Cardiovascular Disease

HWE PHM insights pack

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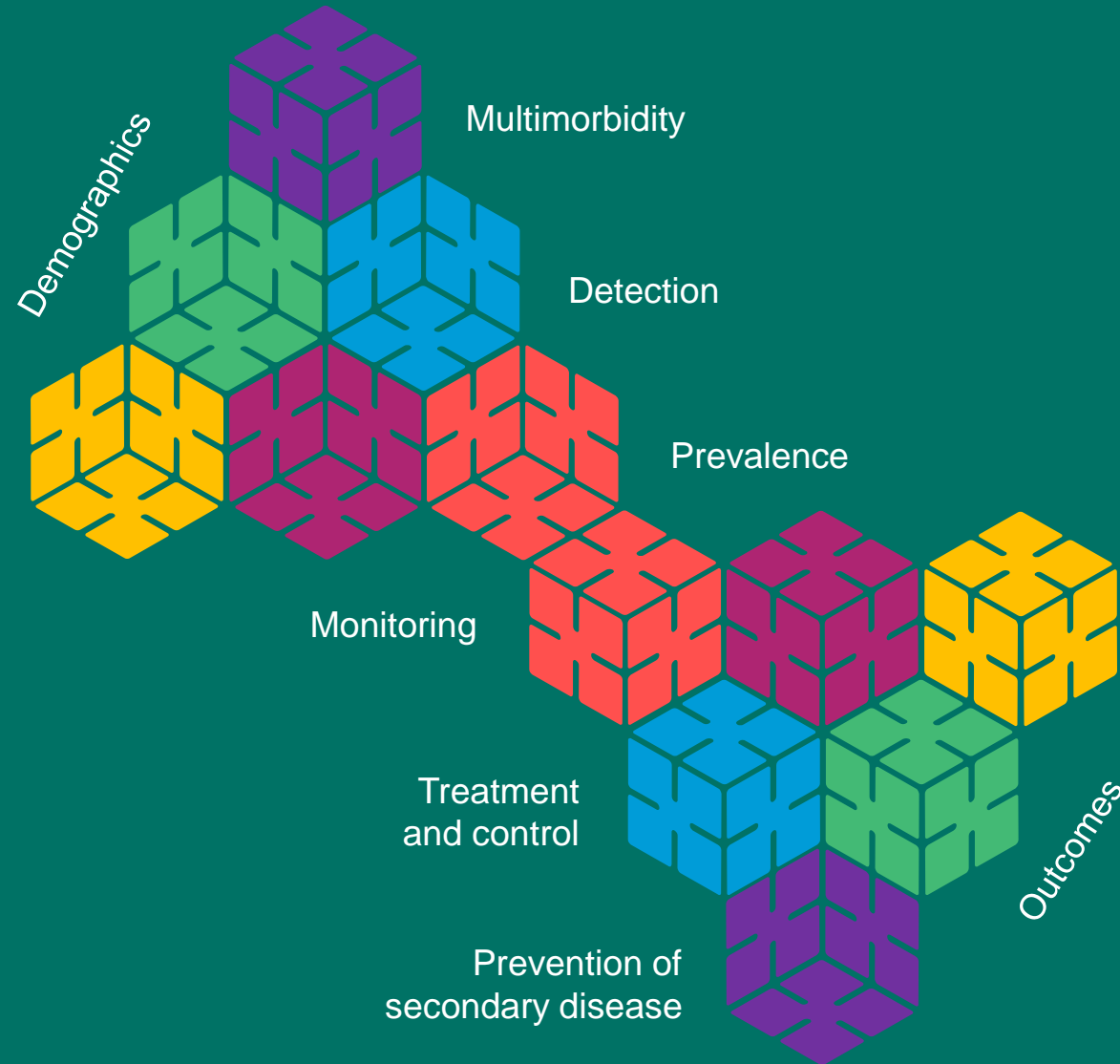**Working together**
for a healthier future

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Multimorbidity

Demographics

Detection

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Prevention of secondary disease

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Hertfordshire and West Essex Integrated Care System

About this resource

- Cardiovascular disease (CVD) is an umbrella term that encompasses diseases of the heart and circulatory system.
- This data insights pack presents data for Hertfordshire and West Essex on:
  - Ischaemic heart disease
  - Cardiac rehabilitation
- This pack presents data across the care pathway, encompassing: detection, monitoring, routine management and management of more serious disease.
- This pack aims to describe the health needs within the HWE population and supports evidence-based planning and decision-making.
- The pack uses data from a range of national and local sources. Please see the section on data sources and limitations for more information.
- There is a separate data insights pack on CVD prevention

ABC

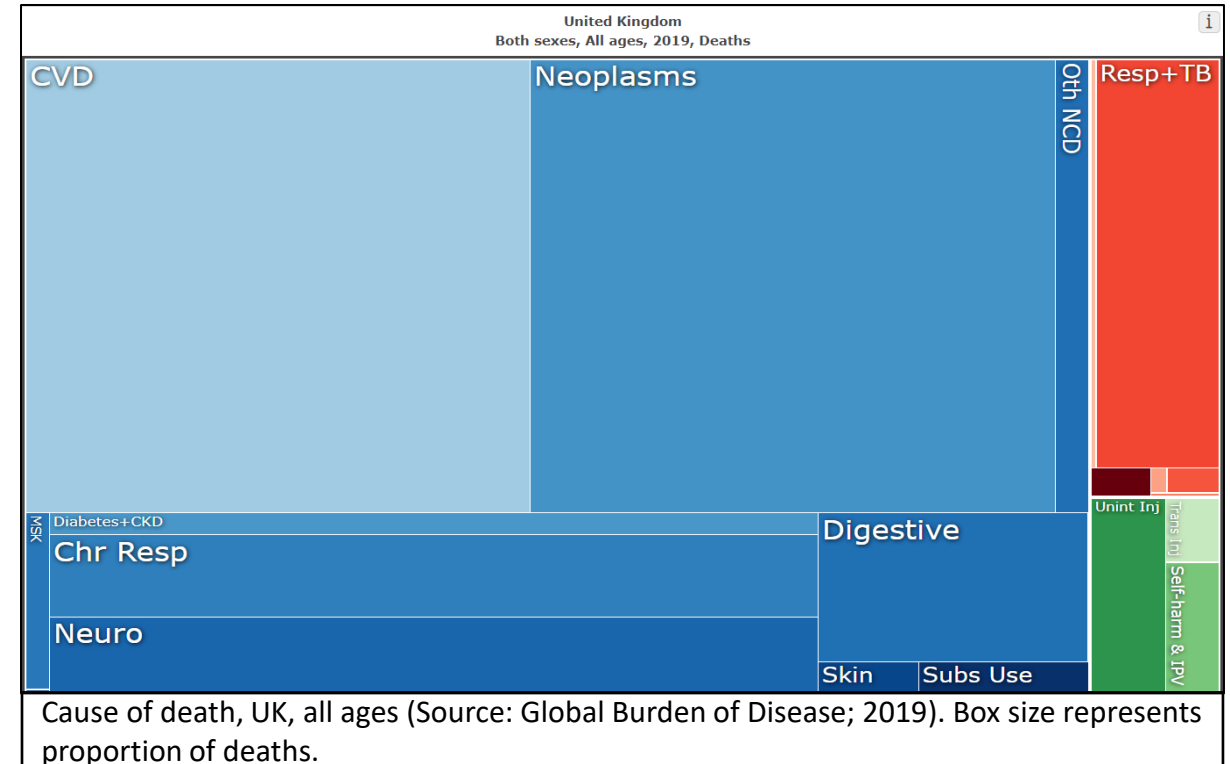Atrial Fibrillation

Blood Pressure

Cholesterol
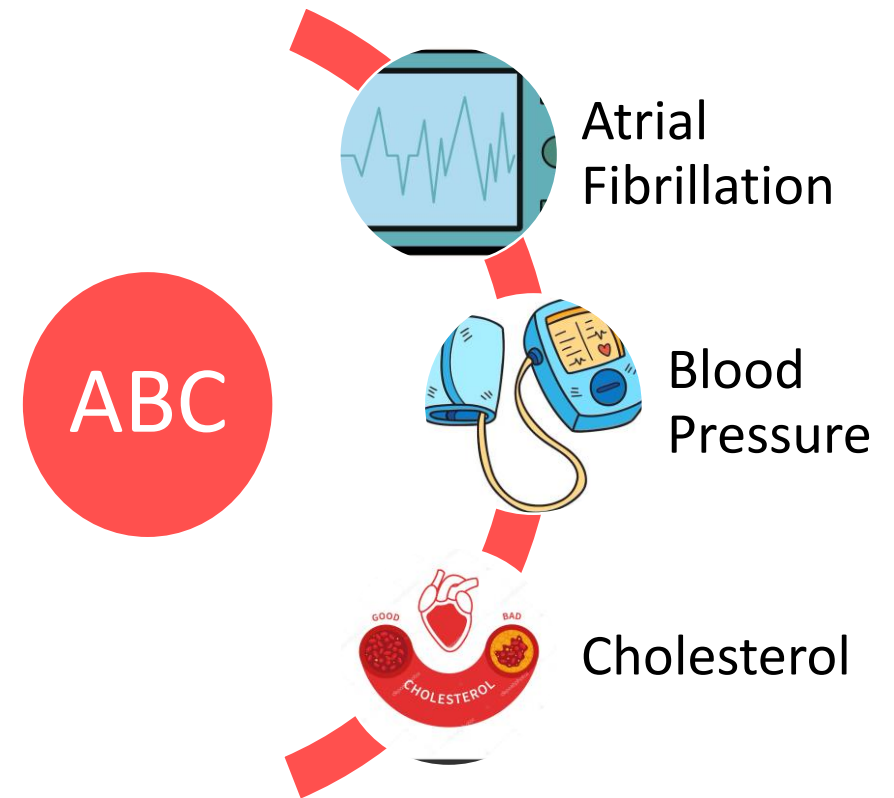
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Introduction to cardiovascular disease

- Cardiovascular disease (CVD) is an umbrella term that encompasses diseases of the heart and circulatory system.
- CVD is the second most common cause of death and disability in the UK (Source: GBD 2019).
- CVD is largely preventable. Modifiable risk factors for cardiovascular disease include hypertension, high cholesterol, smoking, obesity, air pollution, diet, exercise, diabetes (see Diabetes pack) and kidney disease (see CKD pack). Non-modifiable risk factors include older age, gender, ethnicity and family history.
- The presence of CVDs often increase the risk of other CVDs. For example, AF and CHD are linked to increase risk of stroke. Hypertension is linked with increased risk of all CVDs.
- 80% of people with CVD have at least one other health problem.

United Kingdom
Both sexes, All ages, 2019, Deaths

CVD · Neoplasms · Oth NCD · Resp+TB · MSK · Diabetes+CKD · Chr Resp · Neuro · Digestive · Skin · Subs Use · Unint Inj · Trans Inj · Self-harm & IPV

Cause of death, UK, all ages (Source: Global Burden of Disease; 2019). Box size represents proportion of deaths.

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Cardiovascular disease overview (1)

- CVD prevalence in HWE is lower than national and regional prevalence. The prevalence of GP-recorded CVD for patients 18yrs and over (Source: CVD Prevent June 2023) is:
  - HWE - 5.30%
  - East and North Hertfordshire – 5.08%
  - South West Hertfordshire – 5.34%
  - West Essex - 5.62%
  - East of England Region – 5.63%
  - England - 6.06%

- This uses the wide definition of CVD, that includes: CHD (coronary heart disease), Stroke, TIA (transient ischaemic attack), PAD (peripheral arterial disease), heart failure and AAA (abdominal aortic aneurism)

- CVD prevalence in HWE varies by deprivation. There is significantly lower prevalence in the most deprived group compared to the least deprived population in HWE. This may be due to an underdiagnosis within in the most deprived populations, or due to the HWE most deprived populations being younger (data is not age standardised) (Source CVD Prevent June 2023).

- Prevalence of CVD is higher in men than women (Source: CVD Prevent June 2023)

CVD prevalence in HWE ICB by deprivation and sex. Source: CVD Prevent To June 2023 (CVDP001CVD)
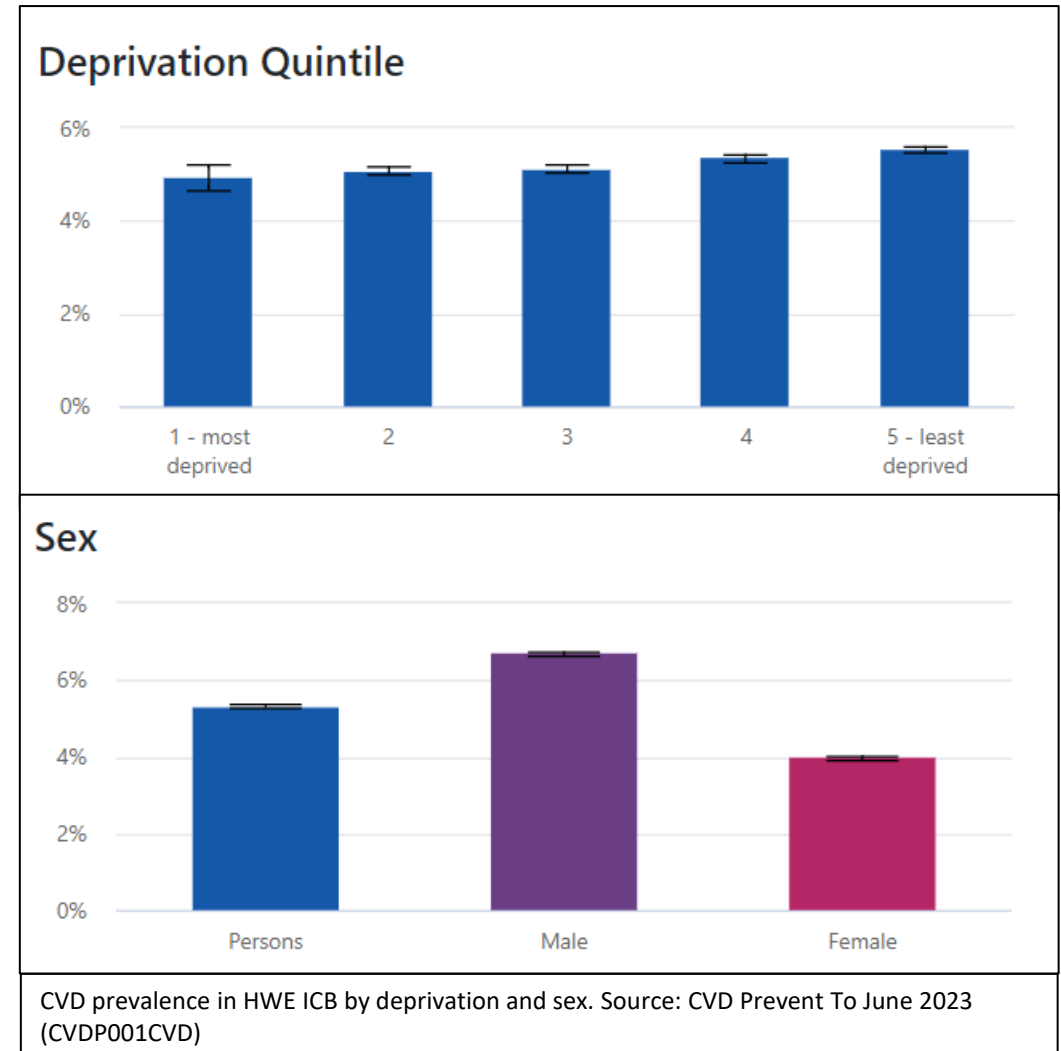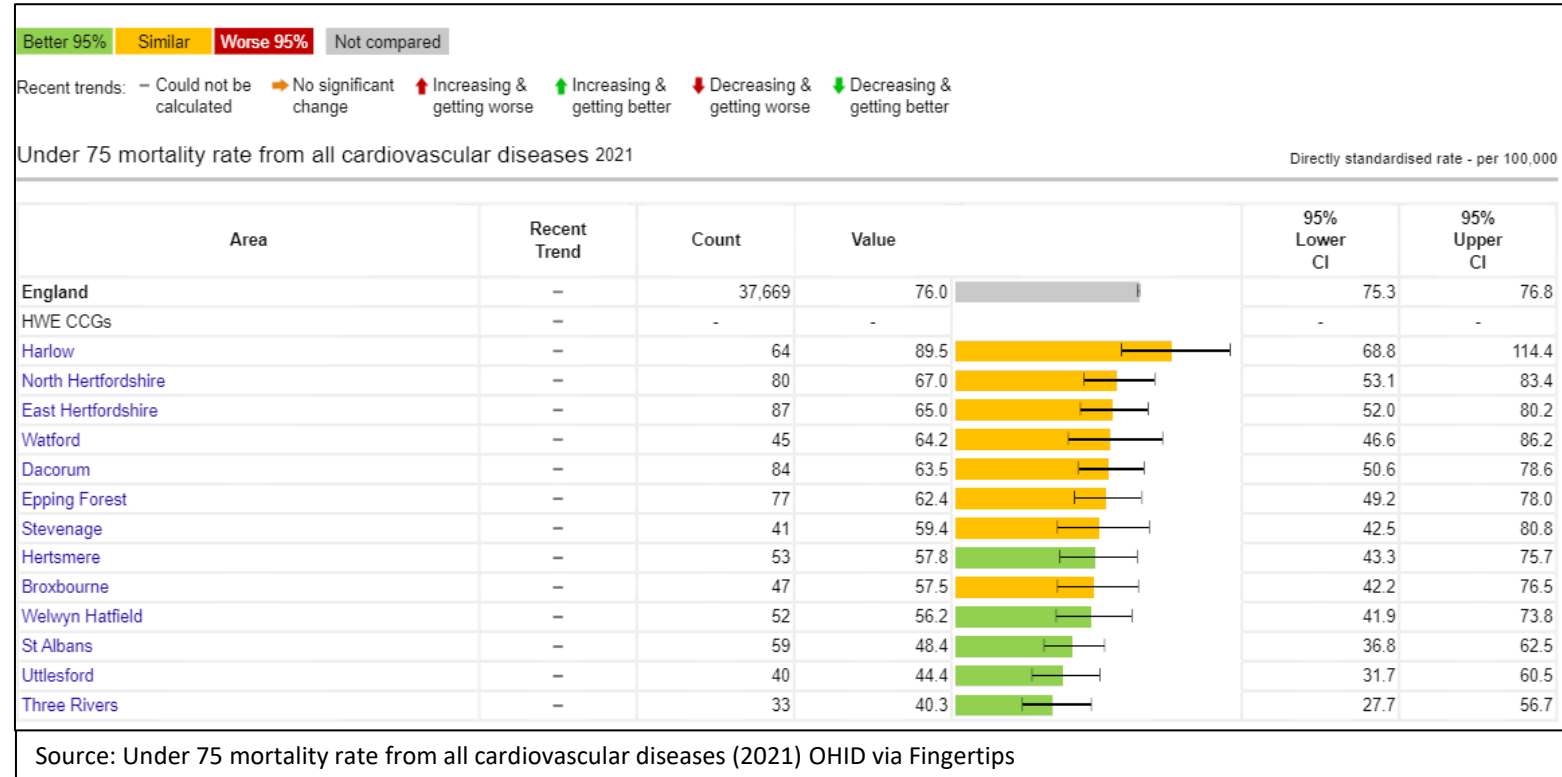
Cardiovascular disease overview (2)

Mortality rates in under 75s can be used as a measure of premature mortality.
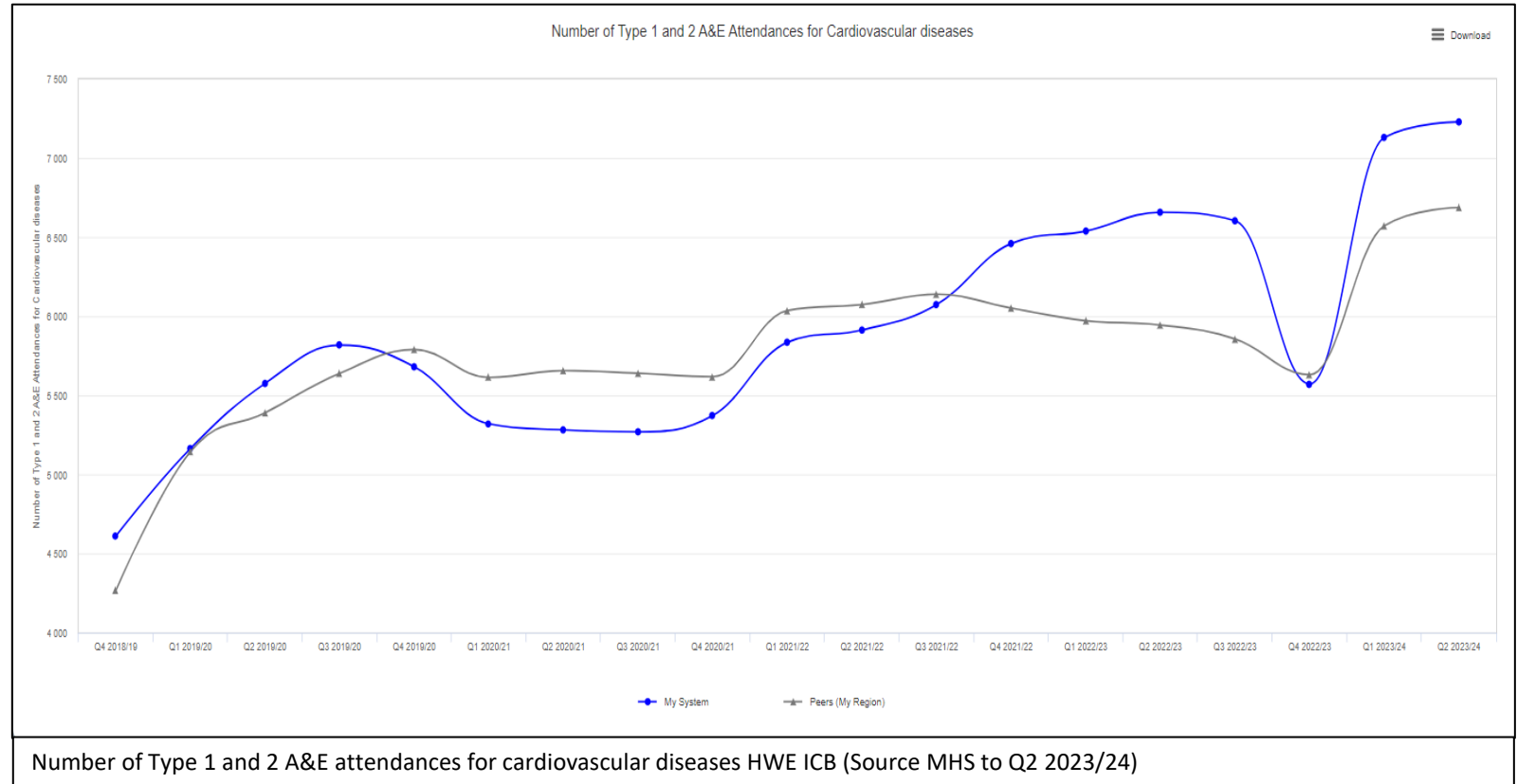
- Cardiovascular mortality rates highlight that HWE overall have a lower than national under 75 mortality rate from cardiovascular disease.
- When compared to our similar peers however, HWE has a higher under 75 mortality rate.
- The snapshot from Fingertips highlights how mortality differs by district within HWE, with a more than 2-fold difference in premature mortality between the districts with the highest (Harlow) and lowest mortality (Three Rivers).
- The variation between districts in HWE is a mixed picture. Most deprived areas experience the highest rates of under 75 mortality (Harlow, Watford, Dacorum, Stevenage, Broxbourne). However some of the lesser deprived areas are also experiencing higher under 75 mortality rates (Epping Forest and East Hertfordshire).
- This data is a directly standardised rate per 100,000 – meaning this data accounts for the fact that the age distribution in each district may differ.

| Better 95% | Similar | Worse 95% | Not compared |

Recent trends: – Could not be calculated ➡ No significant change ⬆ Increasing & getting worse ⬆ Increasing & getting better ⬇ Decreasing & getting worse ⬇ Decreasing & getting better

Under 75 mortality rate from all cardiovascular diseases 2021

Directly standardised rate - per 100,000

Area	Recent Trend	Count	Value		95% Lower CI	95% Upper CI
England	–	37,669	76.0		75.3	76.8
HWE CCGs	–	-	-		-	-
Harlow	–	64	89.5		68.8	114.4
North Hertfordshire	–	80	67.0		53.1	83.4
East Hertfordshire	–	87	65.0		52.0	80.2
Watford	–	45	64.2		46.6	86.2
Dacorum	–	84	63.5		50.6	78.6
Epping Forest	–	77	62.4		49.2	78.0
Stevenage	–	41	59.4		42.5	80.8
Hertsmere	–	53	57.8		43.3	75.7
Broxbourne	–	47	57.5		42.2	76.5
Welwyn Hatfield	–	52	56.2		41.9	73.8
St Albans	–	59	48.4		36.8	62.5
Uttlesford	–	40	44.4		31.7	60.5
Three Rivers	–	33	40.3		27.7	56.7

Source: Under 75 mortality rate from all cardiovascular diseases (2021) OHID via Fingertips

Cardiovascular disease acute care utilisation

- There is evidence that service utilisation due to cardiovascular disease in HWE ICB is rising. Type 1-4 A&E attendances for CVD in HWE ICB have risen from 4611 in Q4 2018/19 to 7229 in Q2 2023/24

- Reducing A&E attendances to the rate of our demographic peers in the most recent quarter for which data are available would have saved 606 attendances (Source: MHS Q2 2023/24)

- Reducing non-elective bed days for cardiovascular disease to the rate of our best-performing demographic peer would result in a saving of 16,743 bed days (Source: MHS)

Number of Type 1 and 2 A&E Attendances for Cardiovascular diseases

Number of Type 1 and 2 A&E attendances for cardiovascular diseases HWE ICB (Source MHS to Q2 2023/24)

Key recommendations

Based on the data in this pack, the following recommendations are made:

1. Prevention and management of cardiovascular disease should remain a key priority for Hertfordshire and West Essex. Whilst CVD prevalence and CVD-related mortality and service utilisation are better than national average, HWE ICB is below demographically similar peers on these metrics. There are also significant opportunities to reduce CVD-related A&E attendance, ambulatory-care sensitive admissions and non-elective bed days and make associated cost savings.

2. Detection of coronary heart disease could be improved, particularly in West Essex where the detection rate for coronary heart disease is below the national average (67.0% vs 68.9).

3. Hospital admissions for coronary heart disease and A&E admissions for myocardial infarction are also higher in WE than in SWH or ENH, and higher than the national average.

   - See section on coronary heart disease

4. More work is required to understand practice in HWE ICB in relation to cardiac rehabilitation. It appears that HWE ICB is below national average for initiation of cardiac rehabilitation after non-revascularized MI, but above average after revascularized MI with PCI or CABG. Rates of referral following diagnosis of heart failure are unclear due to data unavailability.

   - See section on cardiac rehabilitation

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3. Coronary heart disease

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Coronary heart disease introduction

- Coronary Heart Disease (CHD) is condition that affects the blood supply to the heart. It is also known as Ischaemic Heart Disease (IHD) or Coronary Artery Disease (CAD).

- CHD is the leading cause of heart attack and is caused by occlusion of the coronary arteries with fatty deposits (atherosclerosis).

- The chest pain caused by the blockage of the coronary arteries is called angina.

- Conditions like hypertension, high cholesterol and diabetes increase your risk of developing IHD.

- Modifiable risk factors such as diet, exercise, smoking and alcohol are often the target for preventative strategies.

- Management also includes medications, procedures to open the arteries and surgery to bypass the blockage.

- Because of its significant impact of heart function, it is also a major risk factor for heart failure (HF).
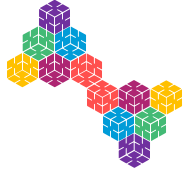
8 Key Messages – Coronary heart disease - Click on each tile

- Prevalence of coronary heart disease is declining locally and nationally. Prevalence is highest in WE but still below national median
- Rates of detection of CHD vary between Place areas, with lowest detection in West Essex
- People with CHD are a multimorbid cohort, predominately in the "Advanced disease and complexity" segment.
- BP targets, influenza vaccinations and ACT prescribing are generally in line with the national average
- Hospital admissions for CHD vary by Place area with WE having the highest rates, above the national average
- A&E attendances for acute CHD and myocardial infarction also vary by Place, and are highest in WE
- HWE ICB is above the national and regional averages for the proportion of patients meeting 'door to balloon' time targets for ST segment elevation myocardial infarction (STEMI)
- HWE ICB is above the national and regional averages for the proportion of patients with NSTEMI or unstable angina who receive this coronary angiography within 72 hours

Prevalence and detection (1)

- The prevalence of Coronary Heart Disease in HWE is 2.6%. This is statistically significantly below the national prevalence (3.0%). This represents 39,630 people.
- The trend in CHD prevalence is downward, from a high of 2.8% in 2012/13. This is similar to the trend observed nationally.

- The prevalence in WE is statistically significantly higher than the ICS average at 2.8%.

- Estimated prevalence, based on modelling suggests the 'true' prevalence (representing both diagnosed and undiagnosed disease) is higher at 3.8%. Therefore, there is a prevalence gap of 1%.
- There is variation in the estimated prevalence, with WE having the highest estimated prevalence (4.2%), followed by SWH (3.8%) and then ENH (3.7%).
- HWE is in the 3rd quartile nationally for detection (measured as observed to expected prevalence)

CHD QOF prevalence 22/23

	East & North Herts	South & West Herts	West Essex	HWE ICB
%	2.6	2.6	2.8	2.6

— England

Source: QOF (all ages) via Fingertips 22/23

CHD: QOF prevalence (all ages) for NHS Hertfordshire and West Essex Integrated Care Board – QM7

- England
- NHS Hertfordshire and West Essex Integrated Care Board – QM7
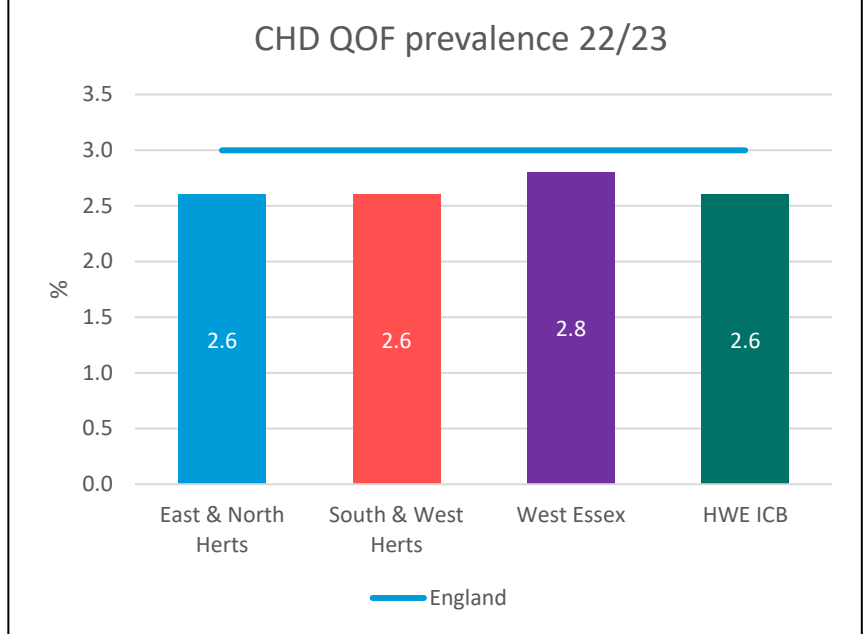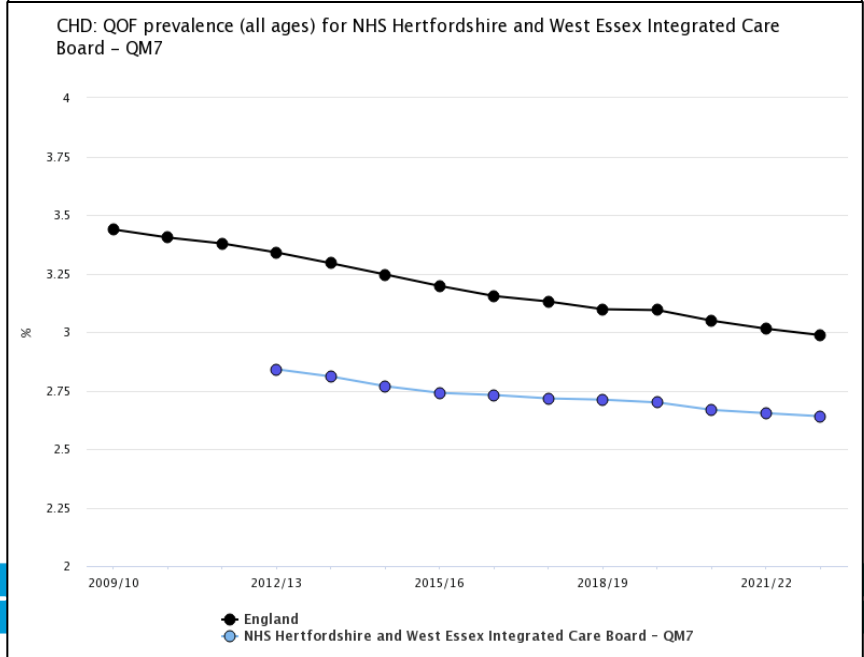
Source: QOF (all ages) via Fingertips 22/23

Prevalence and detection (2)

Detection rates for CHD vary by Place area, with WE (67%) and SWH (69%) in the lower half of ICBs nationally

Reported to Estimated Prevalence - Coronary Heart Disease, National Distribution
The value represents the reported to estimated prevalence of coronary heart disease.

CCG Quartile 1 - Lowest 25% | CCG Quartile 2 | CCG Quartile 3 | CCG Quartile 4 - Highest 25%

In order of Reported to Estimated Prevalence - Coronary Heart Disease (n=106)

My CCGs   Non-Peer CCGs   CCG Median (68.9%)
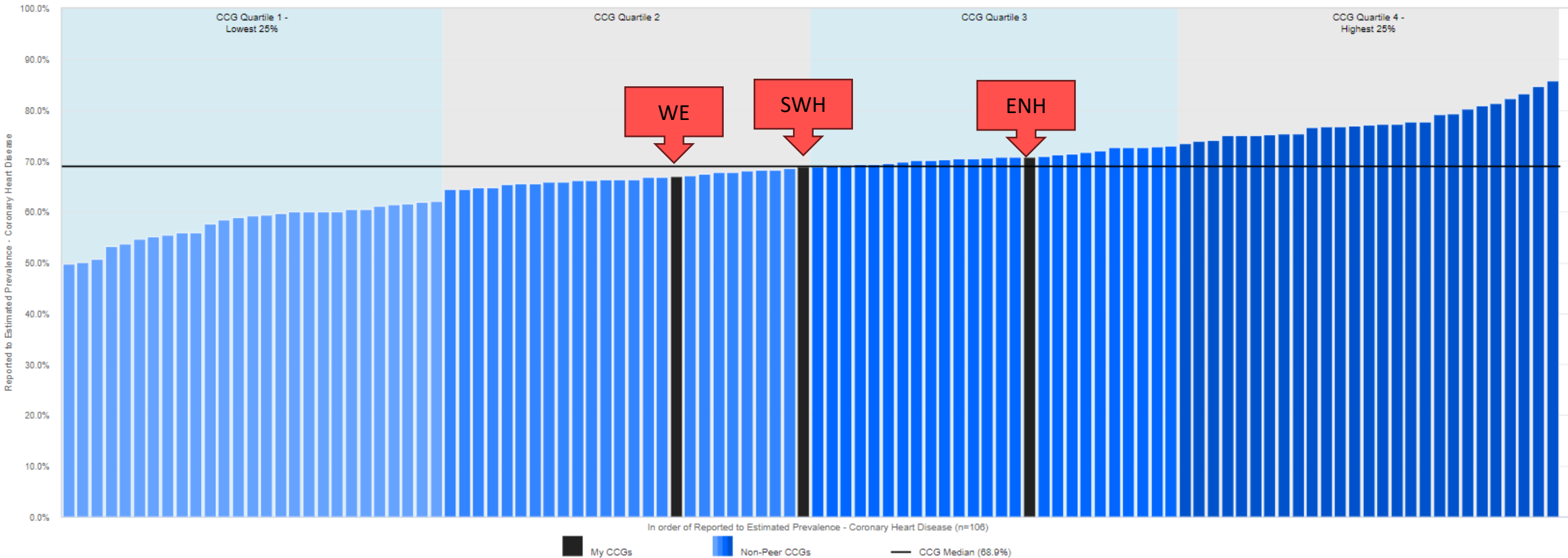
Multimorbidity (1)

CHD has a multimorbid cohort, predominately in the "Advanced disease and complexity" segment. Hypertension is the most common comorbidity and biggest risk factor for developing CHD.

Source: PHM Optum Dashboard (2021)
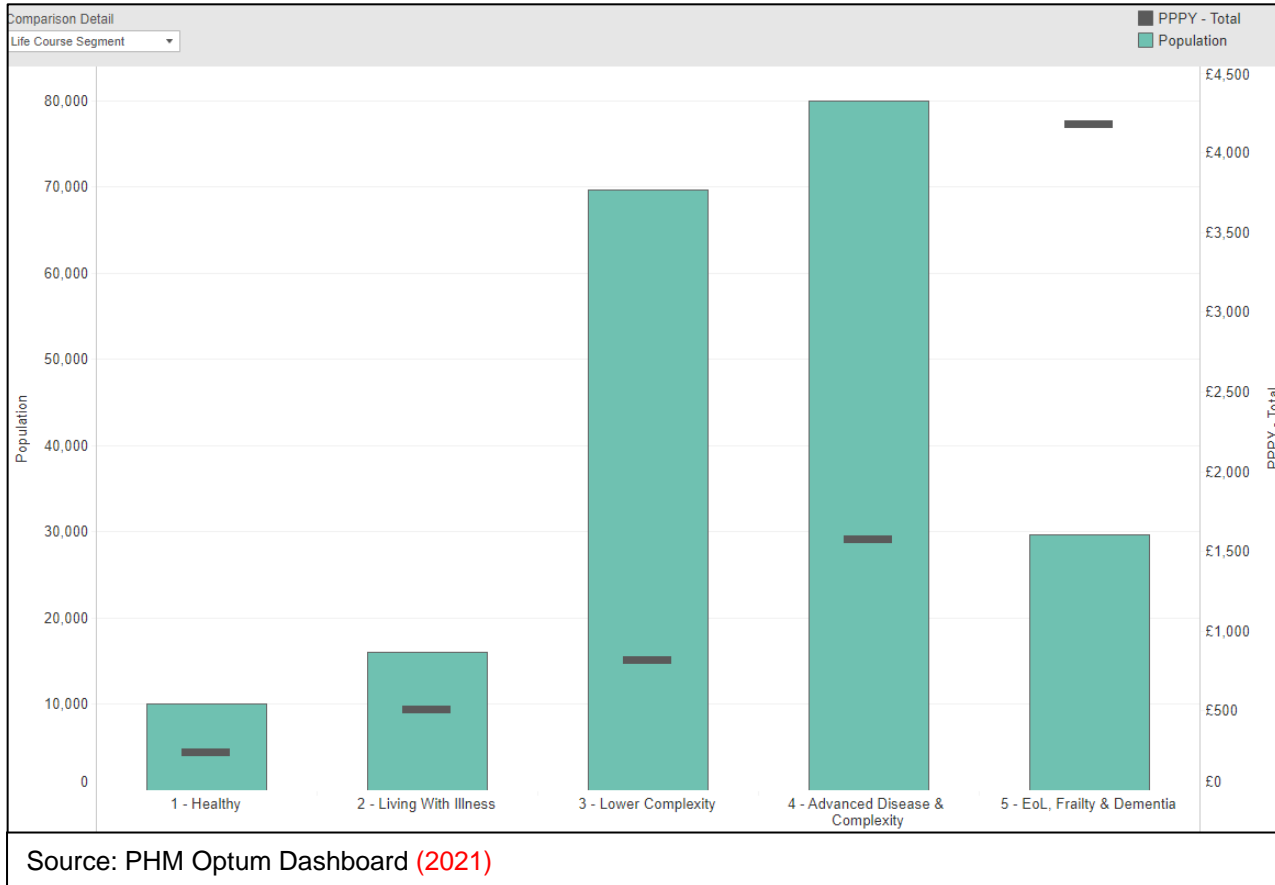
Comorbidities in CHD patients in HWE (Source PaPI 2021)

| 7.9% | 16.7% | 18.4% | 16.4% | 12.1% | 28.4% |

Count of comorbidities: 0   1   2   3   4   5+
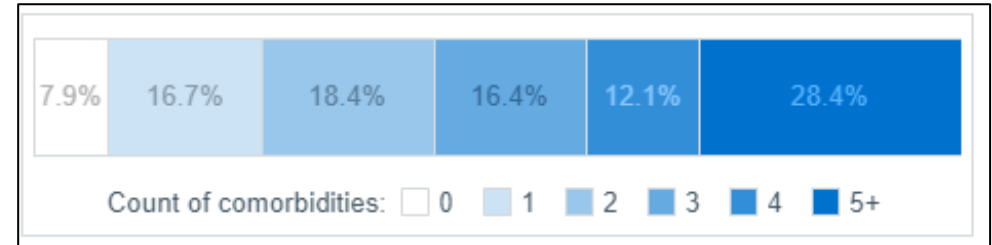
The majority of people with CHD have at least one other comorbidity, with 28.4% of people having 5 or more.

The most common comorbidities are:

- 75.4% also have Hypertension
- 31.4% also have Diabetes
- 24.8% have AF
- 20.7% have Heart Failure

This highly comorbid and complex cohort may require an MDT approach where comorbidities can be addressed together.

Multimorbidity (2)

Those with CHD in HWE from more deprived areas have a higher prevalence of 5 or more comorbidities compared to those from lesser deprived areas.

Number of comorbidities as a percentage of the CHD cohort split by IMD quintile in HWE in HWE ICS

IMD 1   IMD 2   IMD 3   IMD 4   IMD5

Source: People and Person Insights (PaPi) 2021

CHD with 5 or more comorbidities by sex and age

Male   Female

Source: People and Person Insights (PaPi) 2021
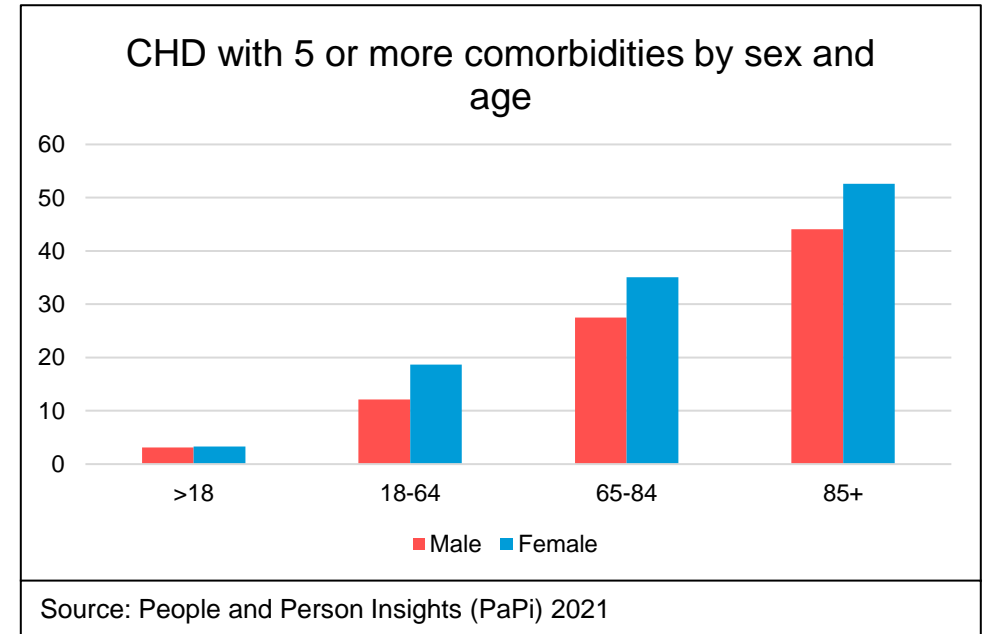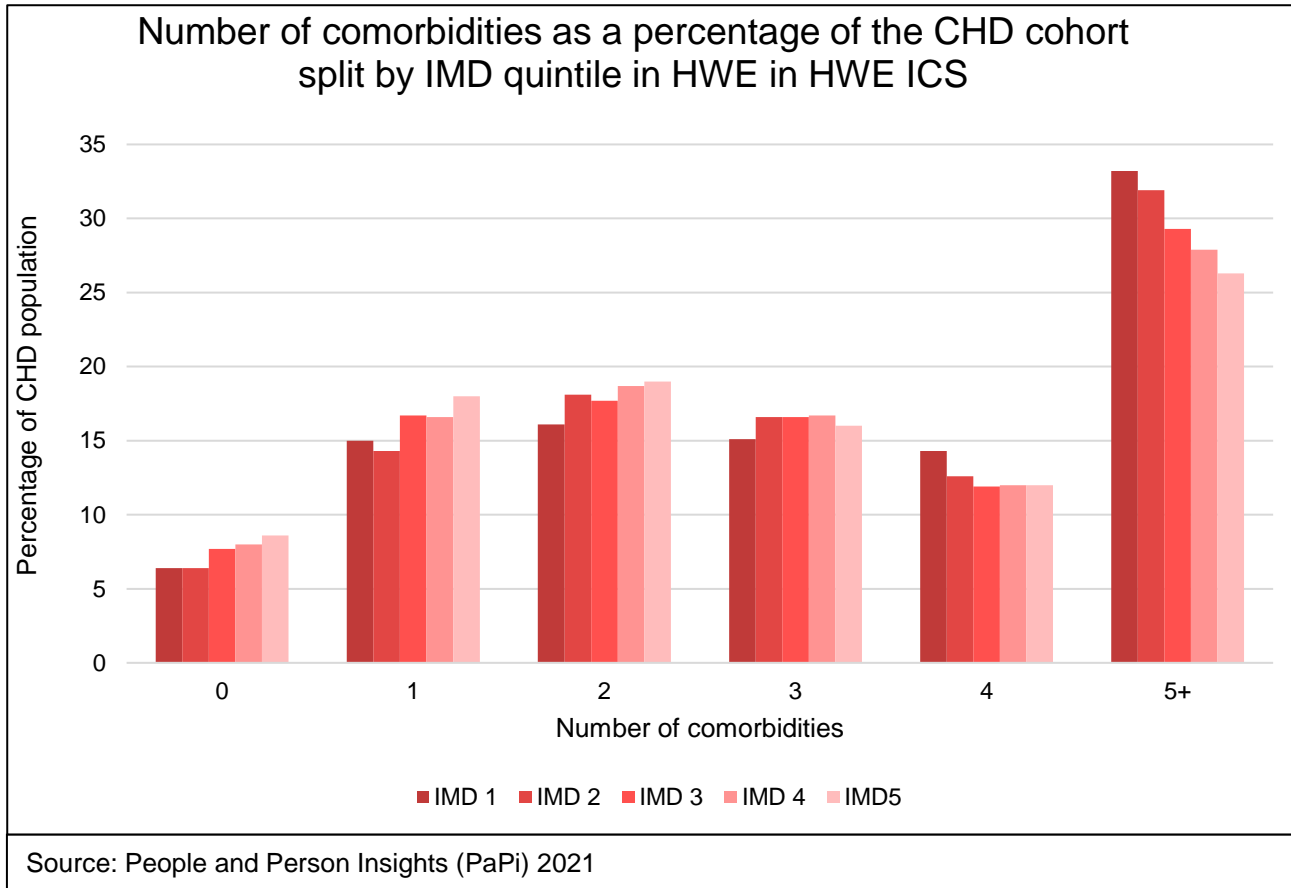
In HWE women with CHD on average have a higher number of comorbidities than their male counterparts.

Monitoring

BP targets differ for <80yo and >80s. Data from QOF 22/23 show that all three Place areas are in line with the national rates of meeting BP targets for patients with CHD

BP reading in last 12 months <=140/90 (<80s with CHD) 22/23

	East & North Herts	South & West Herts	West Essex	HWE ICB
%	75.5	76.7	73.7	75.6

- - - England

Source: QOF 22/23 via Fingertips

BP reading in last 12 months <=150/90 (>=80s with CHD) 22/23

	East & North Herts	South & West Herts	West Essex	HWE ICB
%	85.2	85.4	83.5	84.9

- - - England

Source: QOF 22/23 via Fingertips
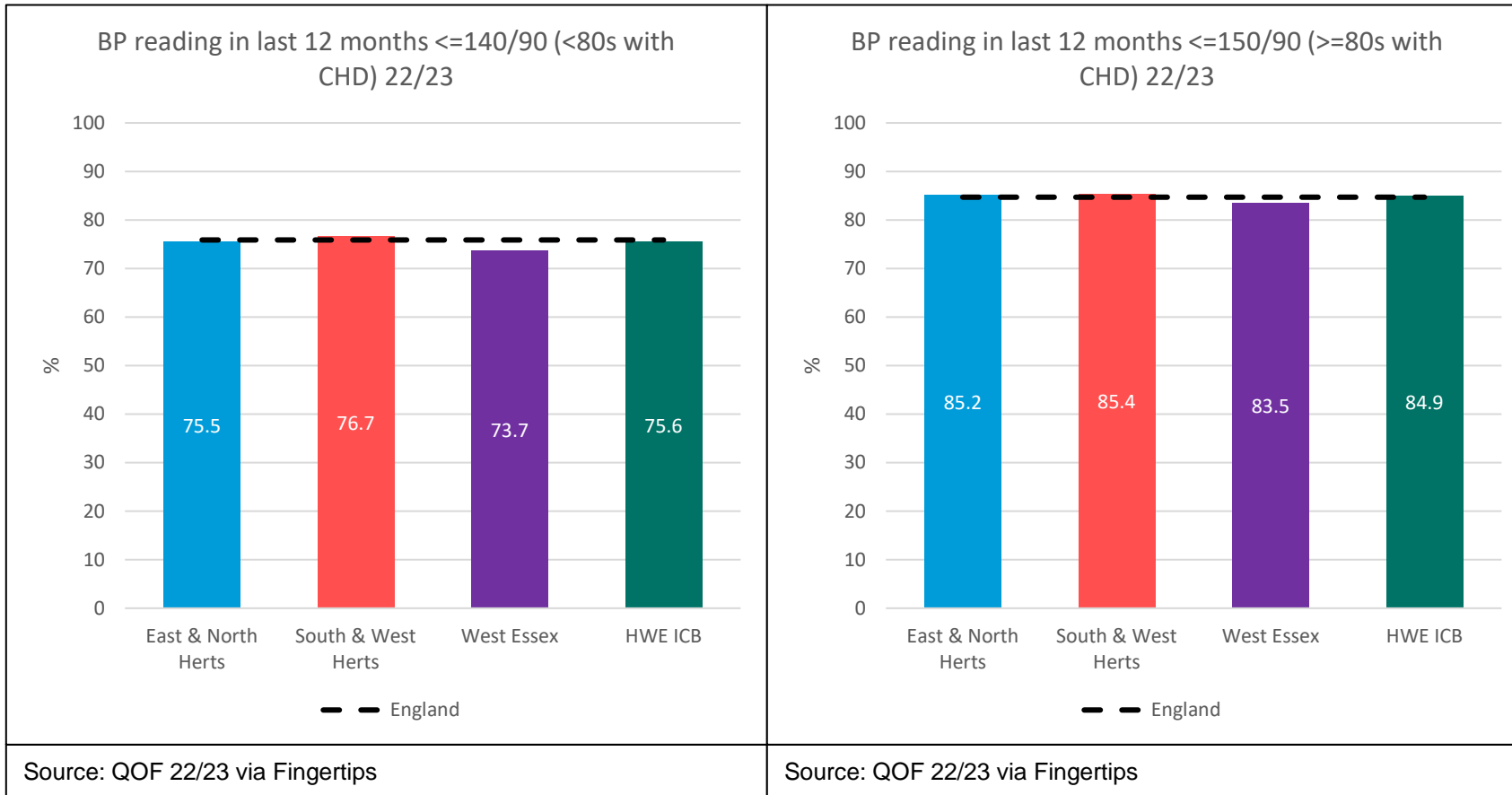
- Fingertips data highlight that nationally and locally, BP target attainment is better in the >80 year old population with CHD. This is similar to other LTCs and might be due to the stricter target range for <80year olds.
- Unvalidated data for 23/24 show that a higher proportion of patients have controlled blood pressure in both <80 year old (82.0%) and 80 years and over (89.6%) age groups. (Ardens Manager).

Secondary Prevention

Numbers of CHD patients on aspirin or alternative antiplatelet or anticoagulation are in line with national numbers. CHD influenza vaccine uptake has increased during the pandemic

Record of aspirin, ACT or APT for CHD patients 22/23

Region	Value
East & North Herts	90.1
South & West Herts	90.5
West Essex	90.0
HWE ICB	90.2

- - - England

Source: QOF 22/23 via Fingertips

Patients with CHD immunised against flu 20/21

Region	%
WE	80.1
SWH	82.9
ENH	84

- - - England

Source: QOF 20/21 via Fingertips (indicator retired)
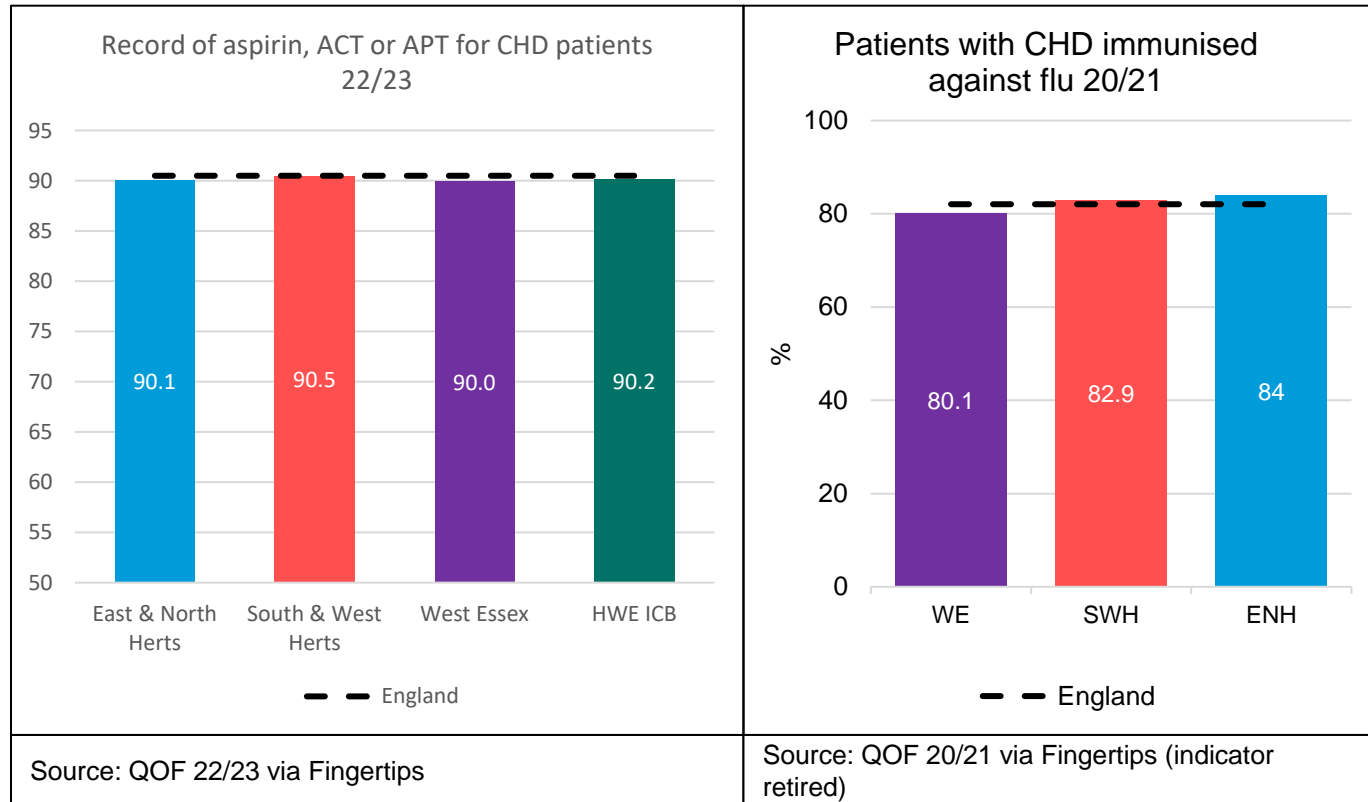
- Rates of Aspirin/ACT/APT prescribing for those with CHD in HWE ICB is in line with national rates
- Unvalidated data for 23/24 show that a similar proportion of people on the CHD register are recorded as being prescribed anti-platelet or anti-coagulant therapy (93.6%).

- In HWE 82.7% of the population with CHD received a flu vaccine which is close to the national median figure.

Admissions

CHD admissions vary by Place area with WE having the highest rates. This may be a reflection of WE having the highest prevalence of all CVDs and thus possibly having a more comorbid cohort. This is possibly also reflected in the mortality rates for <75s

CHD admissions per 100,000 2020/21

Source: HES via Fingertips (2020/21)

CHD mortality in <75s per 100,000 age standardised 2020

Source: ONS via Fingertips (2020)
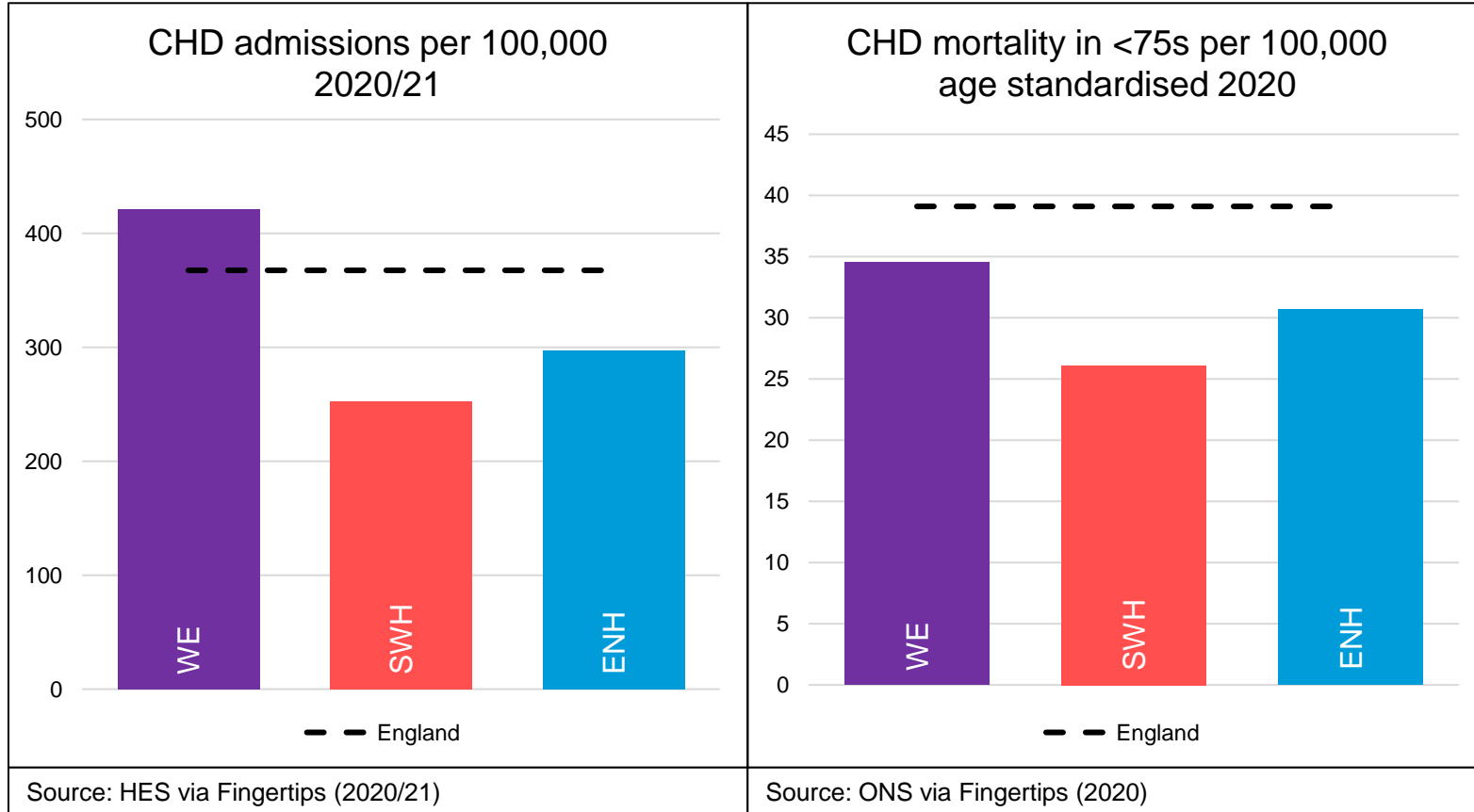
- CHD is the most common cause of premature death (before the age of 75) in the UK. It is the most common cause of a heart attack.

- Although both mortality and prevalence is declining, the morbidity of this population is increasing, as more people are surviving coronary events.

Acute coronary syndrome and heart attack

- Coronary heart disease can result in acute events such as heart attack and stroke.

- A heart attack is a form of acute coronary syndrome (ACS), where there is a significant blockage in the coronary arteries.

- The 3 main types of ACS include:

  - ST segment elevation myocardial infarction (STEMI)

  - non-ST segment elevation myocardial infarction (NSTEMI)

  - unstable angina

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A&E attendances for acute ischaemic heart disease
Rate of A&E attendances for acute ischaemic heart disease vary significantly between Place areas, with SWH and ENH in Quartile 1 nationally, and WE in Quartile 3

Acute Ischaemic Heart Disease - Rate of Type 1 and 2 A&E attendances per 100,000 population(12 months to quarter end), National Distribution

Indirectly standardised rate of A&E attendances per 100,000 population.This metric covers a 12-month time period.The ICB value is aggregated from Sub-ICB data.

Download

In order of Acute Ischaemic Heart Disease - Rate of Type 1 and 2 A&E attendances per 100,000 population(12 months to quarter end) (n=106)

My CCGs | Non-Peer CCGs | CCG Top/Best Decile (60) | CCG Median (147)

A&E attendances for myocardial infarction
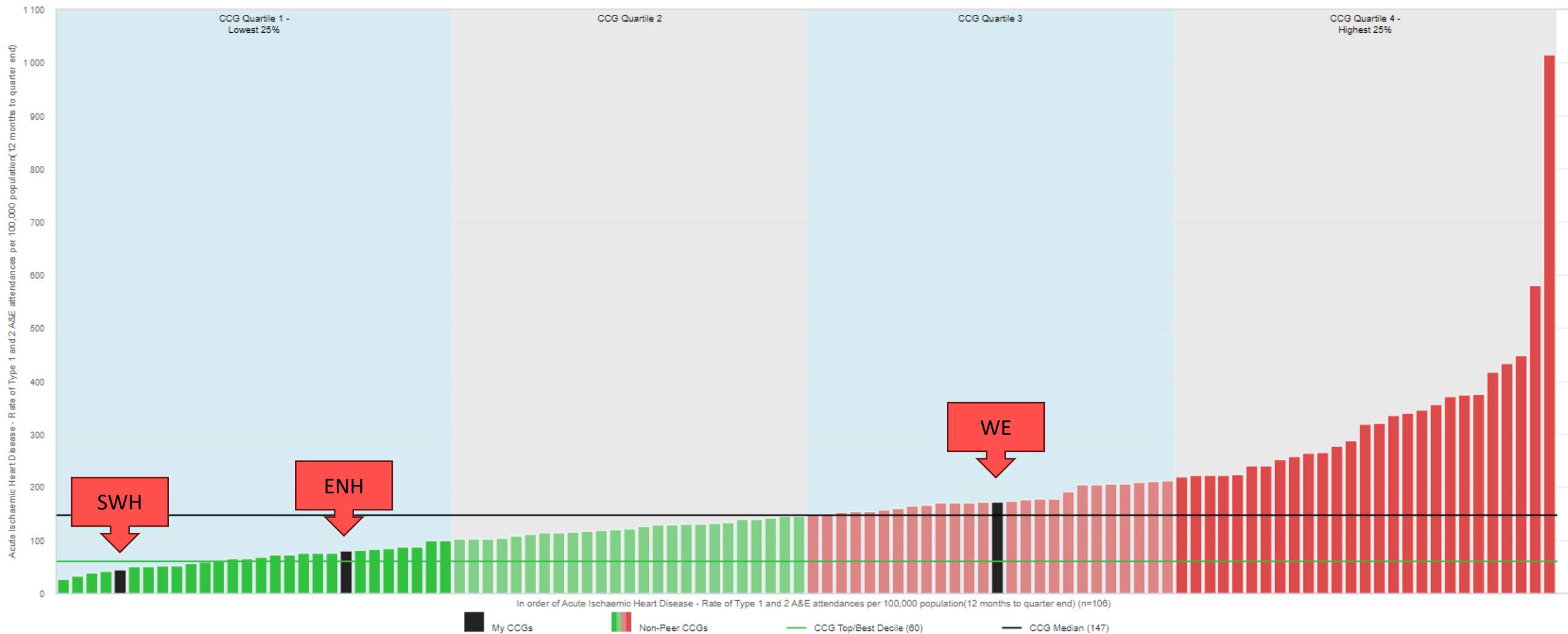## Rate of A&E attendances for myocardial infarction vary significantly between Place areas, with SWH and ENH in Quartile 1 nationally, and WE in Quartile 3

Acute Myocardial Infarction - Rate of Type 1 and 2 A&E attendances per 100,000 population(12 months to quarter end), National Distribution
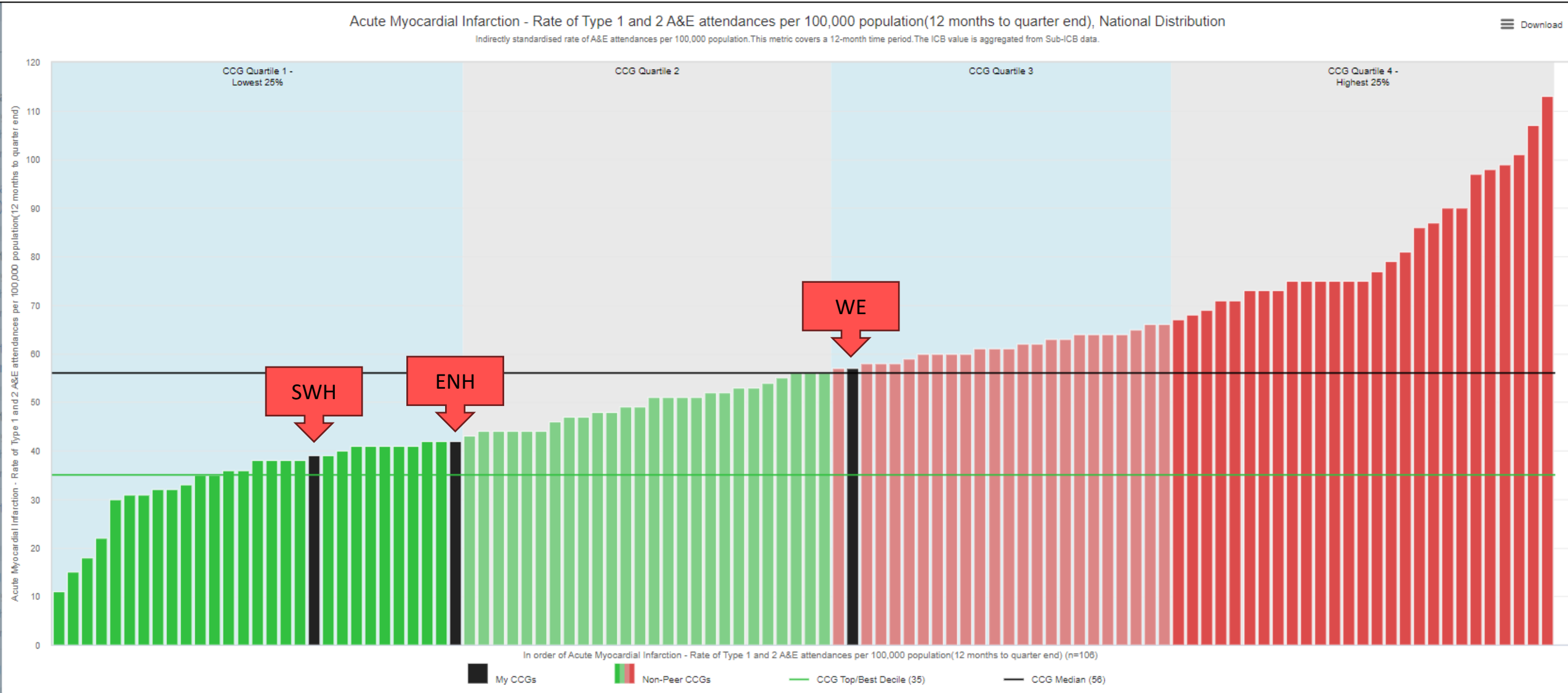
Indirectly standardised rate of A&E attendances per 100,000 population.This metric covers a 12-month time period.The ICB value is aggregated from Sub-ICB data.
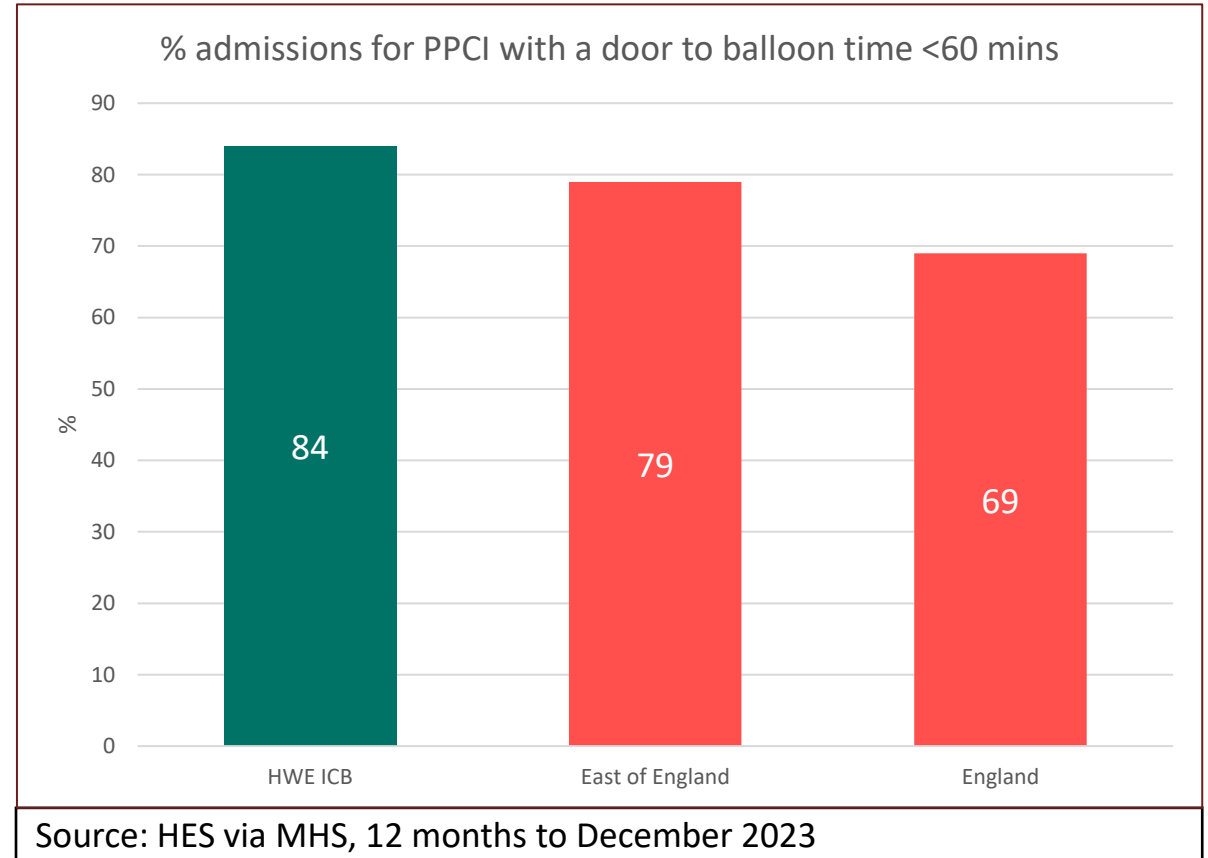
STEMI – door to balloon times

HWE ICB is above the regional and national average for the percentage of admissions for PPCI with a door to balloon time <60 minutes

- ST segment elevation myocardial infarction (STEMI) is the most serious type of heart attack, where there is a long interruption to the blood supply

- Primary percutaneous coronary intervention (PPCI) (also known as angioplasty) is a minimally invasive non-surgical procedure used to treat narrowing of the coronary arteries. It is sometimes used as an emergency treatment for patients with MI.

- The procedure uses a balloon inserted via catheter to inflate the narrow artery and improve the blood supply in the heart.

- HWE ICB is above the national and regional averages for the proportion of patients admitted for PPCI where less than 60 minutes elapses between arrival and the procedure taking place.
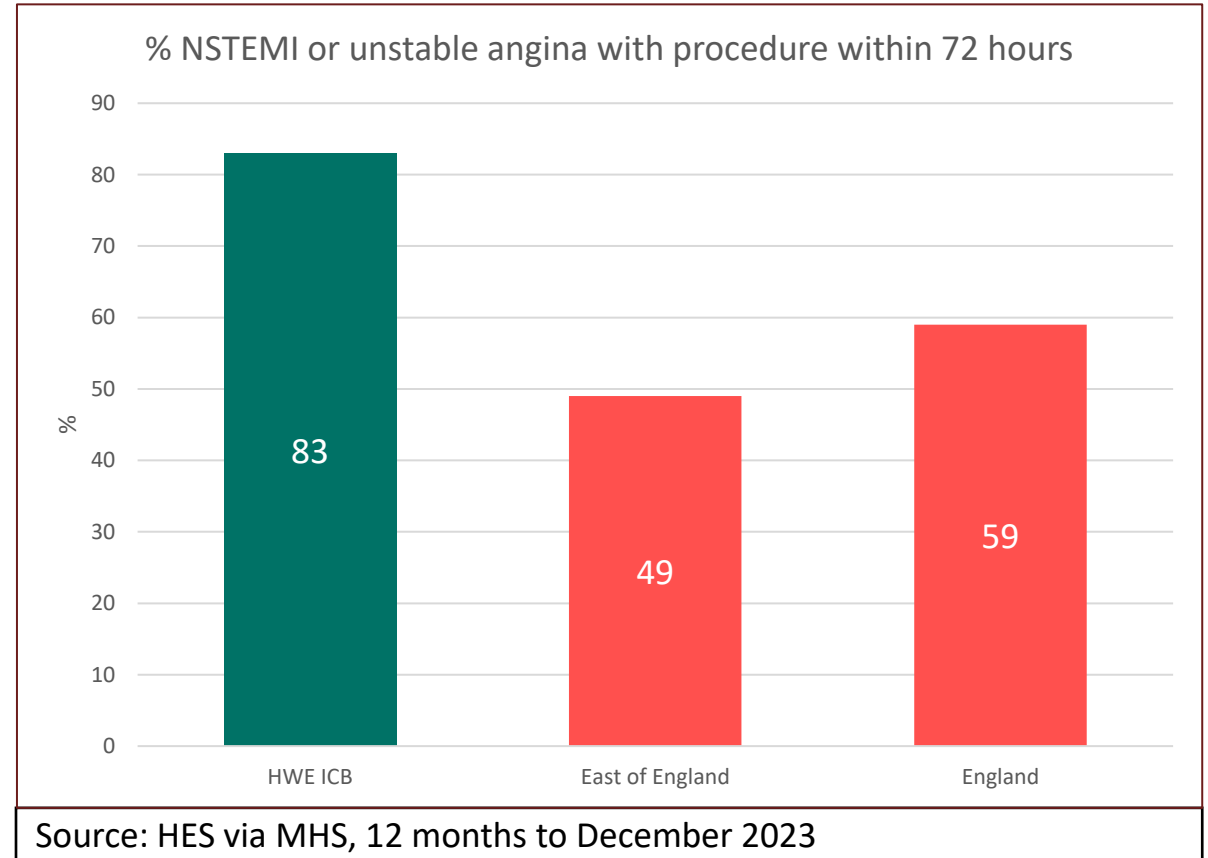

% admissions for PPCI with a door to balloon time <60 mins

HWE ICB	East of England	England
84	79	69

Source: HES via MHS, 12 months to December 2023

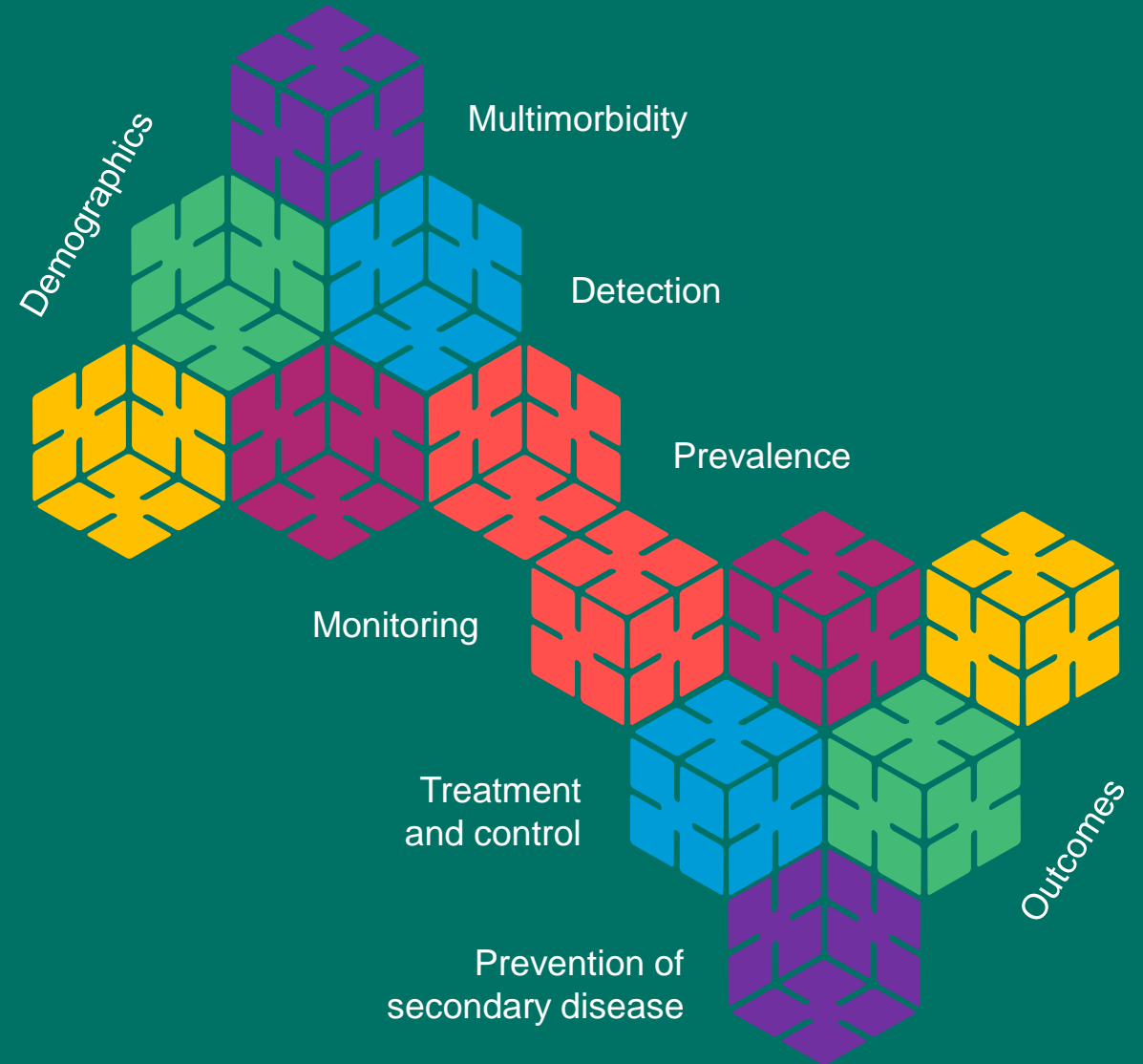# NSTEMI and unstable angina – procedure within 72 hours
HWE ICB is above both the national and regional average for the percentage of patients with an NSTEMI who have PCI within 72 hours

- Non-ST segment elevation myocardial infarction (NSTEMI) is a type of heart attack where there is some loss of blood supply, causing damage.

- In unstable angina, you have symptoms of a heart attack but tests do not show damage to the heart. The blood supply to the heart is still seriously restricted, and you are at high risk of a heart attack.

- Patients experiencing NSTEMI or unstable angina should receive coronary angiography, with percutaneous coronary intervention if indicated, within 72 hours

- HWE ICB is above the national and regional averages for the proportion of patients with NSTEMI or unstable angina who receive this procedure within 72 hours

% NSTEMI or unstable angina with procedure within 72 hours

	HWE ICB	East of England	England
%	83	49	59

Source: HES via MHS, 12 months to December 2023

4. Cardiac rehabilitation

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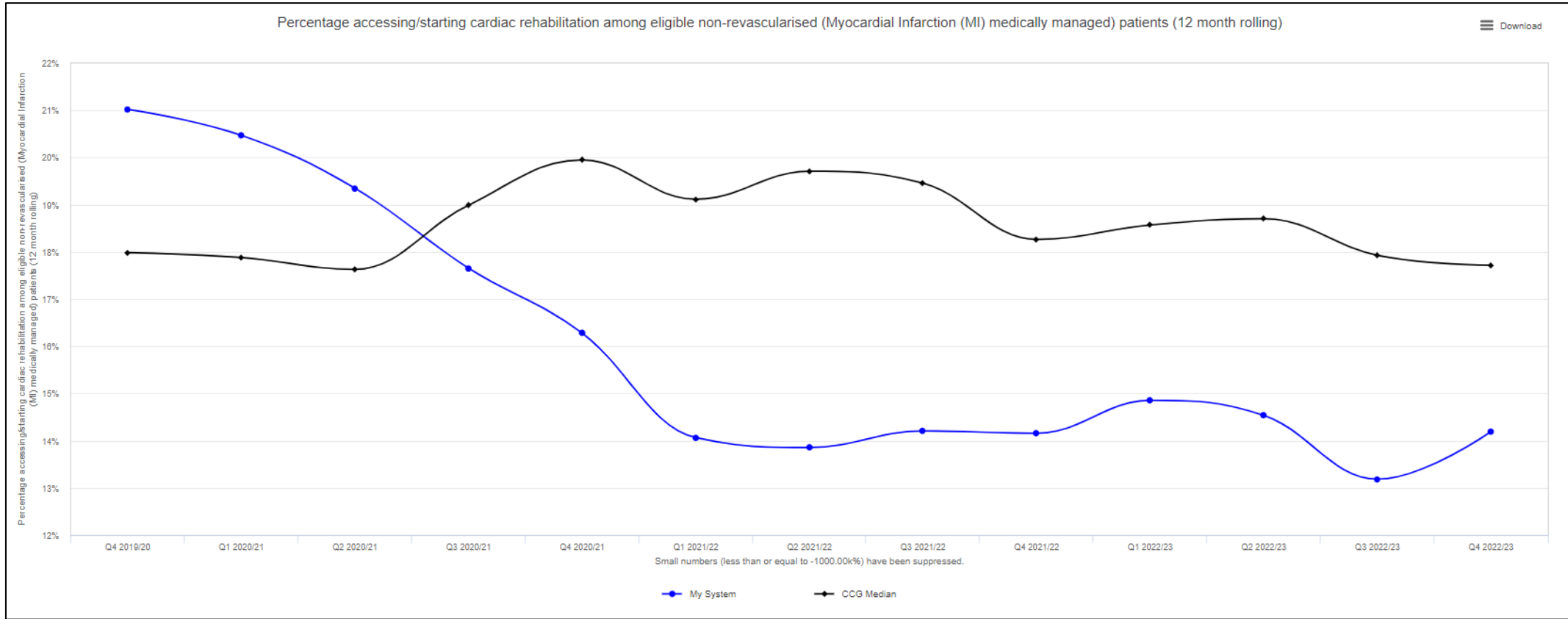for a healthier future

Cardiac rehabilitation introduction

• Cardiac rehabilitation is a programme of exercise, education and psychological support- ([NHS England](#))

• According to the National Audit of Cardiac Rehabilitation, cardiac rehabilitation should be offered to all patients following:

1. Myocardial infarction
2. Myocardial infarction + percutaneous coronary intervention
3. Percutaneous coronary intervention
4. Coronary artery bypass graft (CABG) [(nacr-report-2018_final.pdf (bhf.org.uk)](#)

• The NHS long-term plan has set a target of 85% uptake of cardiac rehabilitation in the above four groups by 2028

•Cardiac rehabilitation can also be offered for ongoing cardiac issues such as heart failure.

Cardiac rehabilitation for non-revascularized myocardial infarction
In HWE ICB 14% of eligible patients with non-revascularized myocardial infarction start cardiac rehabilitation, compared to national median of 18%
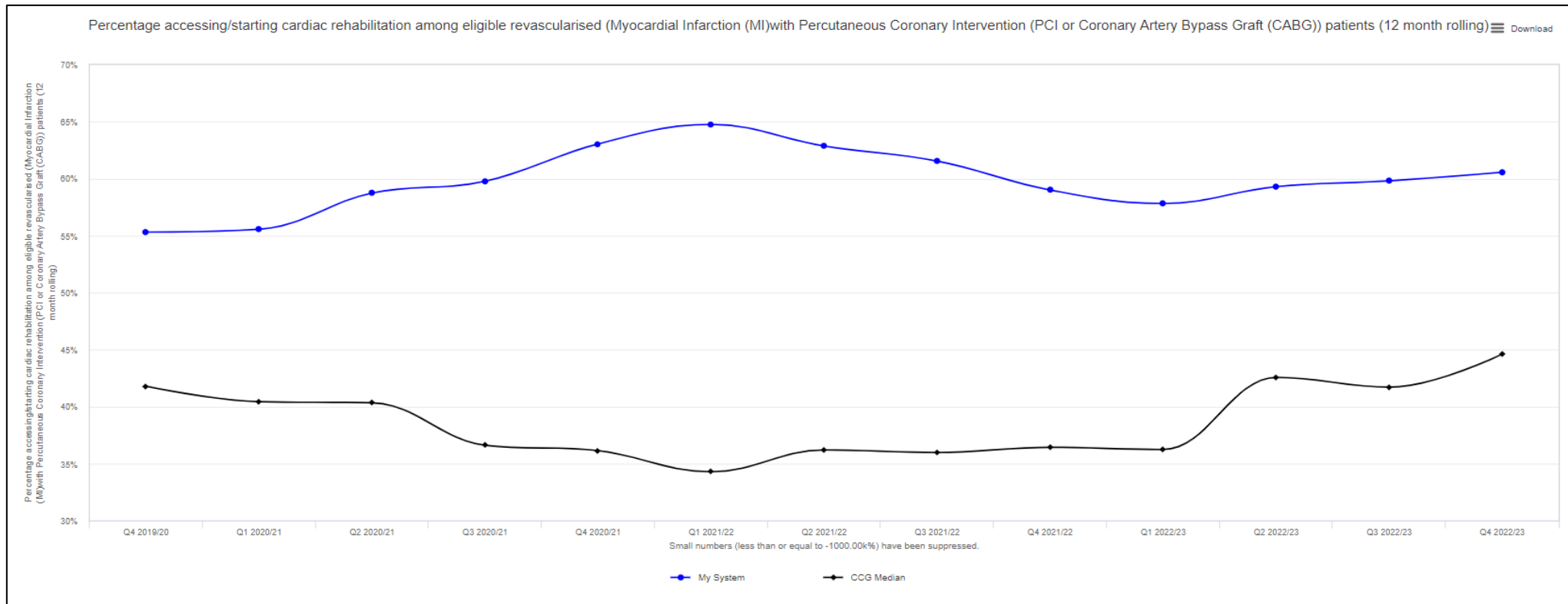

Percentage accessing/starting cardiac rehabilitation among eligible non-revascularised (Myocardial Infarction (MI) medically managed) patients (12 month rolling)

Source: NARC and SUS via MHS to Q4 22/23

Cardiac rehabilitation for revascularized MI with PCI or CABG

In HWE ICB 61% of eligible patients with revascularized myocardial infarction with percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG) start cardiac rehabilitation, compared to national median of 45%

Percentage accessing/starting cardiac rehabilitation among eligible revascularised (Myocardial Infarction (MI)with Percutaneous Coronary Intervention (PCI or Coronary Artery Bypass Graft (CABG)) patients (12 month rolling)

Small numbers (less than or equal to -1000.00k%) have been suppressed.
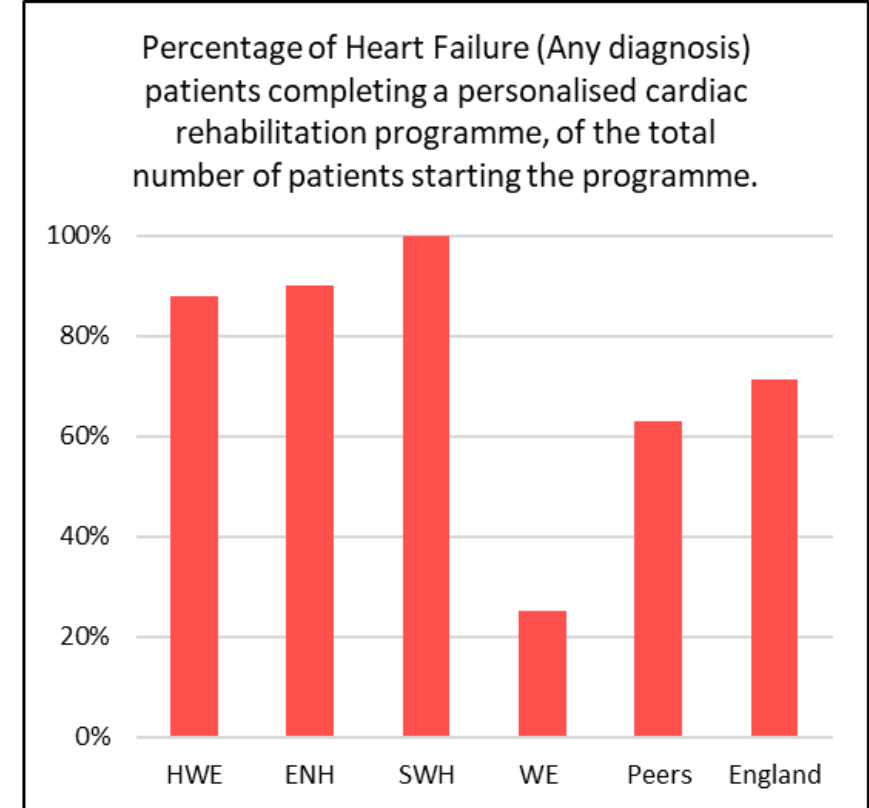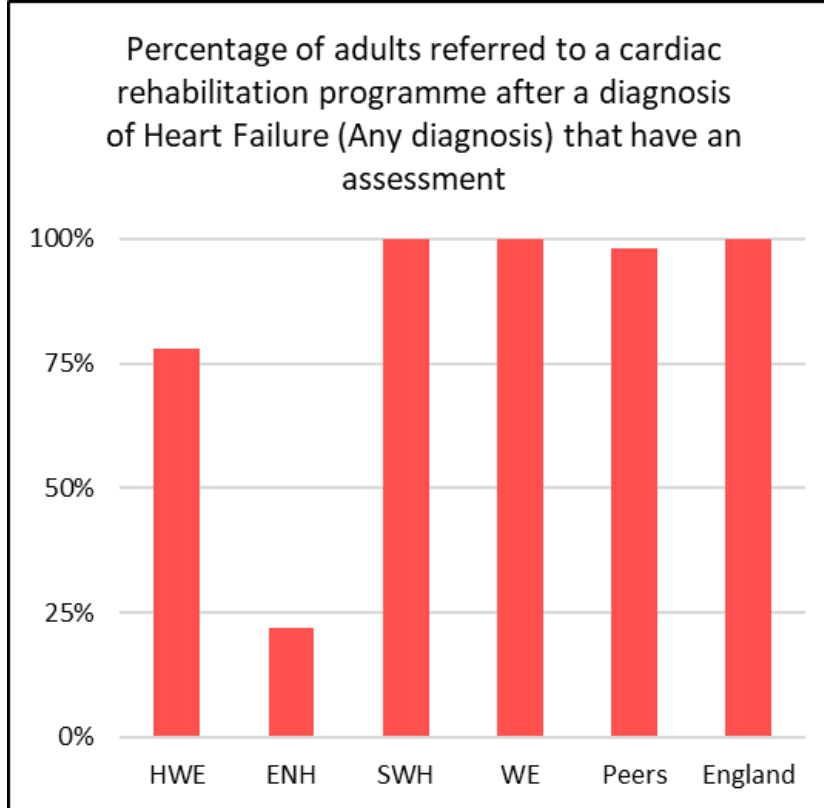
Source: NARC and SUS via MHS to Q4 22/23

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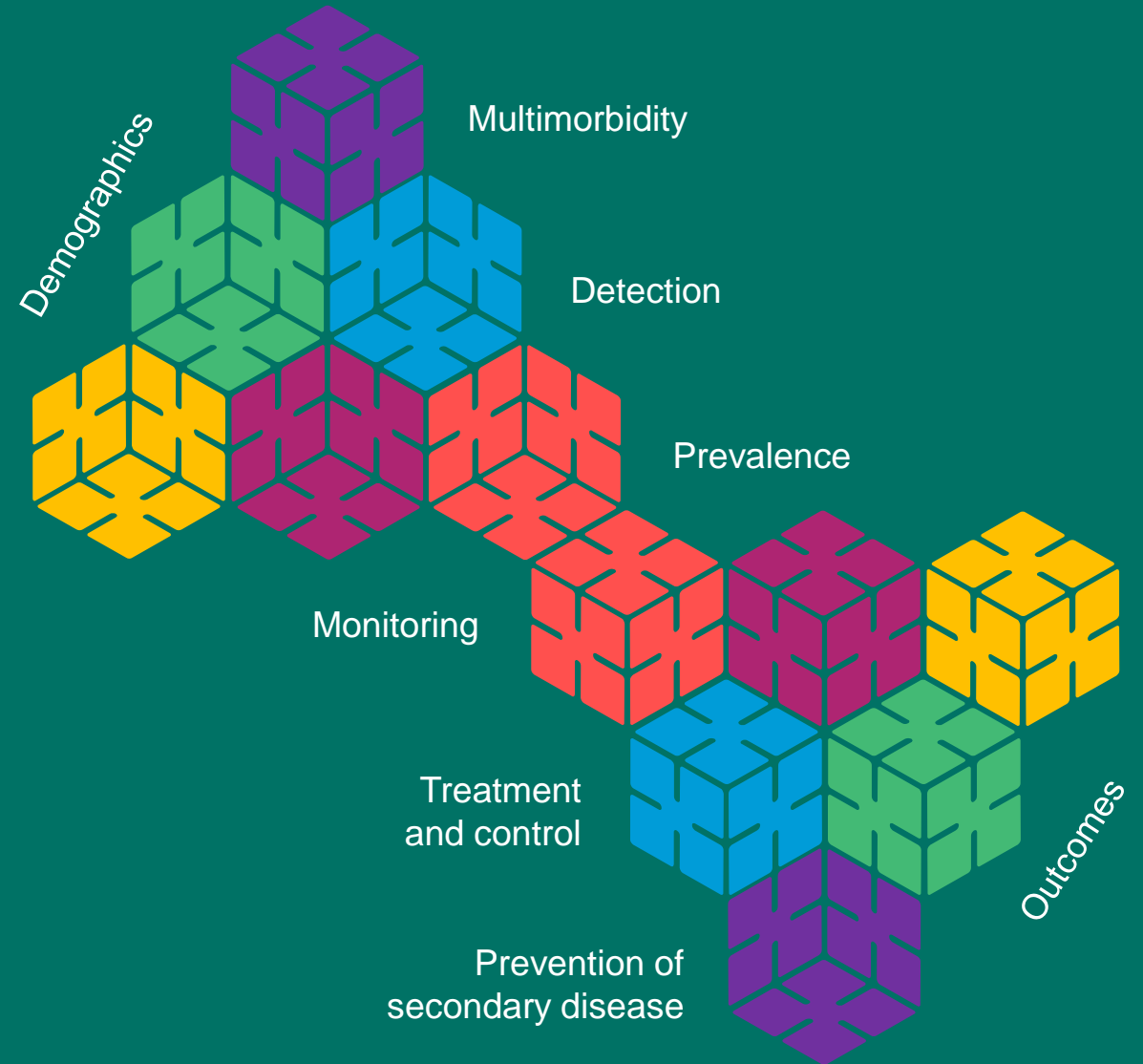# Cardiac rehabilitation after diagnosis of heart failure

- No data are available on referral rates to cardiac rehab after diagnosis of heart failure
- East and North Hertfordshire (ENH) has the poorest assessment rate following referral.
- Completion rates are lowest in West Essex (WE).

Percentage of adults referred to a cardiac rehabilitation programme after a diagnosis of Heart Failure (Any diagnosis) that have an assessment

Percentage of Heart Failure (Any diagnosis) patients completing a personalised cardiac rehabilitation programme, of the total number of patients starting the programme.

Source: National Audit of Cardiac Rehabilitation, 2022 via MHS

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5. Data commentary and limitations

Demographics

Multimorbidity

Detection

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Prevention of secondary disease

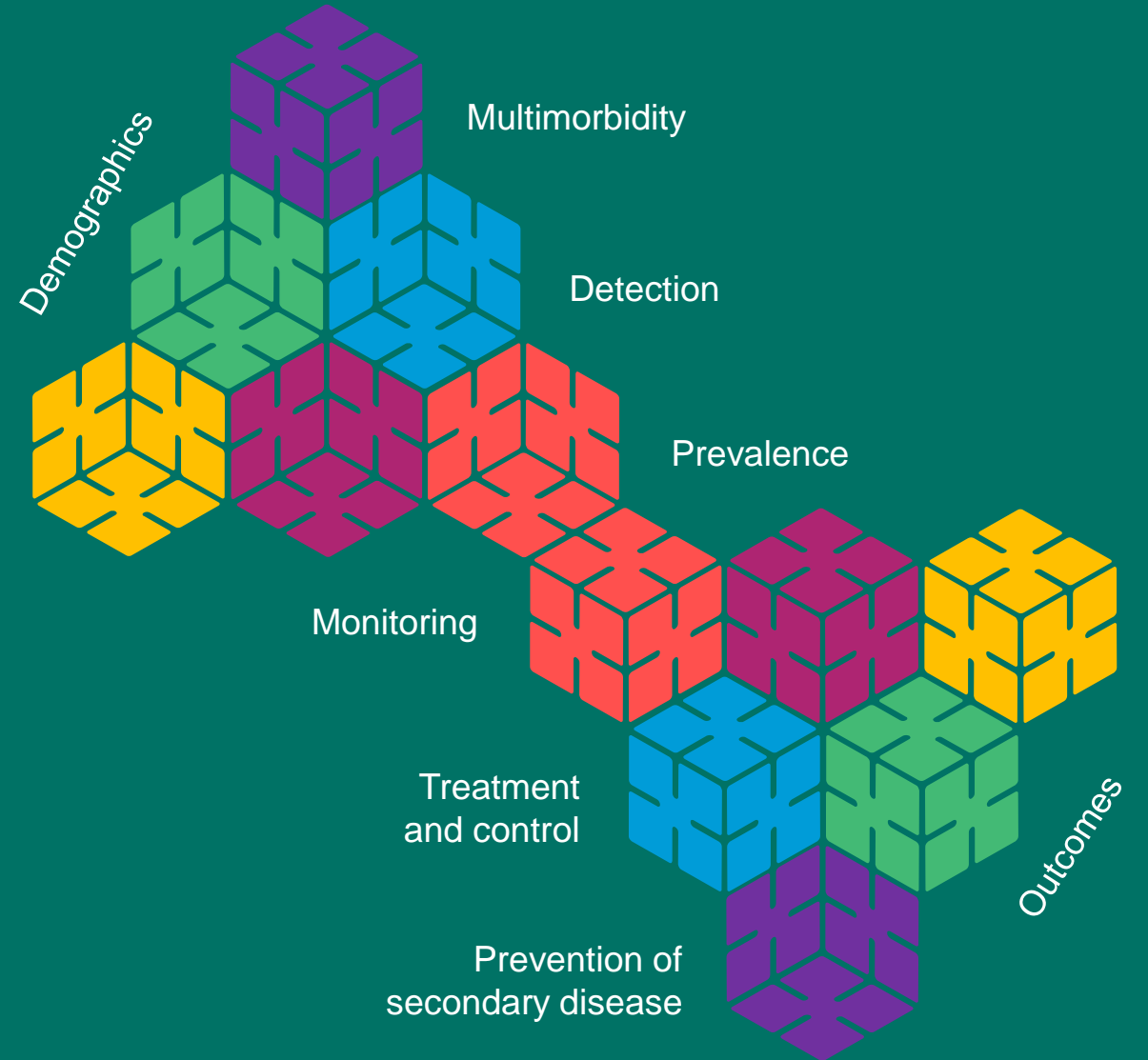**Working together**
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Data commentary and limitations

- This data insights pack has utilised data from a range of sources and platforms, most of which are publicly available. These are referenced throughout to enable users to access the original data if they wish and accessed via the links below:

    - [Fingertips](#)

    - [CVD Prevent](#)

    - [Population & Person Insights (PaPI)](#)

    - [Model Health System](#)

    - [Quality Outcomes Framework](#)

- Slight discrepancies may occur between platforms due to how data are collected and calculated (for example, hypertension prevalence appears to be lower in QOF data than in CVD Prevent Audit). Where this is the case, the more conservative data source has been used.

- The data in this pack are the most up to date available at the time of review (9 April 2024).

- For all data sources used there is a lag between collection and publication (typically 6-12 months). It may therefore take some time for improvement activities to be reflected in the data.

- This data insights pack will be updated periodically as new datasets are released.

Hertfordshire and West Essex Integrated Care System

6. Additional Material

Working together
for a healthier future