react to insulin.
Estimated glomerula filtration rate test (eGFR)	Test to measure the level of kidney function and determine the stage of kidney disease.
Familial hypercholesterolaemia (FH)	An inherited, genetic condition which causes high cholesterol levels in the blood.
General Practice (GP)	The work of a doctor based in the community.
Heart failure (HF)	Refers to when the heart is unable to pump blood around the body properly.
Haemoglobin A1C (HbA1C) test	A blood test that shows what your average blood sugar (glucose) level was over the past two to three months.

ADDITIONAL INFORMATION

GLOSSARY AND ABBREVIATIONS CONTINUED...

Term	Definition
High blood pressure	See hypertension.
High cholesterol	When a person has too much cholesterol (a fatty substance, a type of lipid) in the blood.
High-density lipoprotein (HDL)	A class of lipoproteins of relatively high density, the main function of which is to transport cholesterol form the tissues to the liver for excretion.
Hyperlipidaemias	Refers to when a person's blood has too many lipids (or fats), such as cholesterol and triglycerides.
Hypertension (also called high blood pressure)	When the pressure in a person's blood vessels is unusually high.
Integrated Care Board (ICB)	A statutory organisation bringing the NHS together locally to improve population health and establish shared strategic priorities within the NHS.
The Investment and Impact Fund (IIF)	This is an incentive scheme focused on supporting Primary Care Networks to deliver high quality care to their population, and the delivery of the priority objectives articulated in the NHS Long Term Plan.
Lipid-lowering therapy	Used in the treatment of high levels of fats, such as cholesterol, in the blood.
Low density lipoprotein (LDL)	High levels of LDL cholesterol in the blood which increases the risk of heart disease and stroke.
Non-diabetic hyperglycaemia (pre-diabetes)	Refers to raised blood glucose levels which are not high enough to be in the diabetic range.
Peripheral arterial disease (PAD)	The narrowing of the peripheral arteries serving the legs, arms and head.
Prevalence	A measure of the frequency of a disease or health condition in a population at a particular point in time.
Primary Care Network (PCN)	PCNs are groups of GP practices working together with community, mental health, social care, pharmacy, hospital and voluntary services in their local areas.
Primary prevention	Refers to steps taken to prevent the onset of a disease.
Quality and Outcomes Framework (QOF)	A voluntary annual reward and incentive programme for GP practices in England and Northern Ireland.
QRISK score	An algorithm for predicting cardiovascular risk. It estimates the risk of a person developing CVD over the next 10 years.
Quality improvement (QI)	A framework to systematically improve the outcome of care delivered to patients.
Secondary prevention	Refers to steps taken to reduce the impact of a disease that a person has already been diagnosed with. This can be done by early diagnosis and management.
Stroke	A condition where the blood supply to part of the brain is cut off.
Transient ischaemic attack (TIA)	Sometimes referred to as a 'mini stroke'. Caused by a temporary disruption in the blood supply to part of the brain.

ADDITIONAL INFORMATION

END NOTES

(1) How-to guide: **Equity-focused Quality Improvement**

(2) Excludes patient opt-outs. Refer to the **Methodology Page** on the CVDPREVENT Data and Improvement Tool

(3) Primary Care Domain GPSES, NHS Digital. Business Rules for Patient-level Data Extracts 2021/22 Cardiovascular Disease Prevention Audit. April 2021, V3.0.

(4) For information on audit participation refer to the **Methodology Page** on the CVDPREVENT Data and Improvement Tool

(5) Ethnicity data was not available for all patients. The audit plans to work with a range of national partners such as NHS England and NHS Digital to consider means of ensuring better ethnicity coding in primary care in the longer term. Refer to the **Methodology Page** on the CVDPREVENT Data and Improvement Tool

(6) NICE. Public health guideline PH25. Cardiovascular disease prevention. June 2010

(7) **UK Health Security Agency. Cardiovascular disease: building back better. February 2021**

(8) Refer to the **Methodology Page** on the CVDPREVENT Data and Improvement Tool

(9) NICE. Guideline NG196. Atrial fibrillation: diagnosis and management. June 2021.

(10) **NHS England. Atrial fibrillation demonstrator site programme**

(11) **NHS England. The NHS Long Term Plan.** Page 62 3.69

(12) **NHS England. Atrial fibrillation demonstrator site programme**

(13) **UK Health Security Agency. The 10-year CVD ambitions for England – one year on**

(14) **OHID. Fingertips, National General Practice Profiles.**

(15) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(16) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(17) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(18) Royal College of General Practitioners. COVID-19: Long Term Conditions and pandemic recovery in Primary Care. June 2022

(19) **UK Health Security Agency. The 10-year CVD ambitions for England – one year on**

(20) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(21) NHS England. Investment and Impact Fund 2022-23 Updated Guidance. March 2022.

(22) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(23) NICE. Guidance CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014.

(24) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014.

(25) NICE. Guideline CG71. Familial hypercholesterolaemia: identification and management. August 2008.

(26) **NHS England. The NHS Long Term Plan.** Page 62 3.68.

(27) NICE. Guideline NG203. Chronic kidney disease: assessment and management. August 2021.

(28) NICE. Guideline PH38. Type 2 diabetes: prevention in people at high risk. July 2012 & NICE. Clinical Knowledge Summaries. Diabetes – type 2: When should I suspect type 2 diabetes in an adult? July 2022.

(29) NICE. NICE Quality and Outcomes Framework indicator. The percentage of patients with any or any combination of the following conditions: CHD, PAD, stroke or TIA, hypertension, diabetes, COPD, CKD or asthma, whose notes record smoking status in the preceding 12 months. NICE identity code NM126. August 2015.

(30) NICE. NICE Quality and Outcomes Framework indicator. The percentage of patients with any or any combination of the following conditions: CHD, PAD, stroke or TIA, hypertension, diabetes, COPD, CKD, asthma who are recorded as current smokers who have a record of an offer of support and treatment within the preceding 12 months. NICE

ADDITIONAL INFORMATION

END NOTES CONTINUED...

identity code NM127. August 2015.

(31) **Heart Research Institute UK. Smoking.**

(32) **Public Health England. Local Tobacco Control Profiles – Smoking and inequalities.**

(33) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(34) NICE. Guideline NG203. Chronic kidney disease: assessment and management. August 2021.

(35) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(36) NICE. Guideline NG196. Atrial fibrillation: diagnosis and management. June 2021.

(37) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(38) NICE. Guideline NG136. Hypertension in adults: diagnosis and management. August 2019.

(39) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(40) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014.

(41) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(42) NICE. Guideline CG181. Cardiovascular disease: risk assessment and reduction, including lipid modification. July 2014 & NHS England. Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of CVD. Accelerated Access Collaborative. December 2021.

(43) **The British Heart Foundation. The CVD Challenge in England.**

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We would like to thank the teams who have worked so hard towards the creation of this report.

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Liz Corteville, CVDPREVENT QI Lead, NHS Benchmarking Network

Alongside the CVDPREVENT Steering Group, the audit has a **Patient Panel** made up of 35 patients from across all regions of England, representing a diverse range of ethnic backgrounds and covering all CVD related conditions. We would like to thank the members of our Patient Panel, who have enthusiastically given us the patient perspective which has been vital in ensuring that the audit achieves its purpose.

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