

NCAP

NATIONAL CARDIAC AUDIT PROGRAMME

NICOR

National Heart Failure Audit (NHFA)

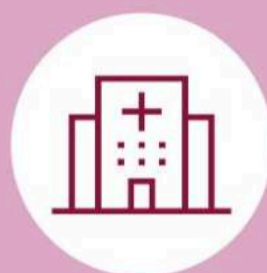
2025 Annual Report

Data up to 2023/24





All data are for 2023/24 unless otherwise stated.



65,679 confirmed index hospital admissions for heart failure



87% of heart failure patients underwent investigation with echocardiography



Just under **50%** of patients have heart failure with reduced ejection fraction (HFrEF)



Only **39%** of heart failure patients cared for on a cardiology ward



81% of heart failure patients were seen by a specialist heart failure team



46% of patients with HFrEF received “quadruple therapy” with recommended drugs



68% of those with HFrEF received a mineralocorticoid receptor antagonist (MRA)



70% of patients with HFrEF received a sodium glucose co-transporter 2 inhibitor



39% of patients with “non-HFrEF” received an SGLT2i medication



18% of patients with heart failure and atrial fibrillation (AF) have not been prescribed an anticoagulant at discharge



52% of in-patients are seen by a Specialist Heart Failure Nurse



20% of patients cared for on a cardiology ward were recorded as being referred for cardiac rehabilitation



10.4% in-patient mortality and **12.5%** 30-day post-discharge mortality



Specialist care

1. Heart failure patients, who are among the highest risk cardiac patients, should have improved access to a cardiology ward. Hospitals not achieving the 60% minimum target should review their Acute Heart Failure Pathways to facilitate this.
2. Hospitals should ensure consultant cardiologists are involved in the care of HF patients in non-cardiology wards.
3. Specialist HF nurses should provide more support for 'non-HFrEF' patients.

Best-practice drugs

4. All patients with HFrEF, irrespective of age or place of care, should receive best-practice disease-modifying drugs unless there is a contra-indication.
5. There should be a renewed focus on the importance of prescribing MRAs for HFrEF.
6. Use of anticoagulation for patients with HF and AF should be improved.
7. The medication at discharge should be captured for all patients and accurately reported into the audit.

Follow-up

8. Patients should be referred for Cardiology & Specialist HF Nurse follow-up irrespective of their heart pump function. This should include leaving hospital with their first appointment already arranged.



This report summarises the key findings from the National Heart Failure Audit (NHFA), part of the National Cardiac Audit Programme (NCAP) which is run by the National Institute for Cardiovascular Outcomes Research (NICOR).

The audit aims to drive quality improvement (QI) in the care and outcomes for patients with heart failure (HF) both during and then subsequent to an admission to hospital. This is done by:

- Capturing data on clinical indicators and other metrics that have a proven link from clinical trials to better outcomes
- Encouraging the increased use of diagnostic tools and disease-modifying treatments recommended in national and international clinical practice guidelines and quality standards
- Ensuring patients follow robust referral pathways.

The audit reports on the care provided to patients with HF in England and Wales between the beginning of April 2023 and end of March 2024, with longer-term trends included to highlight the impact of the care quality during the hospital admission, the impact on later outcomes, and the quality of HF services over time. It explores the characteristics of patients requiring acute admission to hospital with HF, describes their in-hospital investigation, treatment, access to specialist care, discharge planning and the offer of post-hospital follow-up. A general introduction to HF and the audit methodology can be found [here](#).

This report is designed to be of value to a wide range of stakeholders and importantly it allows patients and their relatives to better understand how HF services are delivered. **The slides in the report are interactive so you can select and explore the data that interest you.** In moving to this new online format, changes in the methodology to present the data, using the tools available in the Power BI software, mean that there may be small discrepancies with previous audit reports.

The audit relies on the active contribution of participating hospitals. Detailed information on nearly 85,000 patients has been diligently entered by local clinical and audit teams before analysis is undertaken by the NICOR team. We are very grateful to all these staff for their contributions. We will continue to work closely with hospitals, patients and other stakeholders to improve the quality of audit data and how these are used to improve the delivery of high quality care for patients with HF.

NICOR NHFA audit team



Number of cases

- All cases
- Cases by ICB/HB/CN
- Cases by age and sex
- Echocardiography findings

Specialist HF care

- Associated diagnoses
- Place of care
- Cardiology ward care by hospital
- Specialist HF input
- Specialist HF input by hospital

Use of echocardiography

- ECG and Echo
- Echo rates by hospital

Recommended drugs prescribing

- HFrEF drug prescribing
- HFrEF drug prescribing data submission
- HFrEF drug treatment by age group
- ACEi/ARB/ARNI
- Beta-blockers
- MRA
- ACEi/ARB/ARNI+BB+MRA
- ACE/ARB/ARNI + BB + MRA by ICB/HB/CN
- SGLT2i
- Drug treatment by place of care
- Drug treatment by specialist input

Length of stay and specialist follow-up

- Length of stay by place of care
- Length of stay by specialist input
- Specialist follow-up

Mortality

- In-patient mortality
- Mortality trends

Appendices

- Note on appendix content
- List of drug names
- Handling of missing data
- Kaplan Meier - all patients
- Kaplan Meier by place of care
- Kaplan Meier by cardiology follow up

Confirmed heart failure admissions are rising back towards pre-pandemic levels



Confirmed index HF admissions rose to 65,679 in 2023/24, approaching again the number in the pre-COVID-19 audit cycle in 2019/20.

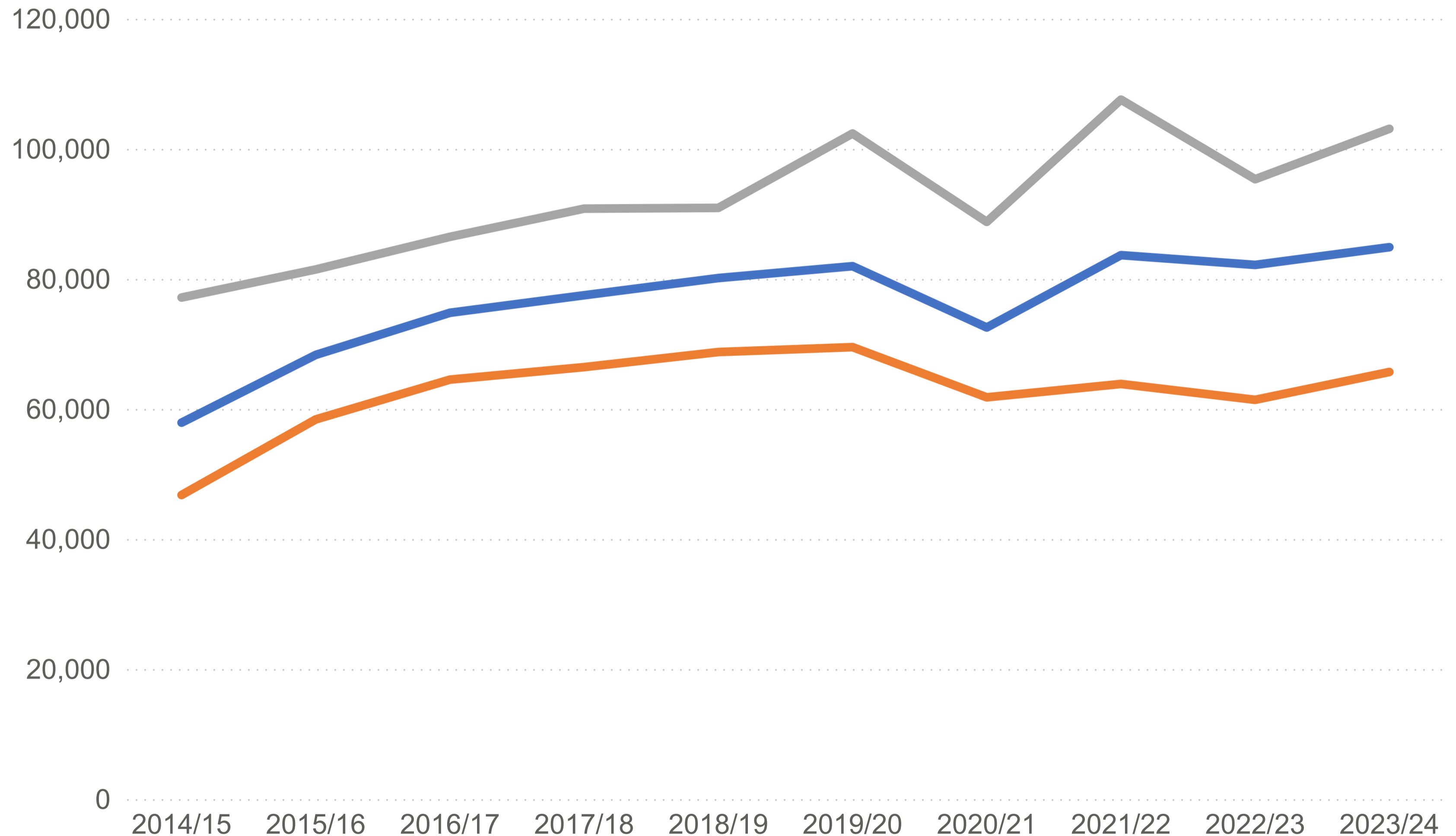
The discrepancy between audit submissions and confirmed index HF admissions has doubled from 2021/2022 when compared with earlier years. This likely reflects the introduction of version 5 of the audit dataset with more rigorous criteria for a confirmed index HF admission.

Note: The index admission for a patient is either their only acute HF admission or the first HF admission when more than one was submitted in the audit year. This is to ensure one patient's data from repeated admissions does not distort the statistics. In both instances the audit captures data from patients where heart failure is in the primary diagnostic position and therefore taken as the cause of the admission. The term 'confirmed' is used when the data submitted are verified as an acute HF admission.

Key:
HES = Hospital Episode Statistics
PEDW = Patient Episode Database for Wales

Heart failure cases recorded in the audit and in HES/PEDW data

● HES/PEDW admissions data ● Total admissions submitted to the audit ● Confirmed index HF admissions in audit



There is substantial variation in HF admissions across Integrated Care Boards in England and University Health Boards in Wales



The maps show the confirmed heart failure (HF) admissions for:

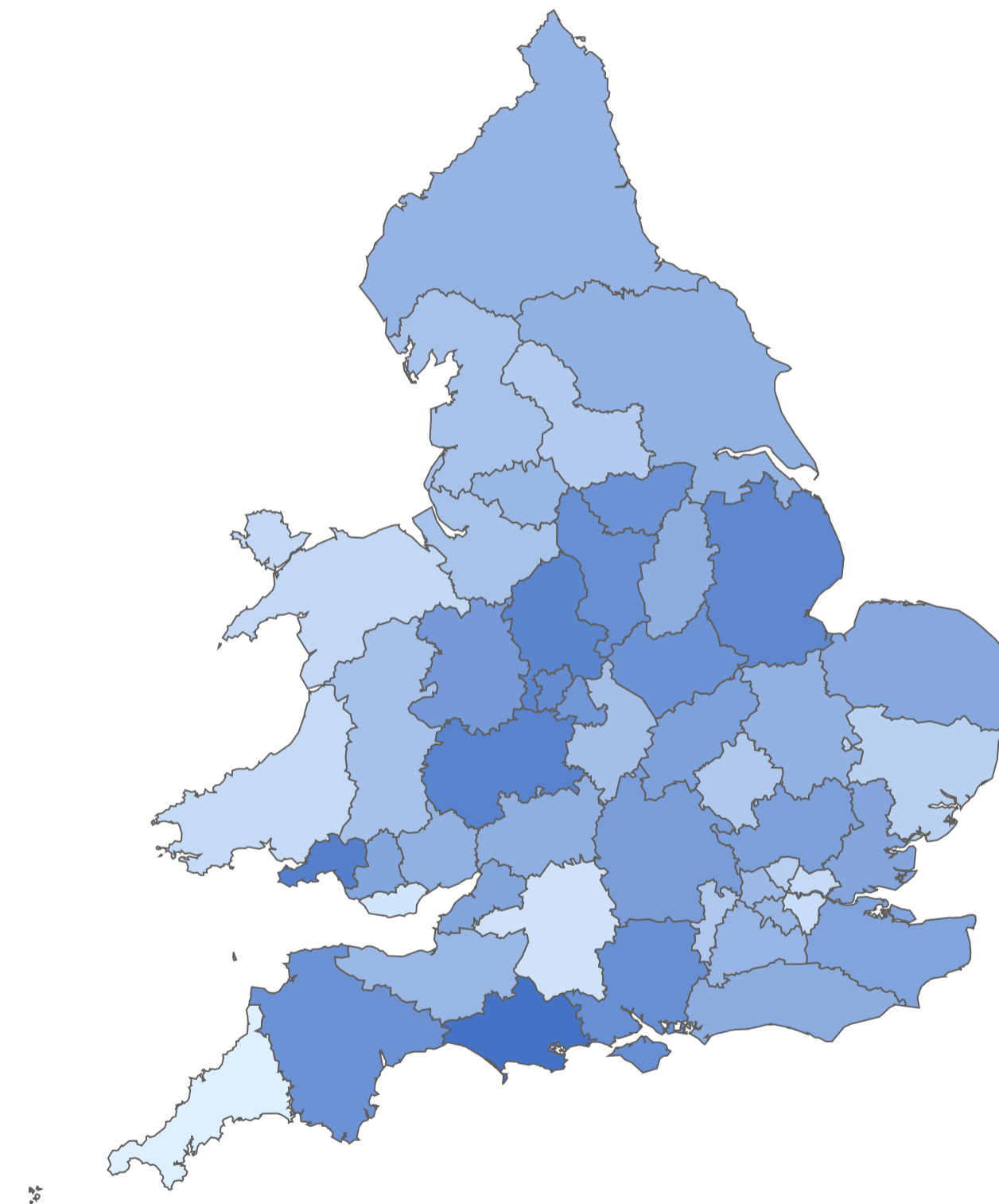
- the 42 Integrated Care Boards (ICBs) in England and seven Welsh University Health Boards (HBs) (commissioning organisations)
- the 15 Cardiac Networks (CNs) (operational delivery networks) in England.

The darker the area, the higher the rate of HF index admissions. Case numbers can be found by hovering over the different areas of the maps.

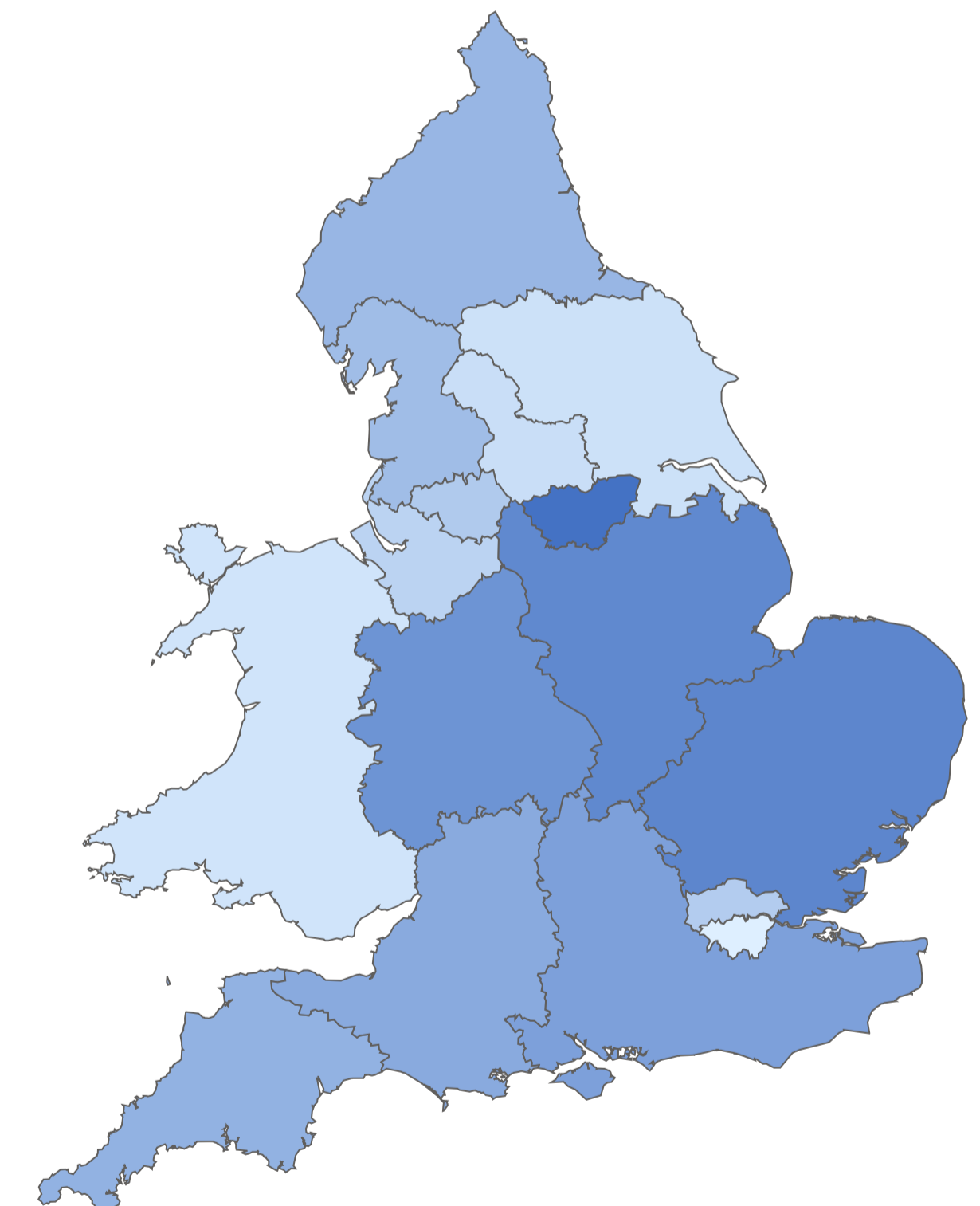
The ICB rates vary from 41 per 100,000 population in Cornwall and the Isles of Scilly to 177 per 100,000 population in Dorset.

The Cardiac Network rates vary from 76 per 100,000 population in South London to 146 per 100,000 population in South Yorkshire.

Confirmed index HF admissions per 100,000 population based on patient home location by ICB/HB (2023/24)



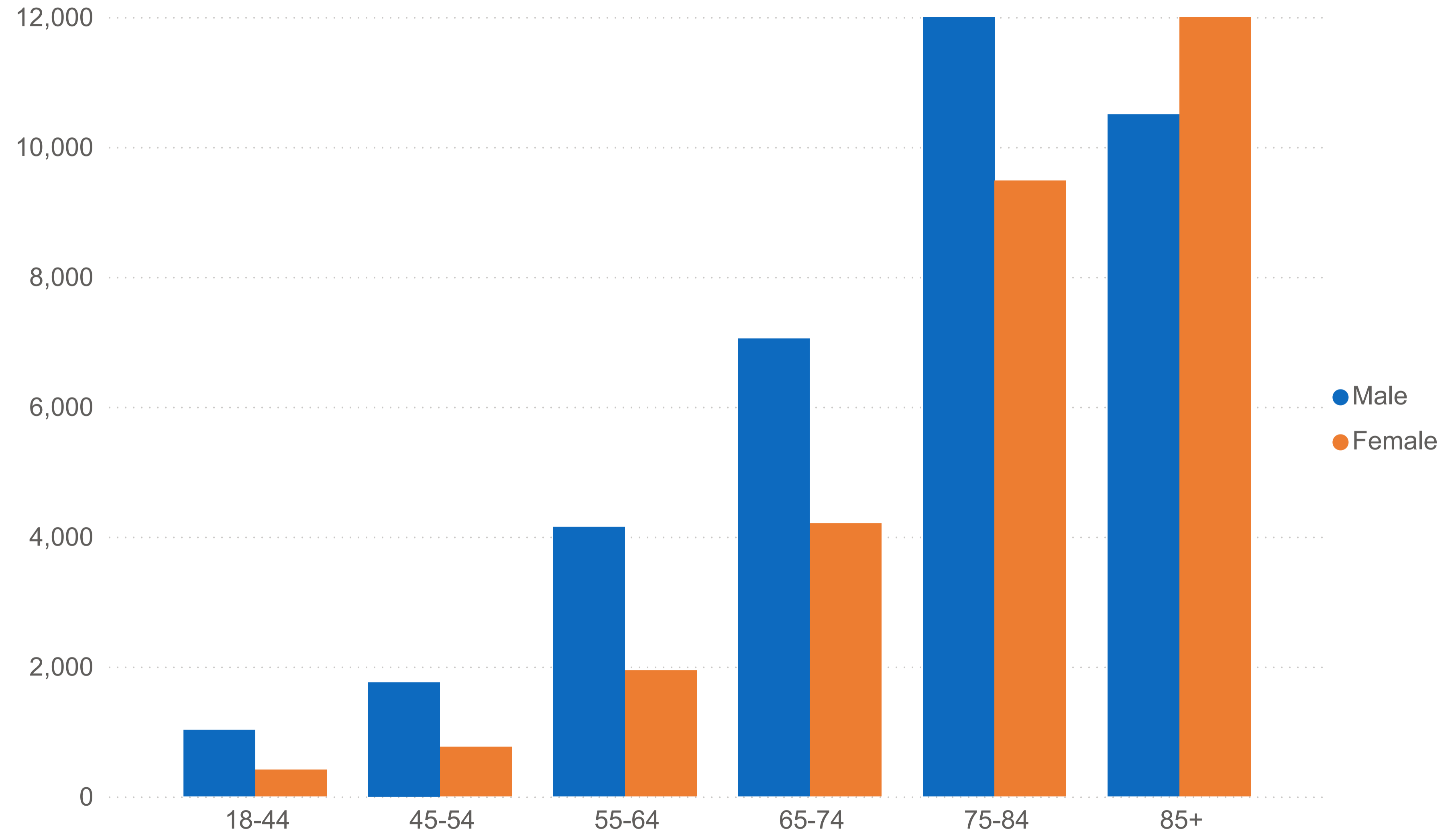
Confirmed index HF admissions per 100,000 population based on hospital location by Cardiac Network (2023/24)



More males are admitted with heart failure for all age groups, except those aged 85 years or older



HF cases by patient sex and age band (years)



The demographic profile of cases in 2023/24 is virtually unchanged from the previous year:

- mean age = 77.5 years
- mean age men = 75.7 years
- mean age women = 79.9 years

There are more males than females in all age groups except for those 85 years or older.

Age of patients varies little by local health region



Age of patients by based on patient home location by ICB/HB (2023/24)

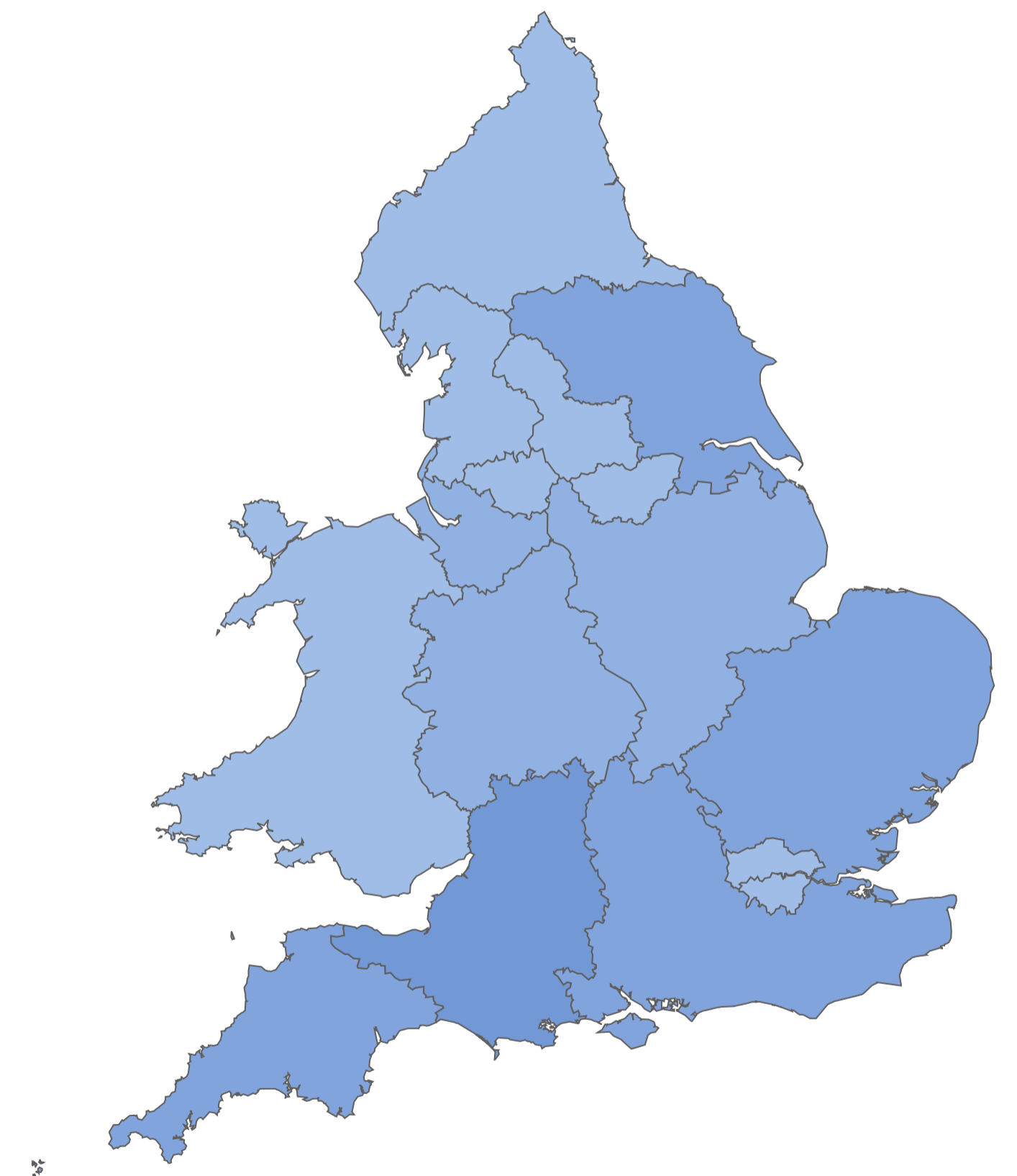
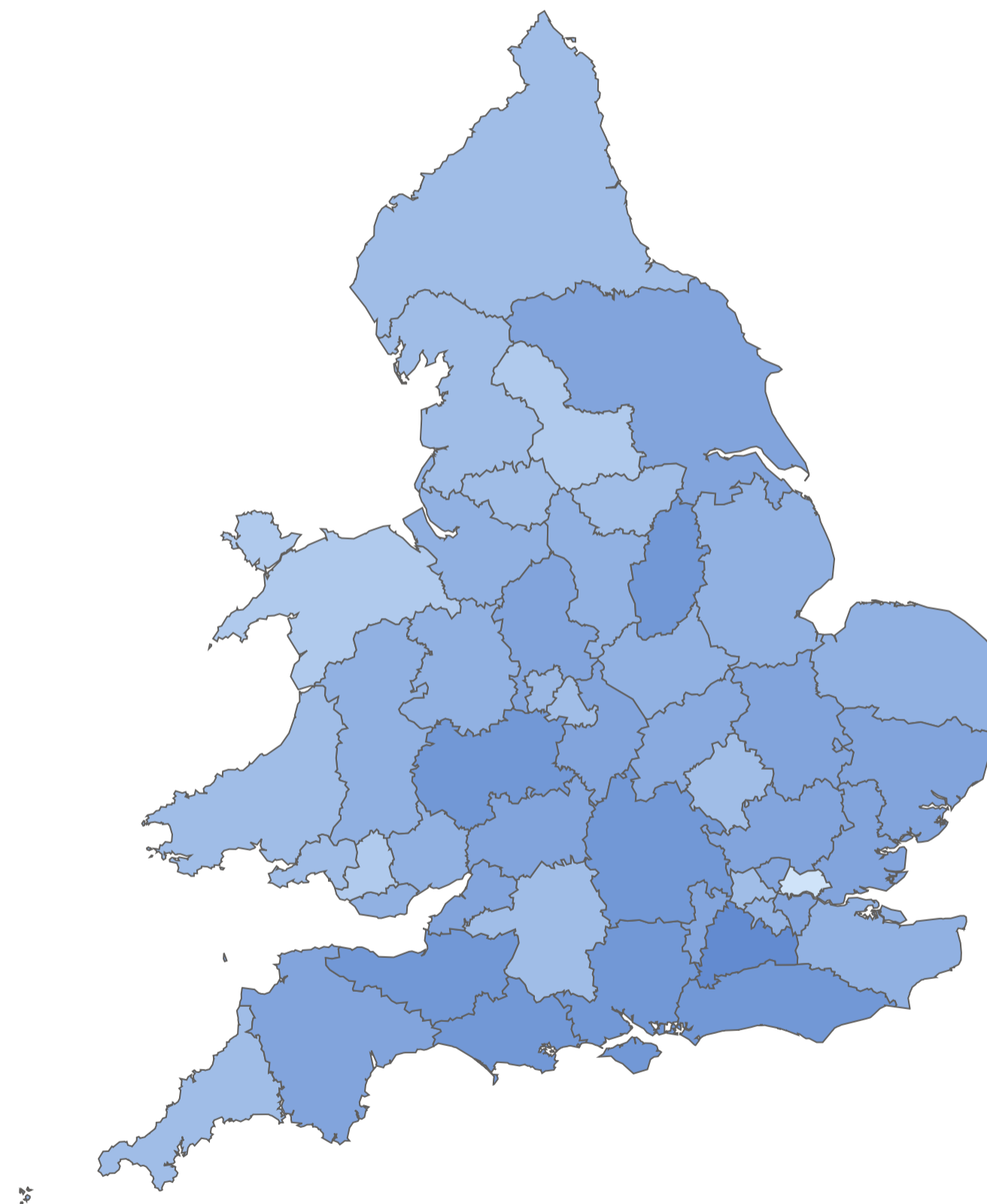
Age of patients based on hospital location by Cardiac Network (2023/24)

The maps show the median age of patients by area. A darker colour represents older median age. Hover over an area to see its data.

The overall median age is 80 years for this audit cycle (compared with a mean age of 77.5 years).

The median age range is:

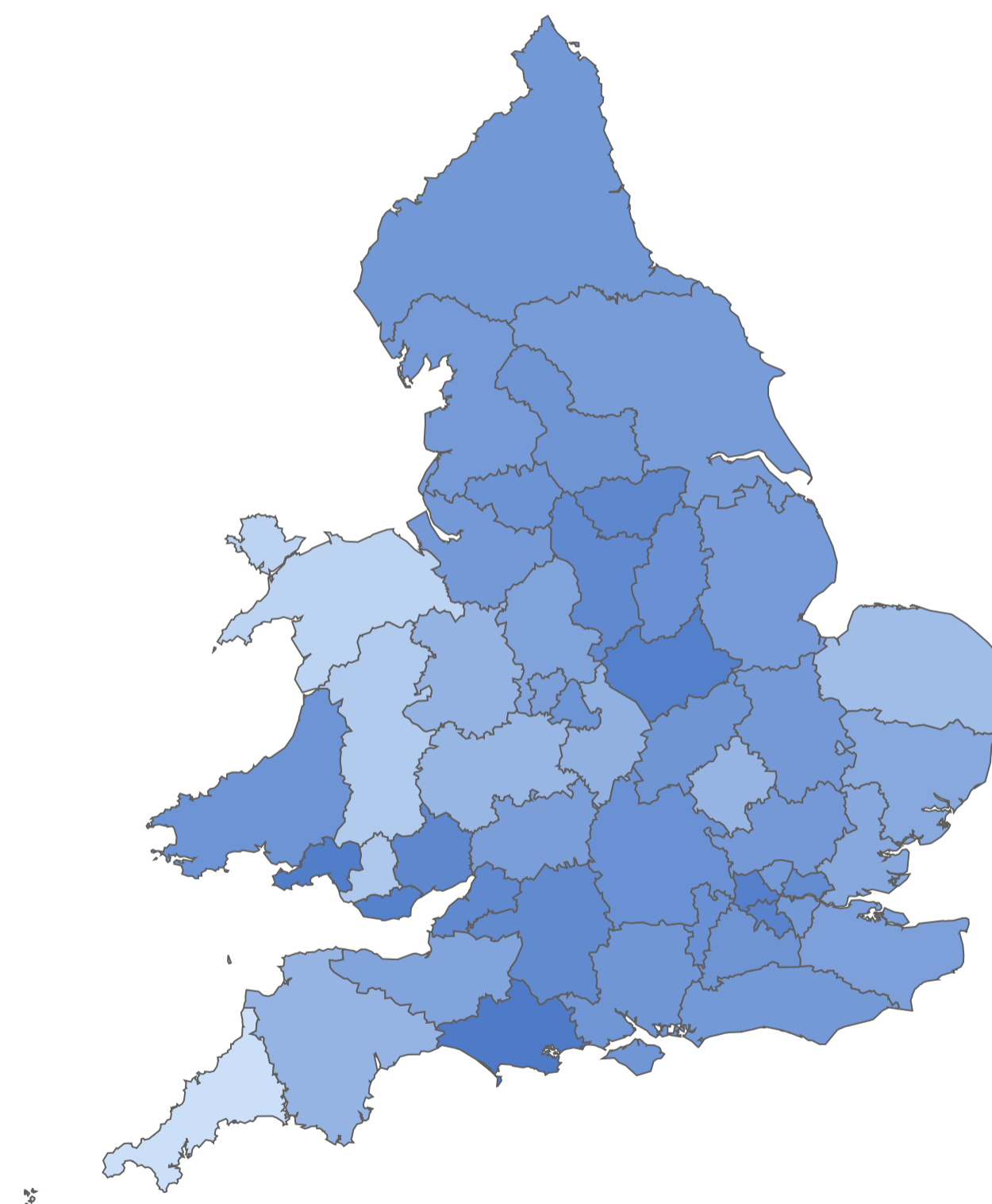
- 76-83 years by Integrated Care Board (ICB) and Health Board (HB)
- 79-82 years by Cardiac Network.



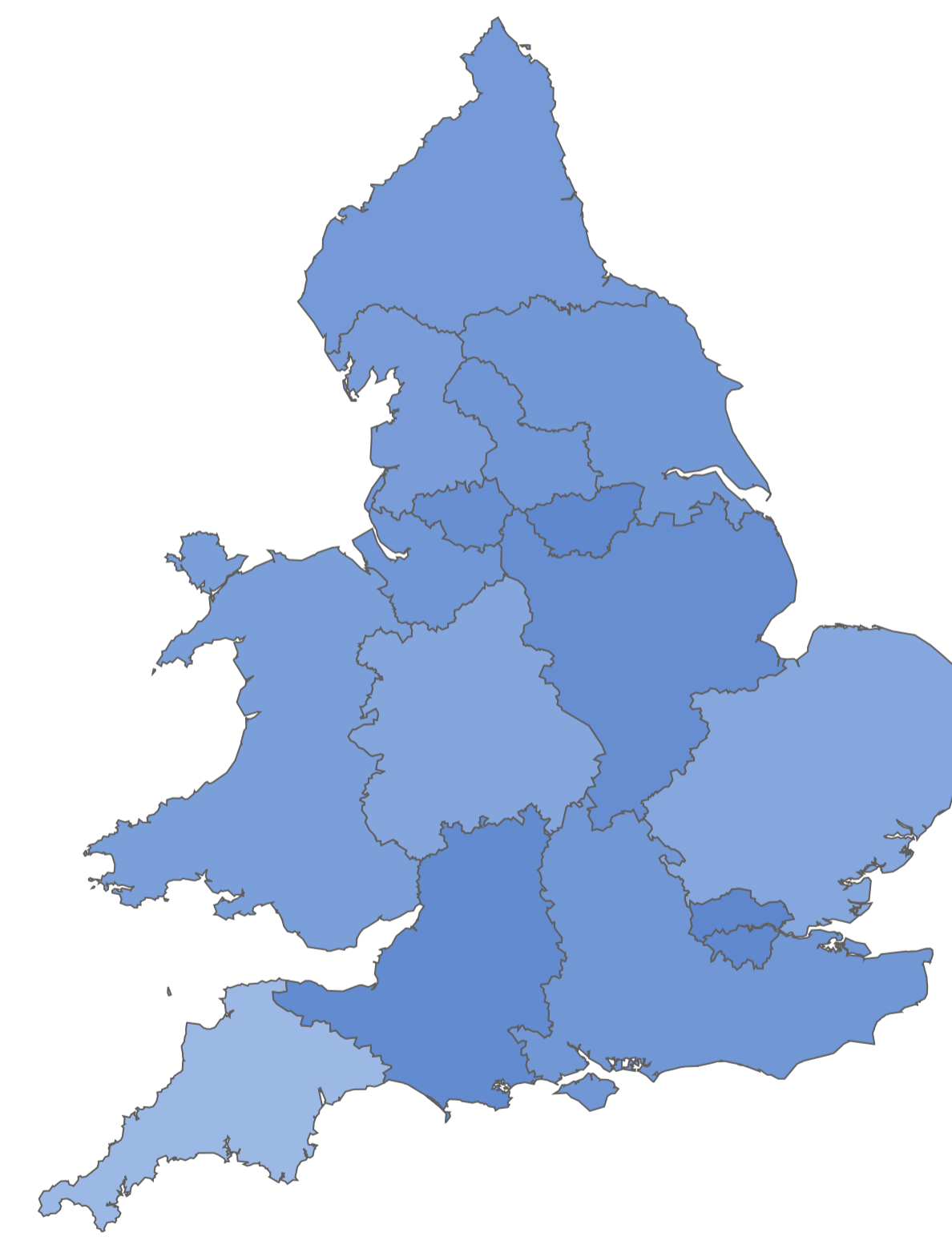
There is considerable variation in the percentage of female patients by area



Proportion of female patients based on patient home location by ICB/HB (2023/24)



Proportion of female patients based on hospital location by Cardiac Network (2023/24)



The maps show the proportion of index HF admissions for females by area. A darker colour represents a higher figure. Hover over an area to see its data.

In 2023/24, 44% of all index HF admissions were female.

There is considerable regional variation in the proportion of women by Integrated Care Board (ICB), Health Board (HB) and Cardiac Network, ranging from 32% to 49%.

These differences are likely to reflect local demographics.

Data on patient ethnicity is poorly recorded

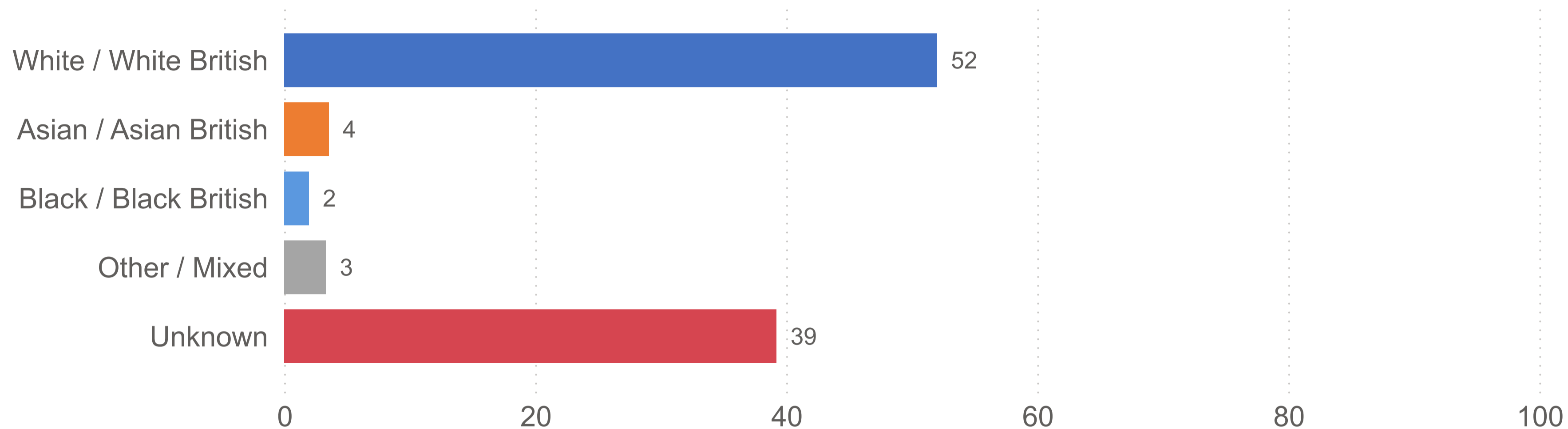


Ethnicity is only recorded in 61% of the patients with a confirmed HF admission submitted to the audit. Clearly, data quality needs to improve in this area to enable this to be used in drawing accurate conclusions from any analysis.

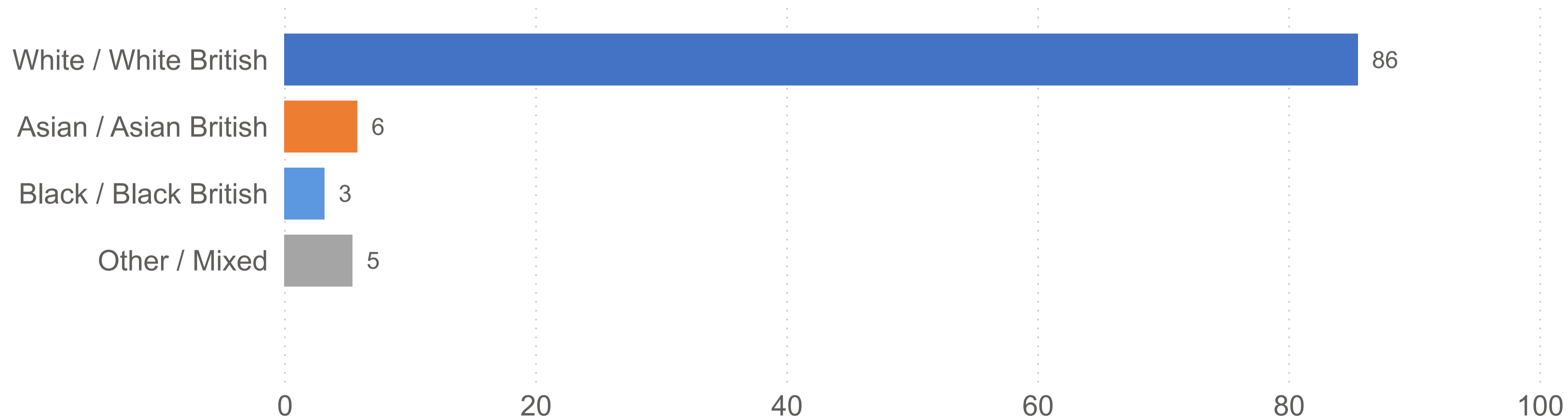
The upper chart gives the percentage of the different ethnicities recorded and shows that ethnicity is not captured in 39% of cases.

The lower graph reports the ethnicity for the 61% of cases where these data were recorded.

Percentage of HF cases by ethnicity (2023/24)



Percentage ethnicity of HF cases where ethnicity recorded (2023/24)



Non-HFrEF patients are increasing as a proportion of all heart failure cases, accounting for just over 50% in 2023/24



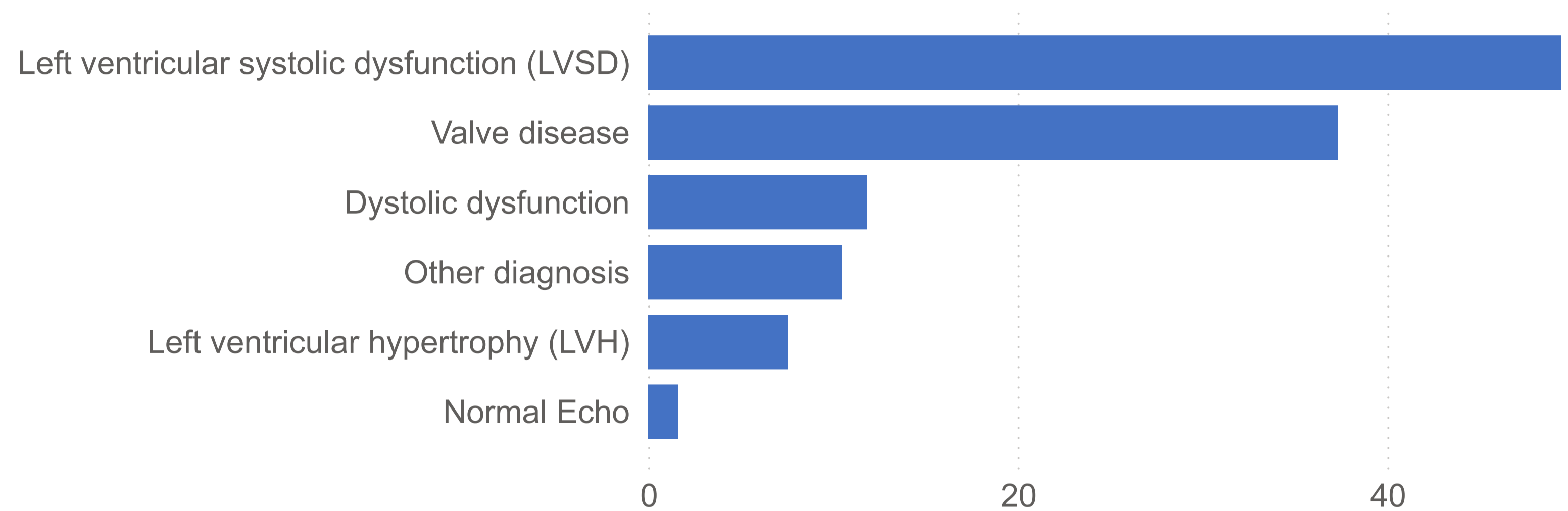
Heart failure can be associated with a range of echocardiographic findings which may occur alone, or in association.

Half of patients have an inability to pump, or eject, blood effectively into the wider circulation. Where the amount of blood ejected with each beat is reduced to $\leq 40\%$ of the full pumping chamber, this is known as left ventricular systolic dysfunction (LVSD) and defines the associated HFrEF.

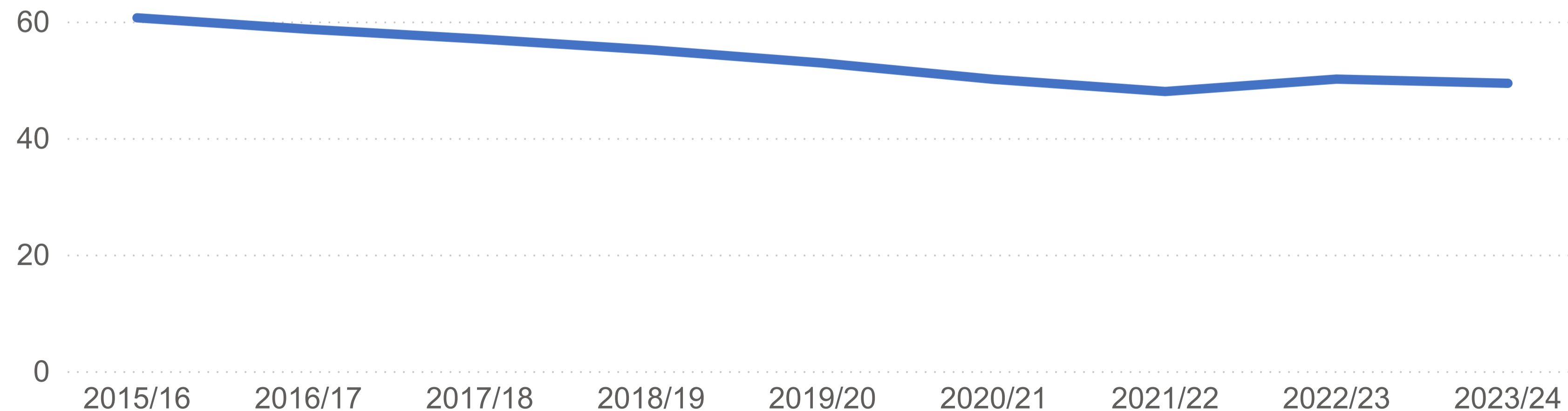
People with LVSD can be treated very effectively with drugs to improve survival, lower hospitalisation rates and raise quality of life.

Patients with clinical symptoms and signs of HF who have preserved heart pump function (HFpEF) or intermediate levels (HFmrEF) are collectively designated as 'non-HFrEF', and now account for just over 50% of HF cases.

Percentage of echocardiography findings in patients with heart failure (2023/24)



Percentage of patients with HFrEF



HF patients with an ejection fraction greater than 40% have more associated diagnoses such as hypertension and atrial fibrillation

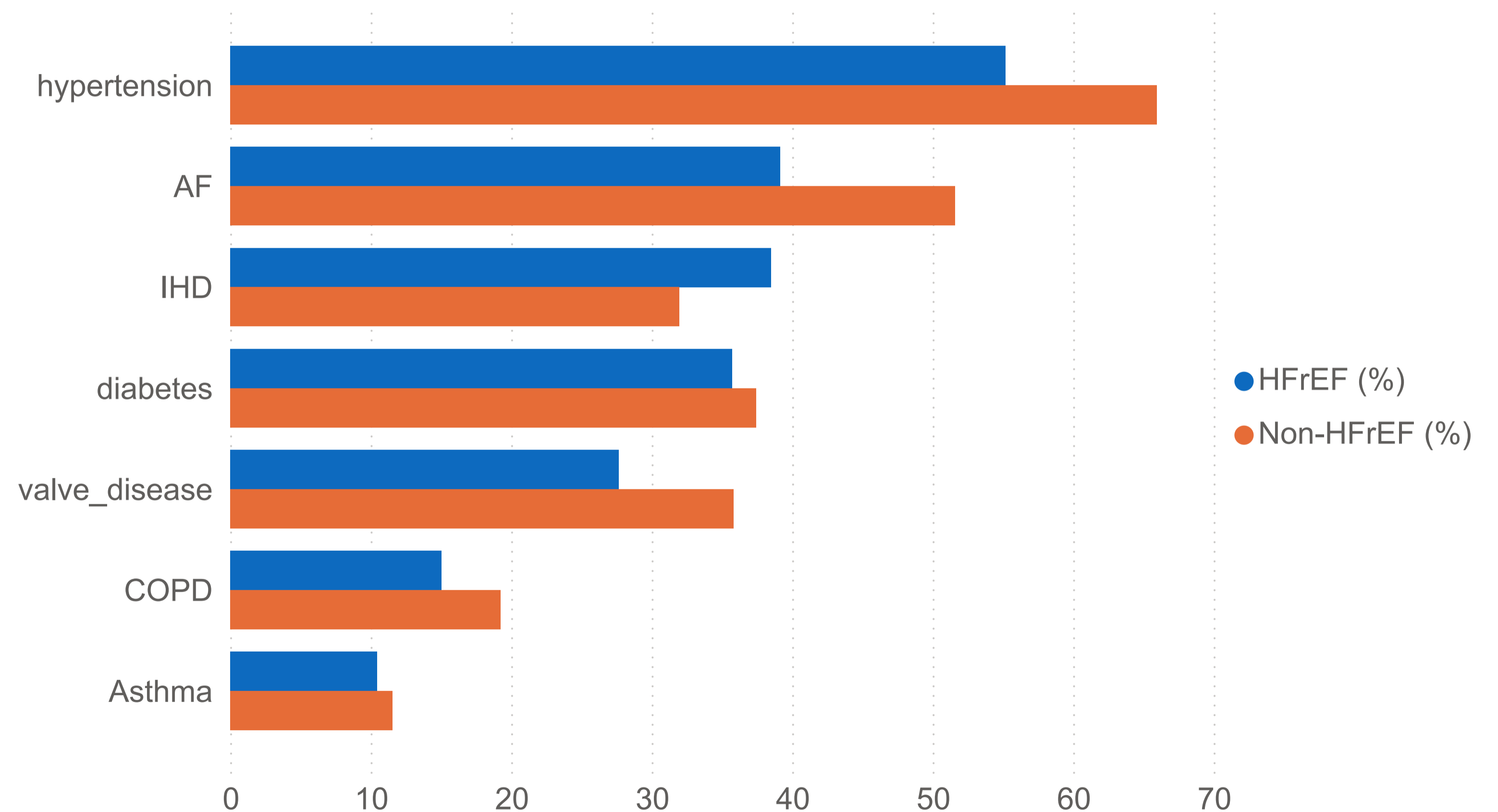


Hypertension, atrial fibrillation (AF), valve disease and chronic obstructive pulmonary disease (COPD) are all reported more commonly in non-HFrEF patients. This pattern is consistent with findings from previous audit reports.

Ischaemic Heart Disease (IHD) is more common in HFrEF patients.

Key:
AF = Atrial Fibrillation
IHD = Ischaemic Heart Disease
COPD = Chronic Obstructive Pulmonary Disease

Percentage of HFrEF and non-HFrEF patients with associated conditions (2023/24)

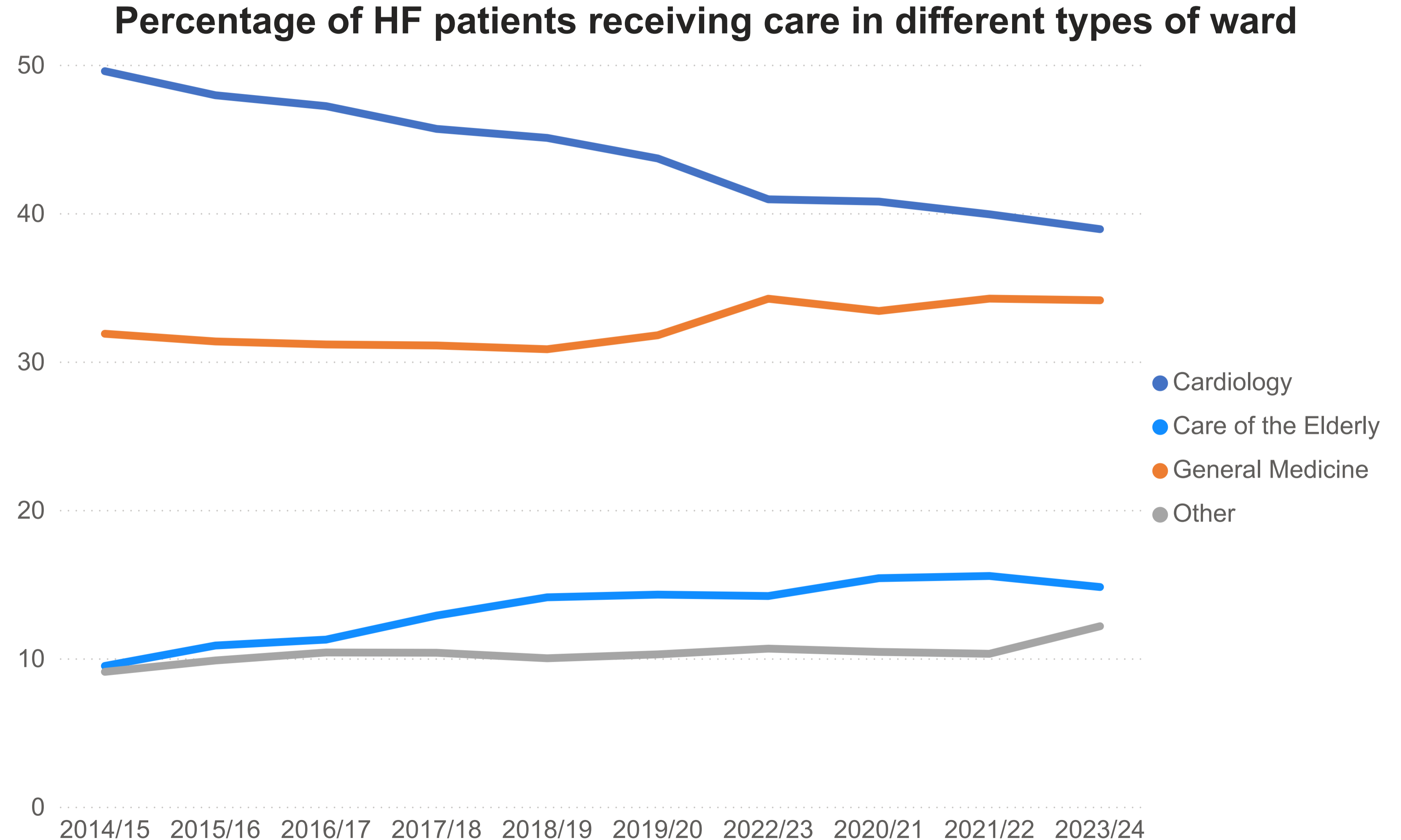


The proportion of patients being admitted to a Cardiology ward continues to fall



The percentage of HF patients being looked after on a Cardiology ward is continuing to fall and was only 39% in 2023/24.

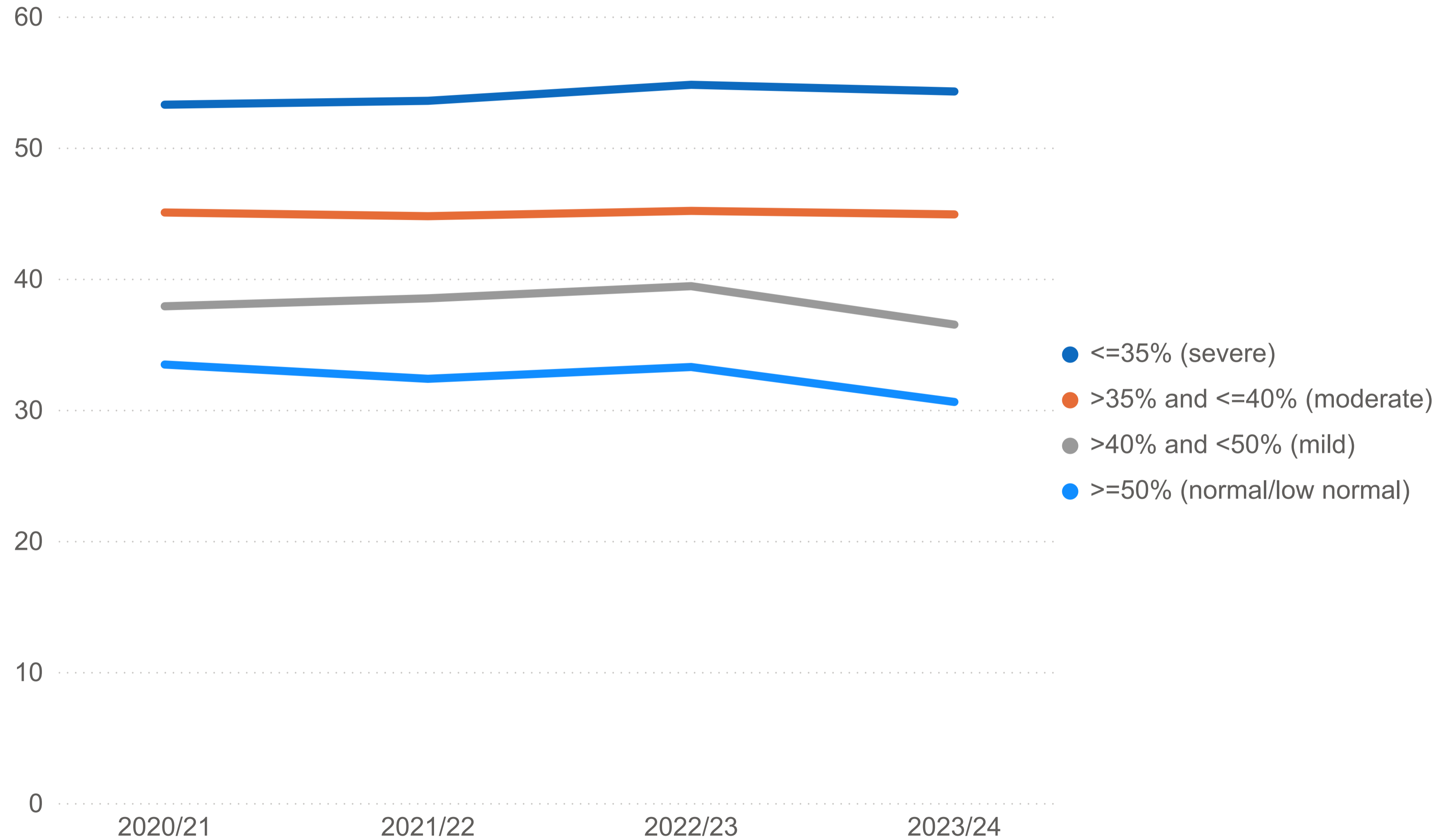
The audit target is that 60% of all patients admitted with heart failure (HF) should have their care on a Cardiology ward.



Patients with the most severe LV dysfunction are more likely to be admitted to a Cardiology ward



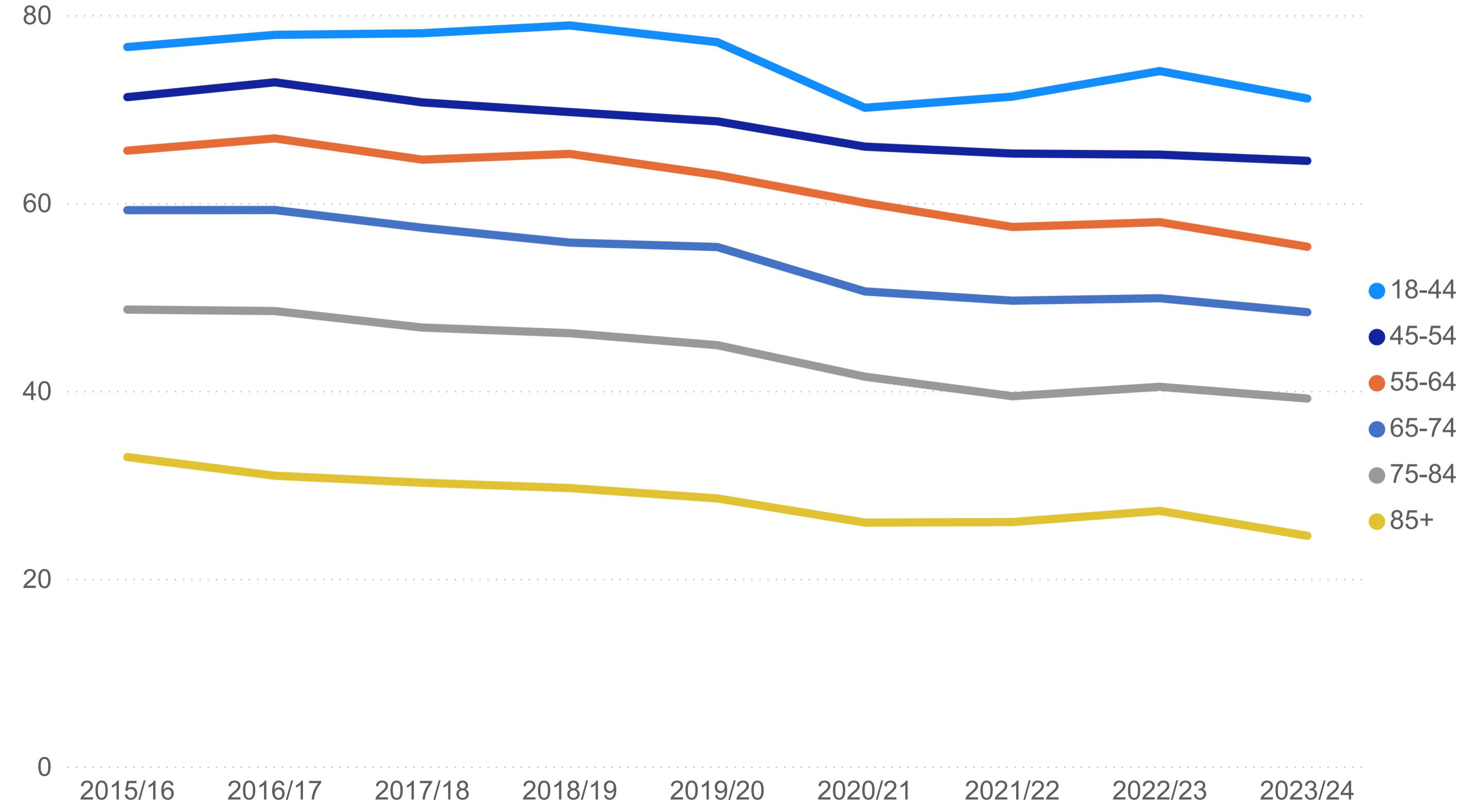
Percentage of HF patients receiving care in a Cardiology ward by LV function



Across patient groups with different levels of left ventricular ejection fraction, none meet the audit target for 60% of patients to have their care on a Cardiology ward.



Percentage of HF patients receiving care in a Cardiology ward by age group (years)



The audit target for 60% of patients to have their care on a Cardiology ward is not met in patients aged 55 and above.

In younger patients aged under 55, the percentage of patients being admitted to a cardiology ward also appears to be falling.

There is considerable variation between hospitals in the proportion of patients receiving care in a Cardiology ward - few meet the 60% target



In 2023/24, the vast majority of hospitals did not meet the target for 60% of all HF patients to be admitted to a Cardiology ward.

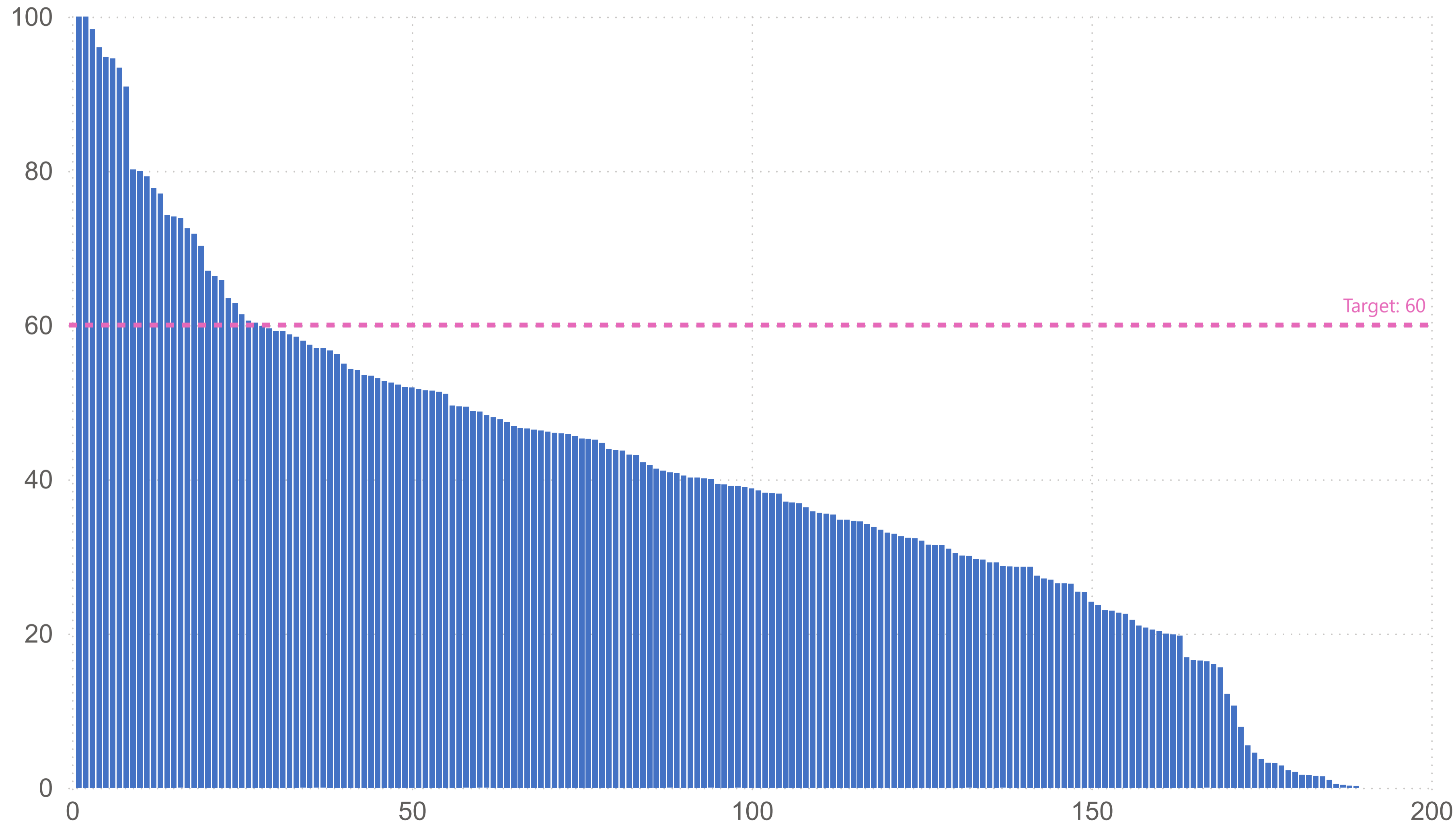
Selecting a cardiac network or hospital below shows its data.

Note: Data are based on those hospitals reporting 20 cases or more.

Select a Cardiac Network

Select a hospital

Percentage of HF patients receiving care in a Cardiology ward by hospital



The majority of patients with heart failure are seen by a specialist HF team

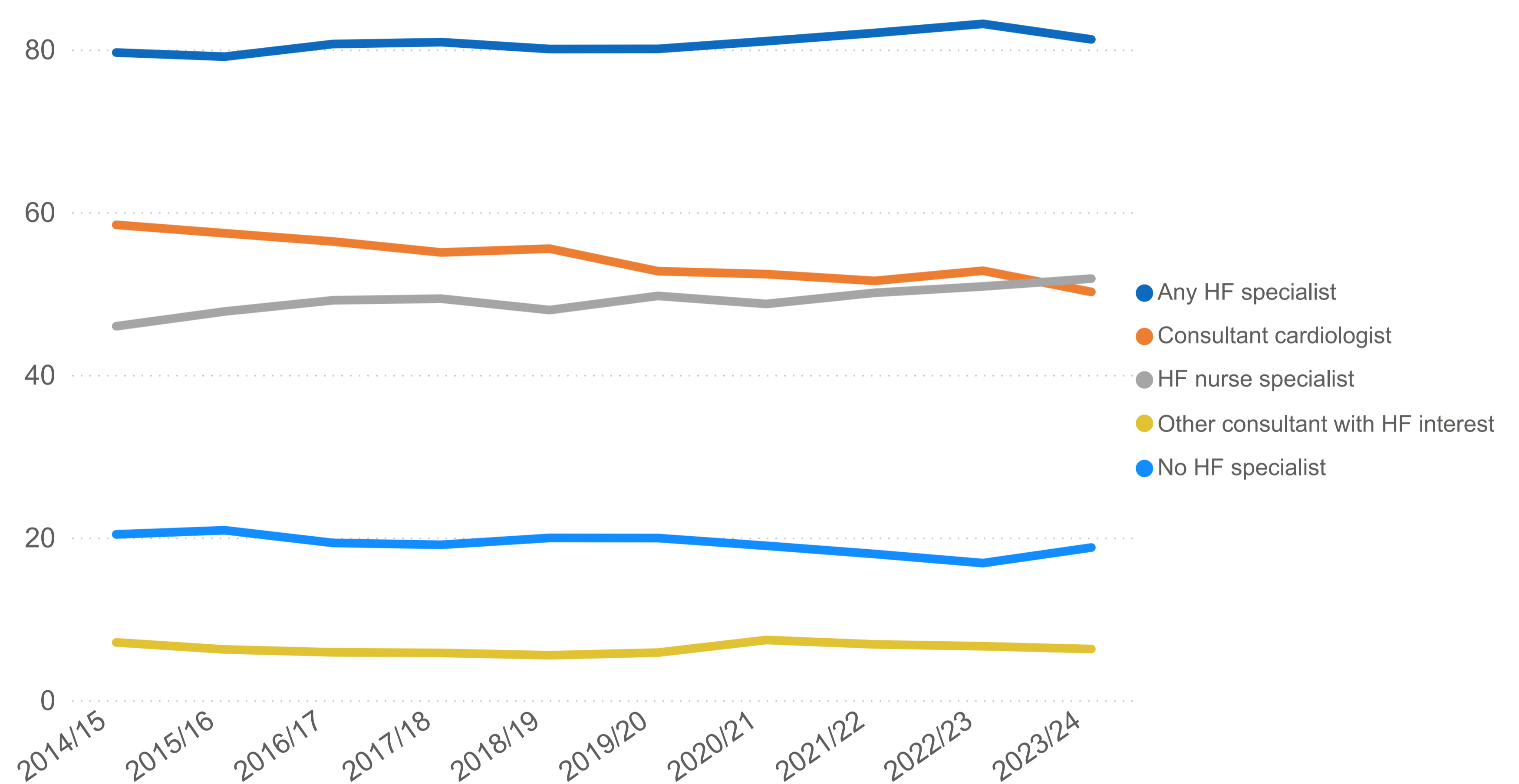


Percentage of patients seen by a specialist HF team

Access to specialist HF care (by cardiologists and specialist HF nurses) is associated with lower in-hospital and subsequent out of hospital mortality, and better treatment of patients on discharge.

Whilst [NICE guidance](#) advocates that all these patients receive early and continuing specialist input, the current audit quality improvement (QI) target is that 90% of all those admitted with acute HF should have specialist input.

In 2023/24, 81% of patients were seen by a specialist HF team.



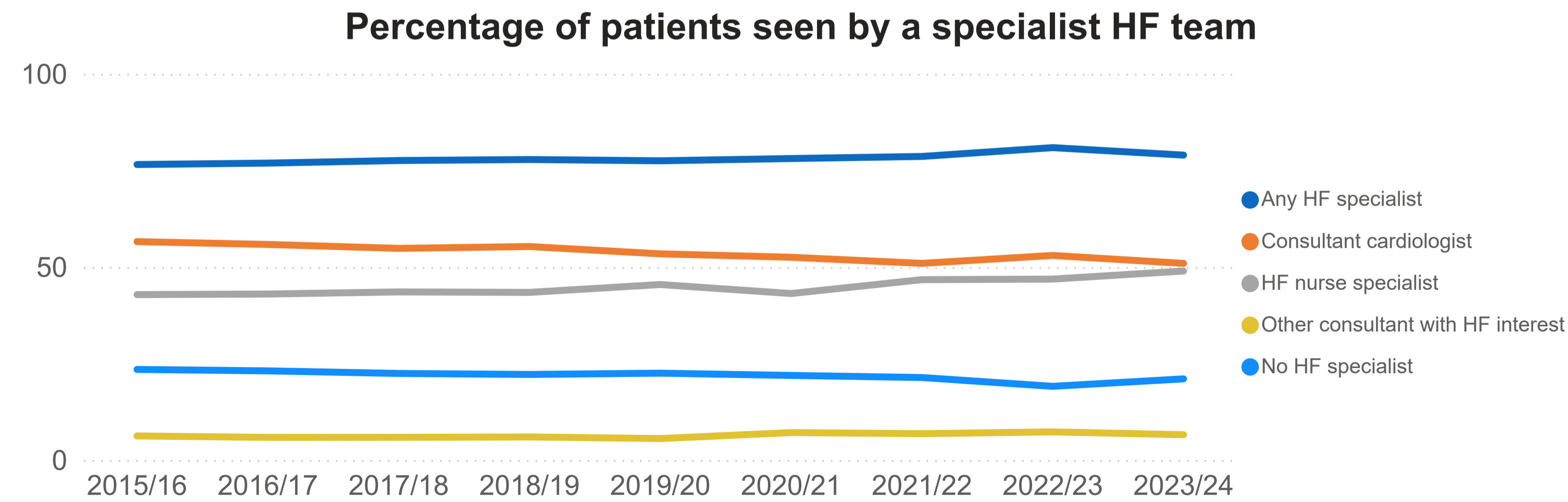
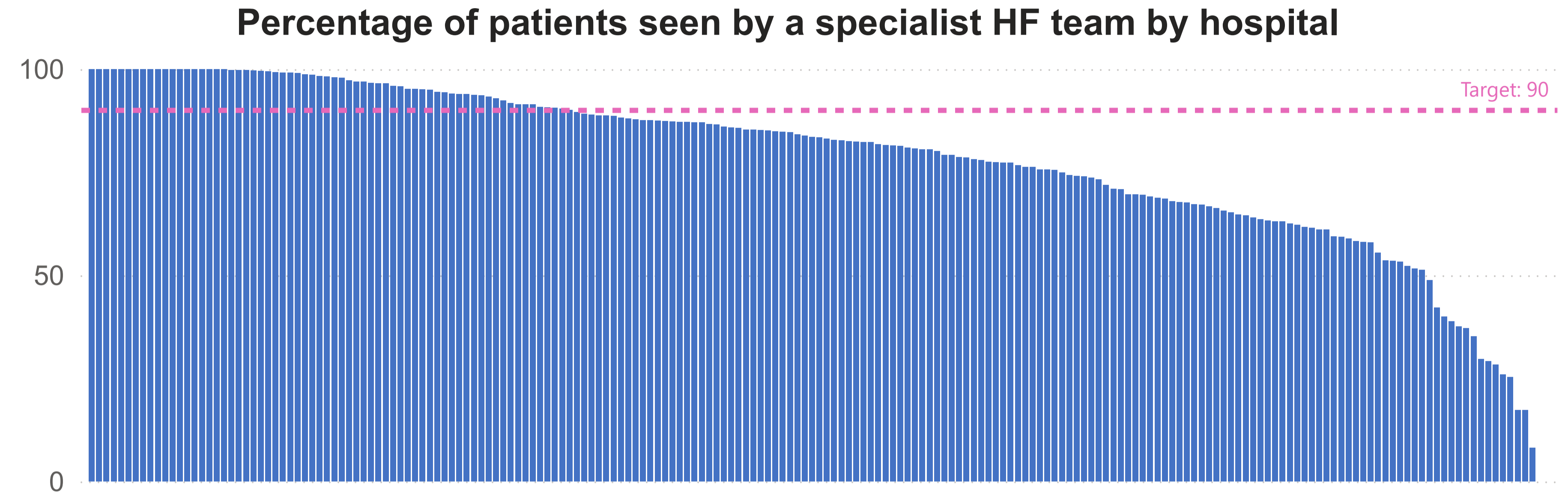
There is substantial variation by hospital in the proportion of patients receiving specialist input



In 2023/24, 81% of HF patients were seen by specialist HF team. This is below the audit target of 90%.

Hovering over the bars in the top graph or selecting a cardiac network or hospital below shows the specific data.

Note: Data from those hospitals submitting fewer than 20 cases were excluded.



Select a Cardiac Network

All ▼

Select a hospital

All ▼

The percentage of HF patients investigated with an ECG and echocardiography did not change in 2023/24

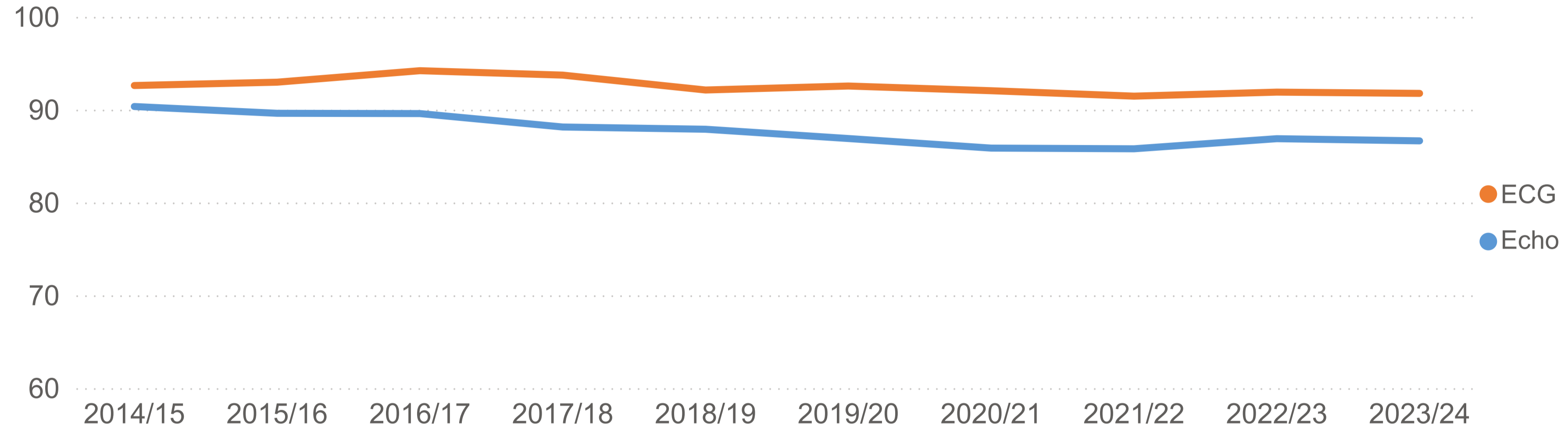


Rates of echocardiography continued to be below the audit target in 2023/24. HF patients on Cardiology wards and those who are seen by a specialist cardiology team are much more likely to have an echocardiogram.

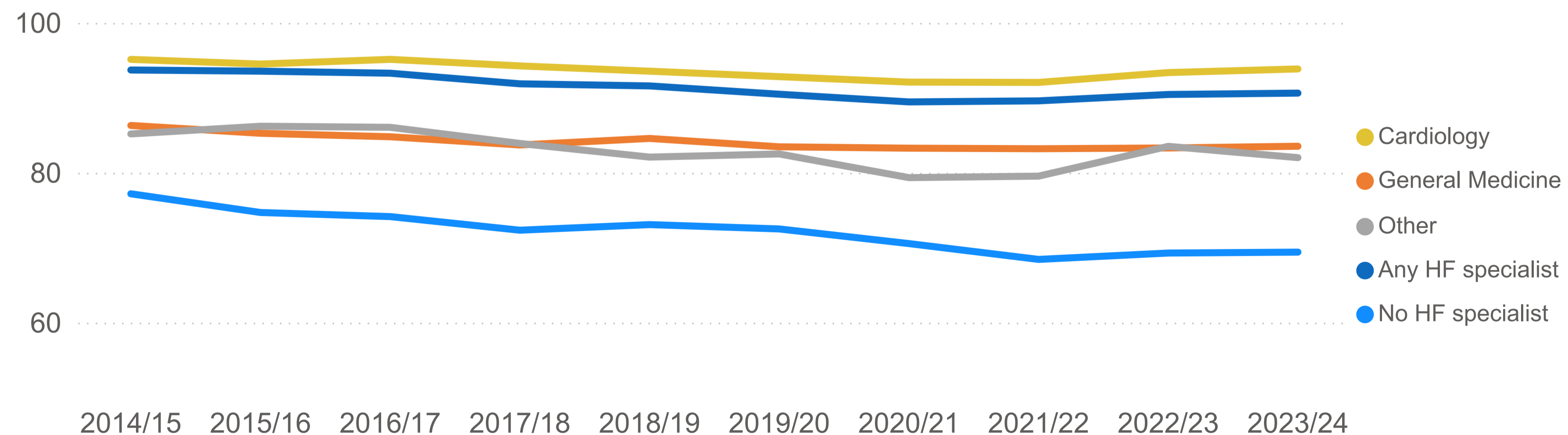
Inpatient echocardiography and electrocardiography are essential for an accurate diagnosis of HF and its phenotype (i.e. observable properties and characteristics) and help determine optimal care.

The audit quality improvement (QI) target is that 90% of patients should be investigated with echocardiography. [NICE](#) emphasises the need for this to be undertaken early and ideally within 2 days of admission.

Percentage of patients receiving an ECG and echocardiography



Percentage of patients receiving echocardiography by place of care or specialist involvement

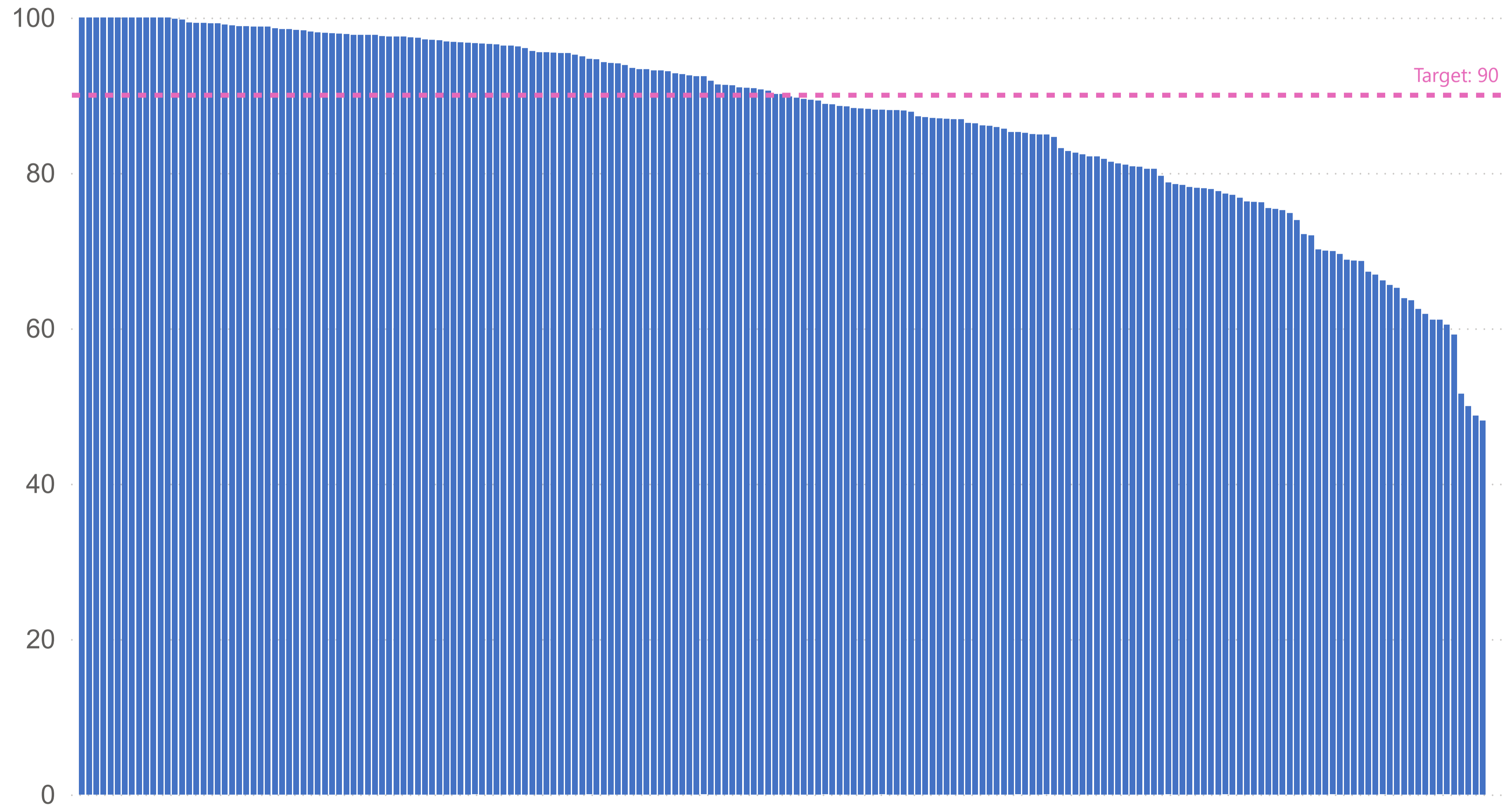




Percentage of HF patients in England and Wales undergoing echocardiography by hospital in 2023/24

Nearly half of hospitals failed to meet the 90% target for the use of echocardiography in 2023/24.

Select a Cardiac Network/hospital below or hover over the graph to see specific data.



Select a Cardiac Network

 ▼

Select hospital

 ▼

Natriuretic peptide use has increased over time

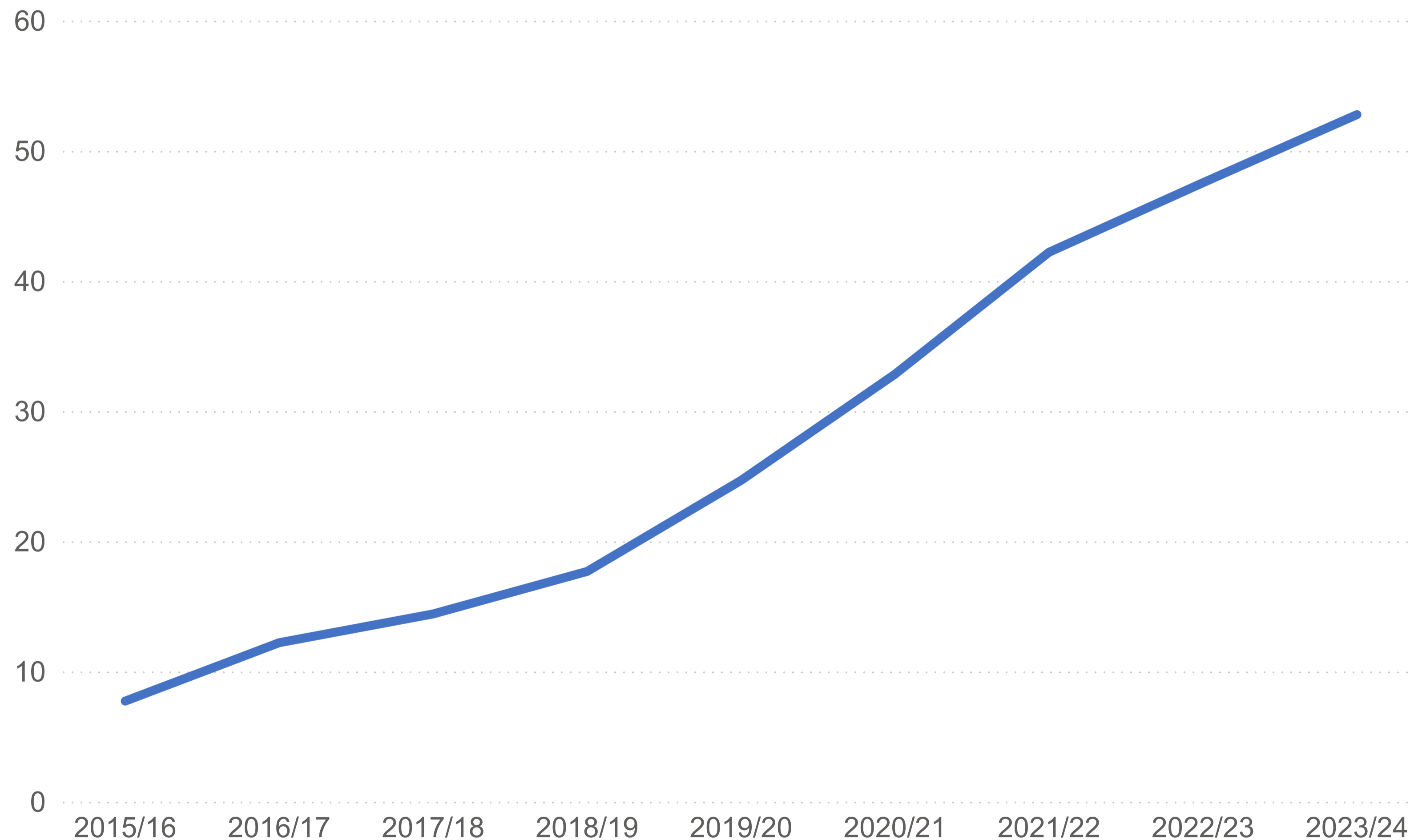


Measurement of Natriuretic Peptides (NP) is recommended in people admitted with suspected acute heart failure who have no pre-existing diagnosis. This should apply to around 50% of all admissions.

N-terminal pro-B-type natriuretic peptide (NT-proBNP) is the most frequently measured NP in the NHS.

The trend for NP measurement is encouraging, with an increase of 10% on the preceding year.

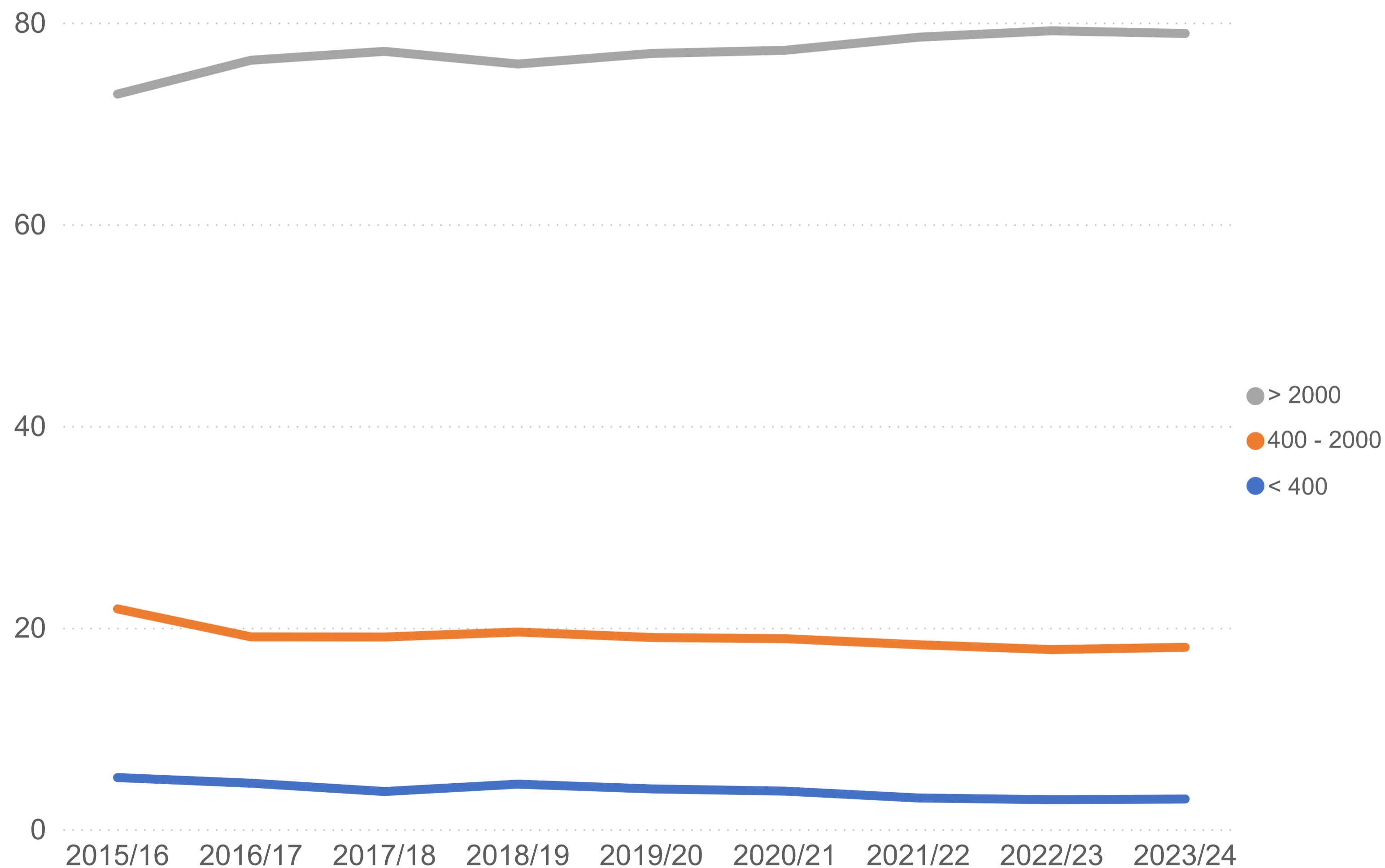
Percentage of patients undergoing NT-BNP measurement



Most patients have an NT-proBNP of more than 2,000 pg/ml



Percentage of NT-proBNP by group (pg/ml)



Over 75% of patients had an NT-proBNP of >2,000pg/ml in 2023/24.

This is in keeping with the acute nature of the HF admissions that are captured by the audit.

More patients with HFrEF are receiving drug therapy that improves longer-term outcomes



Four key disease-modifying drugs are now recommended in those people with HFrEF and includes SGLT2i drugs alongside MRAs and Beta Blockers and ACEi or ARNI or ARB (see link for full names of these drug classes).

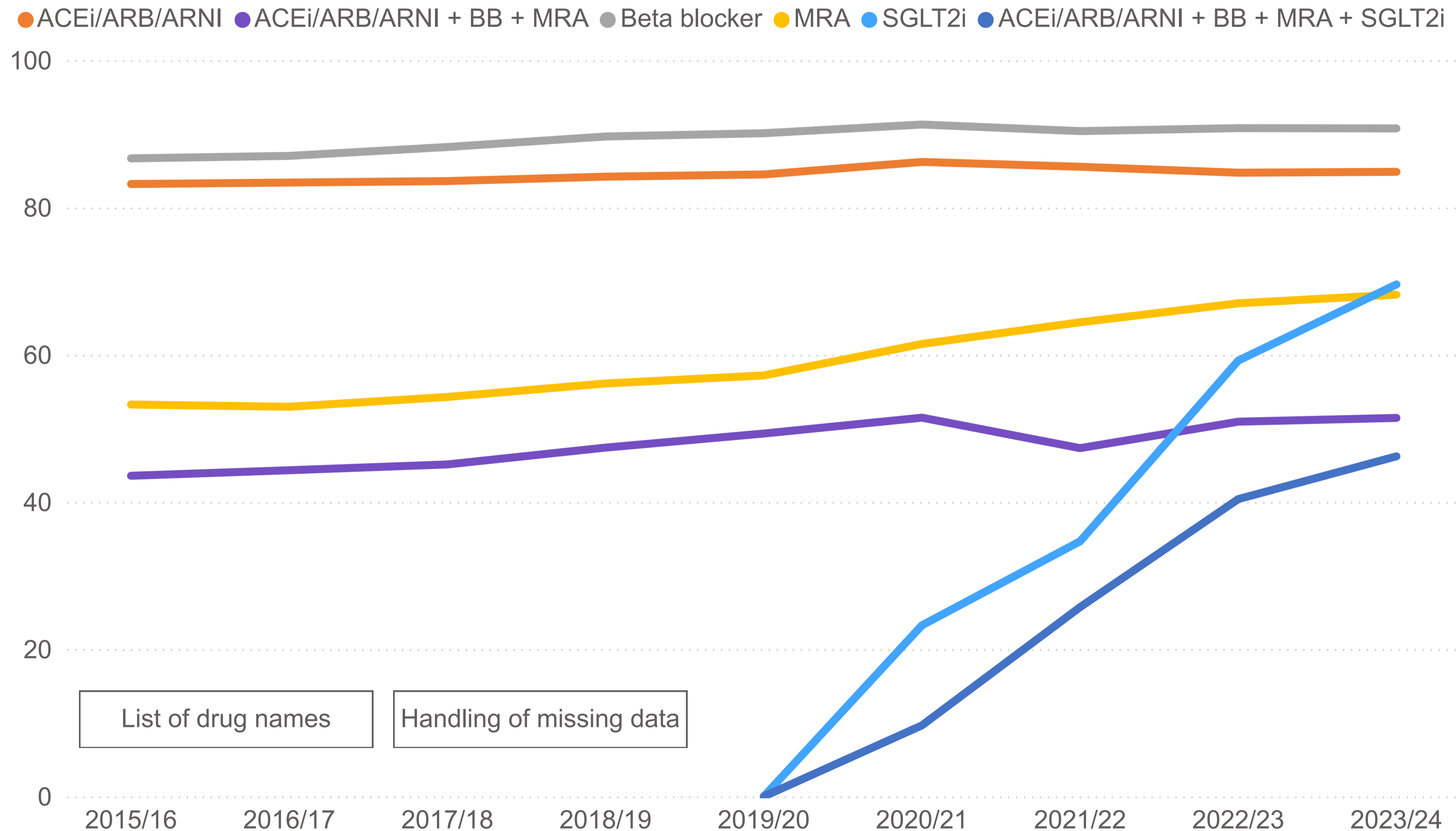
These drugs have been described as the four pillars of optimal care for these patients.

The audit quality improvement (QI) target for prescribing of all these drugs/combinations has increased to 90% for all eligible patients with HFrEF (i.e. those with an EF of 40% or less and without a contraindication). To achieve this target there needs to be improved prescribing of all four drugs, including MRAs.

There has been a 10% increase in the prescription of an SGLT2i but only a 1% change for MRAs and this is a cause for concern. The higher prescribing rates of a BB and ACEi/ARNI/ARB are unchanged but also fall short of the 90% target.

Hover each line to see the detailed figures.

Percentage of patients with HFrEF prescribed different drug treatments



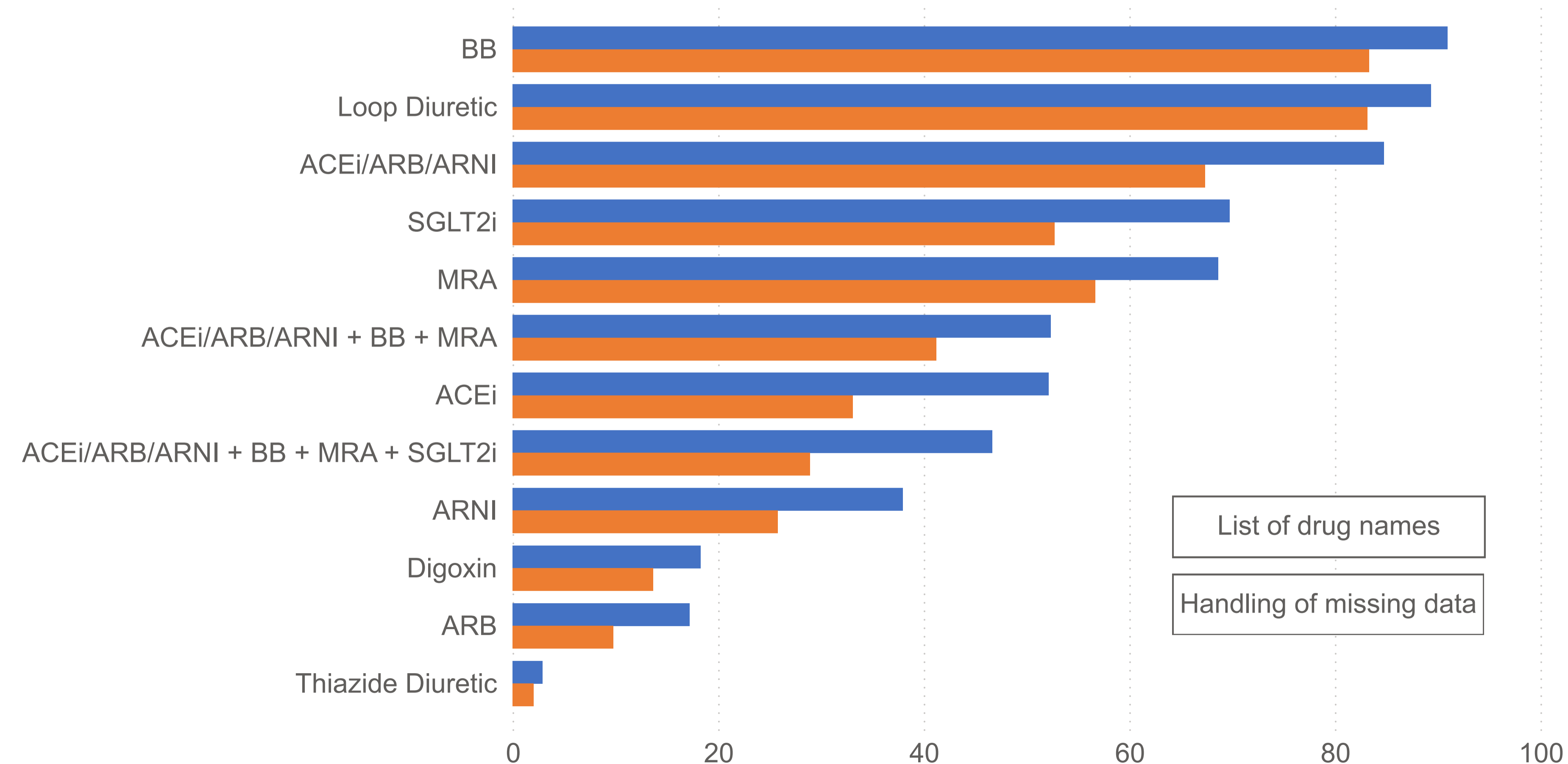
List of drug names

Handling of missing data



Percentage of patients with HFrEF prescribed different recommended disease-modifying drugs with and without 'unknowns' in denominator (2023/24)

● Prescribed (not including unknowns) ● Prescribed (including unknowns)



The calculation of drug prescribing rates for patients with HFrEF have until now always excluded submissions where the hospital responded 'unknown'.

Consequently, this has the potential to overstate the reported prescription rates. Since 2021/22, these 'unknown' responses have been included as 'no', reducing the achieved rates.

We intend to prioritise this analysis in future, which emphasises the importance of making certain that prescriptions at discharge are accurately completed for all cases submitted to the audit.

Data quality still requires improvement.

List of drug names

Handling of missing data

Disease-modifying drug treatments for HFrEF are prescribed less often in older patients



All patients, regardless of age, should be considered for treatment with disease-modifying drugs but their prescription seems dependent on age.

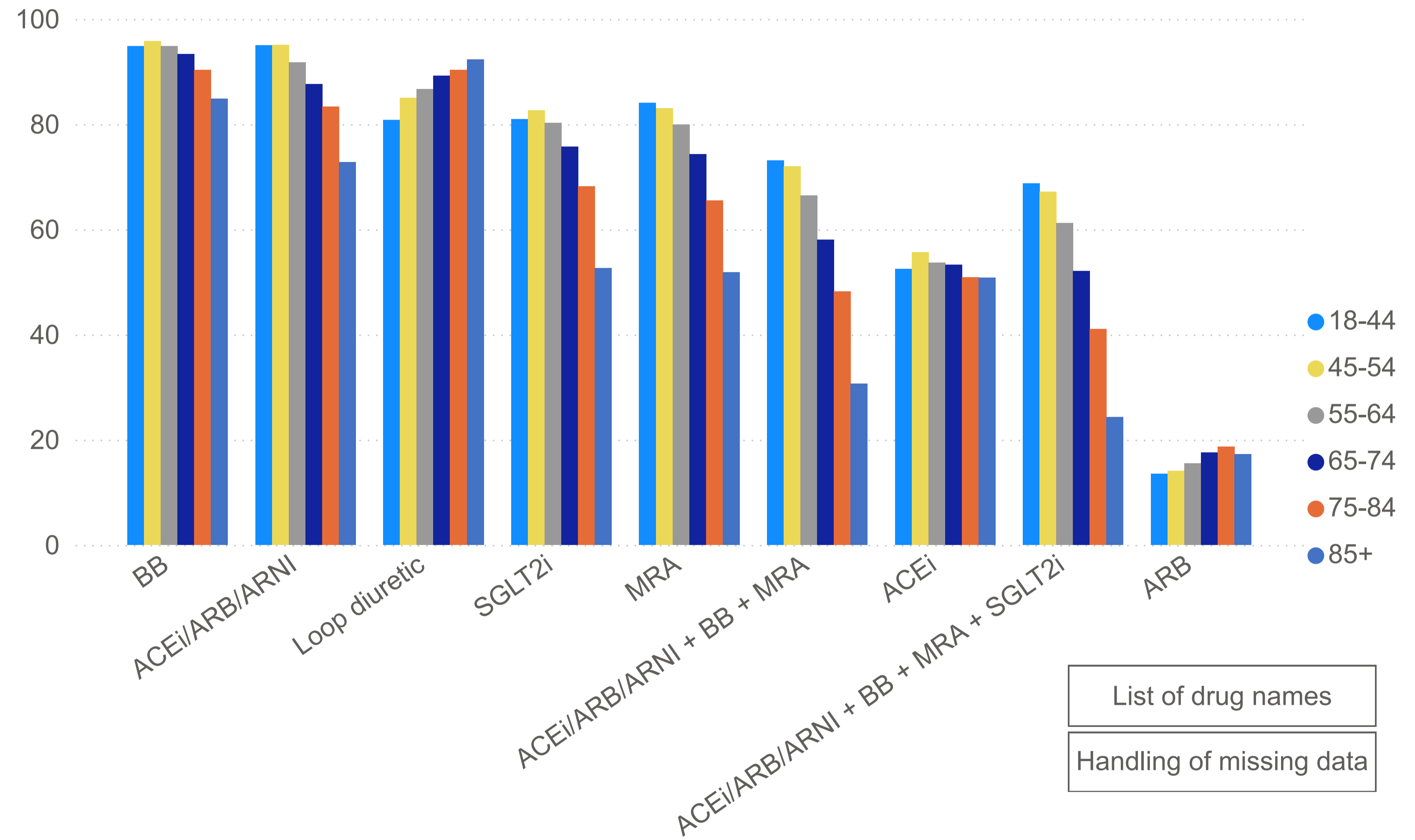
The inflexion point for the reduction in prescription of most of these drugs is in the 55-64 age group. This is greatest for MRA use, but much less pronounced for BBs, which are prescribed in 85% of patients aged 85 and above.

Loop diuretics, in contrast, are commonly prescribed to all but especially to older patients who are less likely to receive the other drug classes.

Paradoxically this class may be poorly tolerated in older patients, whereas the introduction of the other drugs may obviate the need for loop diuretics in those with HFrEF.

It is a concern that clinicians might be holding back from prescribing for these patients because of fears of an adverse effect. Increasing specialist input in the older patients, who are not on the cardiology wards. is recommended.

Percentage of patients receiving different drug treatments by age group (years) (2023/24)



List of drug names

Handling of missing data

Prescription of the four disease-modifying drugs in people with HFrEF varies substantially by area



ACEi/ARB/ARNI + BB + MRA + SGLT2i prescribing rates at discharge based on patient home location by ICB/HB (2023/24)

ACEi/ARB/ARNI + BB + MRA + SGLT2i prescribing rates at discharge based on hospital location by Cardiac Network (2023/24)

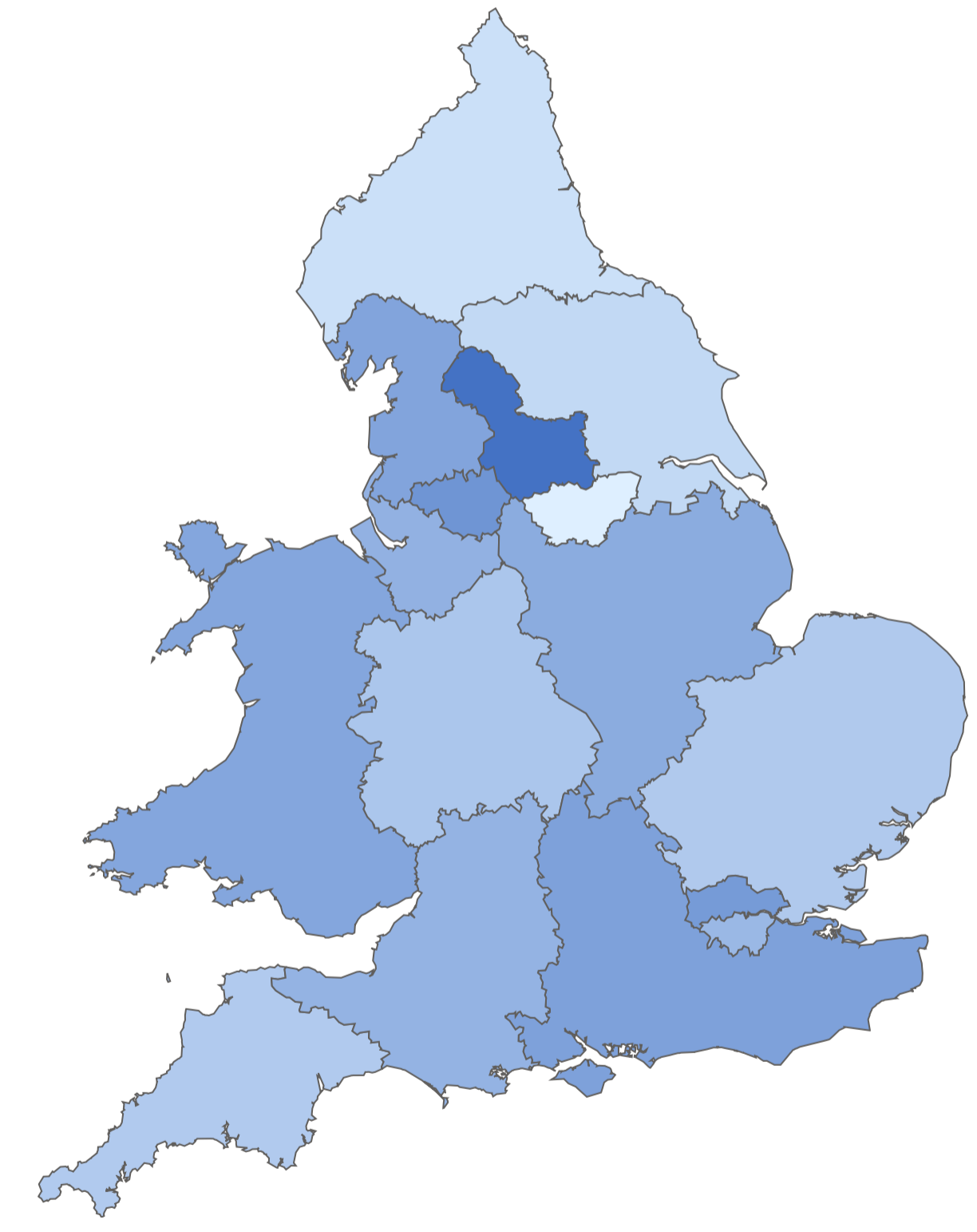
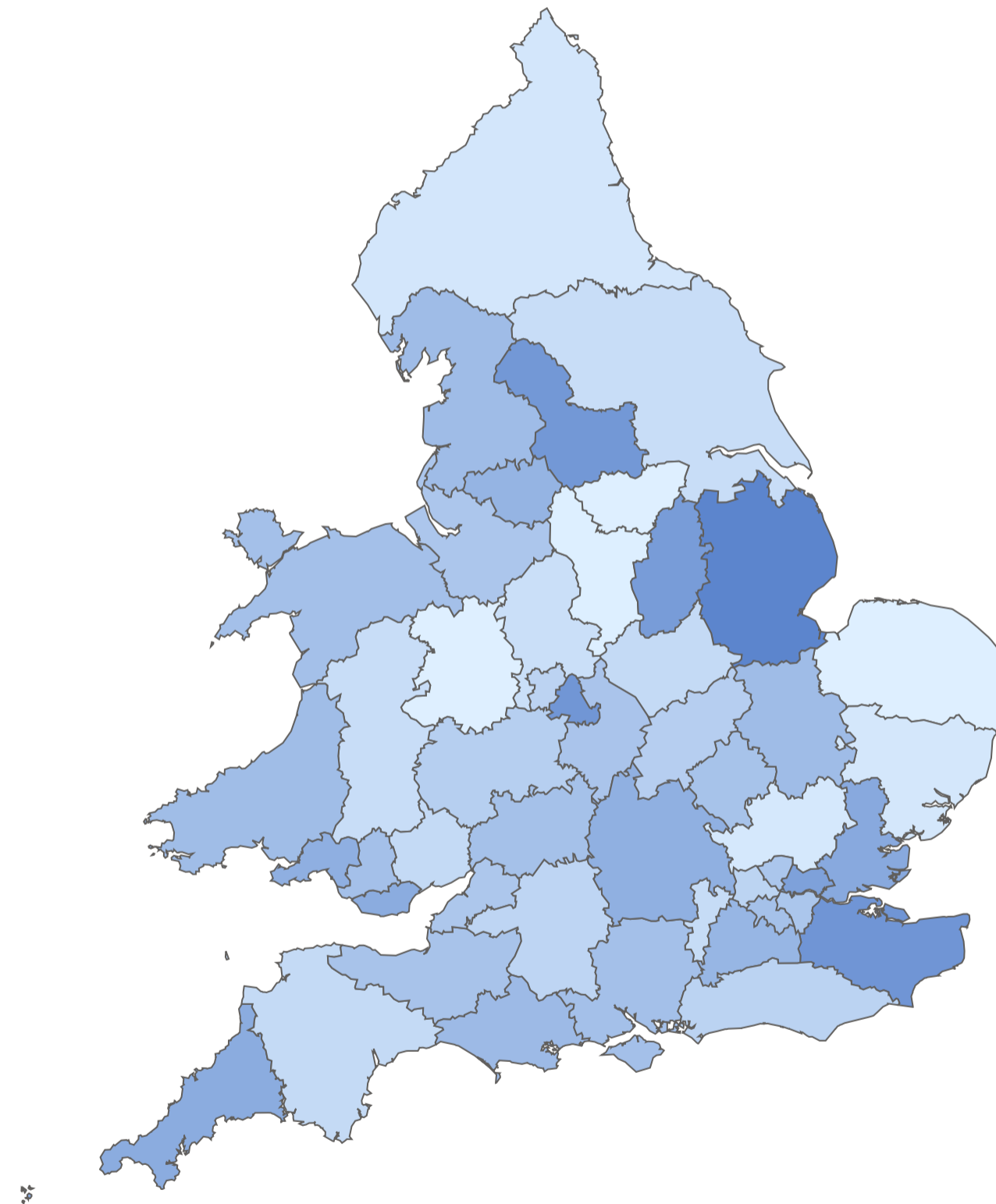
The maps show the prescribing rates for all four standard disease-modifying drugs across:

- the 42 Integrated Care Boards (ICBs) in England
- the seven University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks (operational delivery networks).

Darker areas have higher prescribing levels. Hover over the maps to see specific data.

Variation is seen in the prescription of all four standard outcome-improving drugs (ACEi/ARB/ARNI + BB + MRA + SGLT2i) in patients with HFrEF.

Rates vary between 17% and 89%.



List of drug names

Handling of missing data

The prescribing rates of ACEi/ARB/ARNI in patients with HFrEF are well maintained, but should be better



The audit minimum standard for ACEi/ARB/ARNI is that all hospitals should prescribe one of these drugs for 90% of their patients admitted with HFrEF, unless there is a clear contraindication.

Data quality needs to improve on this metric.

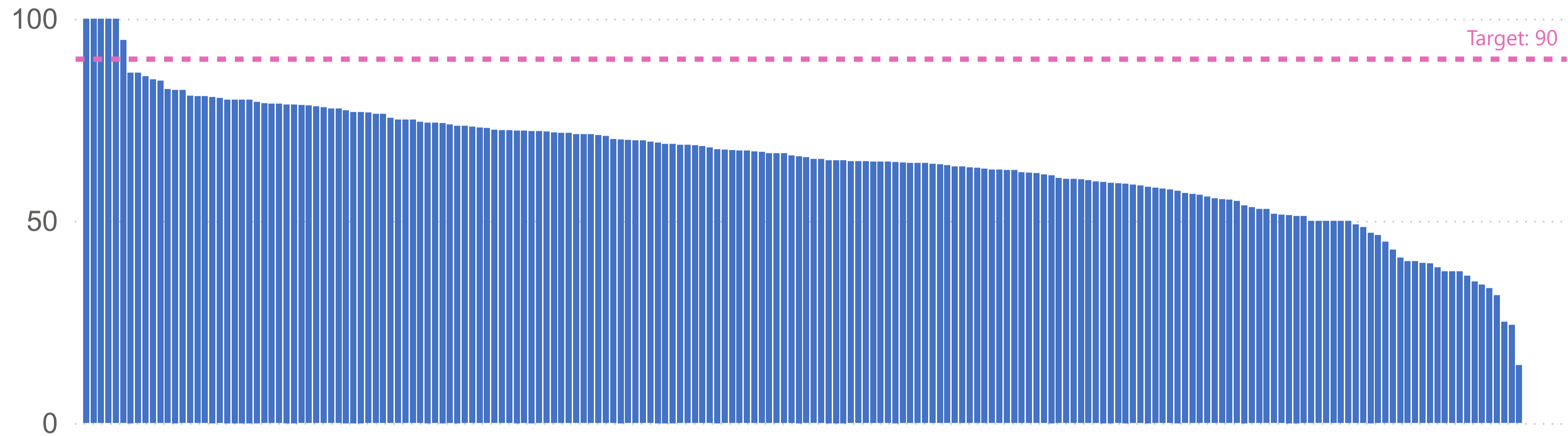
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Data are from 192 hospitals. Hospitals reporting fewer than 20 cases are excluded from the denominator.

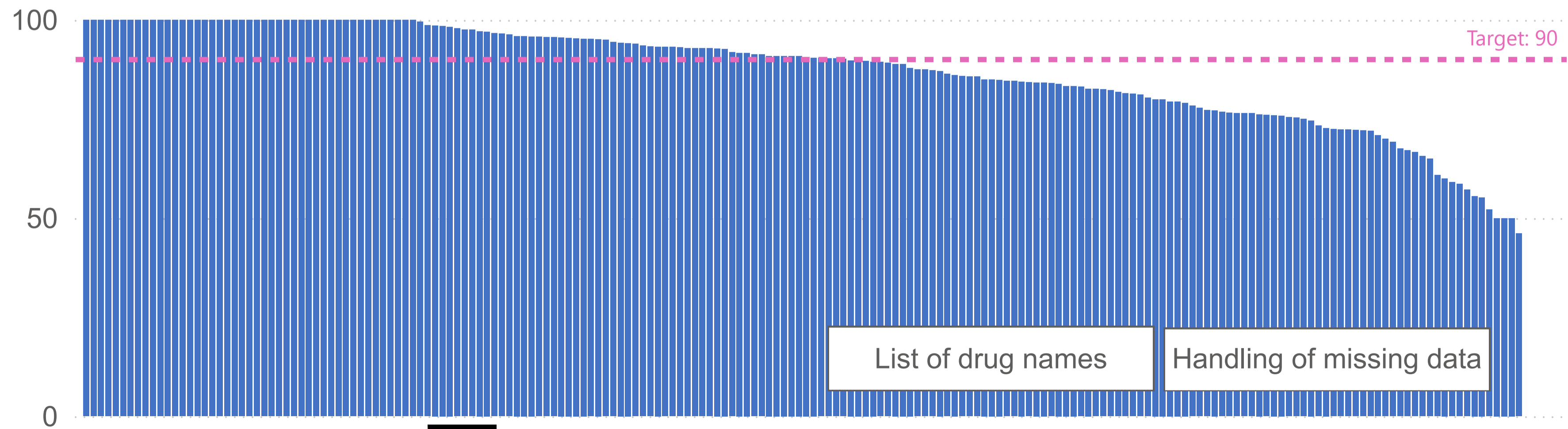
Select a Cardiac Network

Select hospital

Percentage of patients with HFrEF receiving an ACEi/ARB/ARNI (including unknowns) by hospital in 2023/24



Percentage of patients with HFrEF receiving an ACEi/ARB/ARNI (excluding unknowns) by hospital in 2023/24



Beta blocker prescribing in people with HFrEF remains high, but there is still scope for improvement



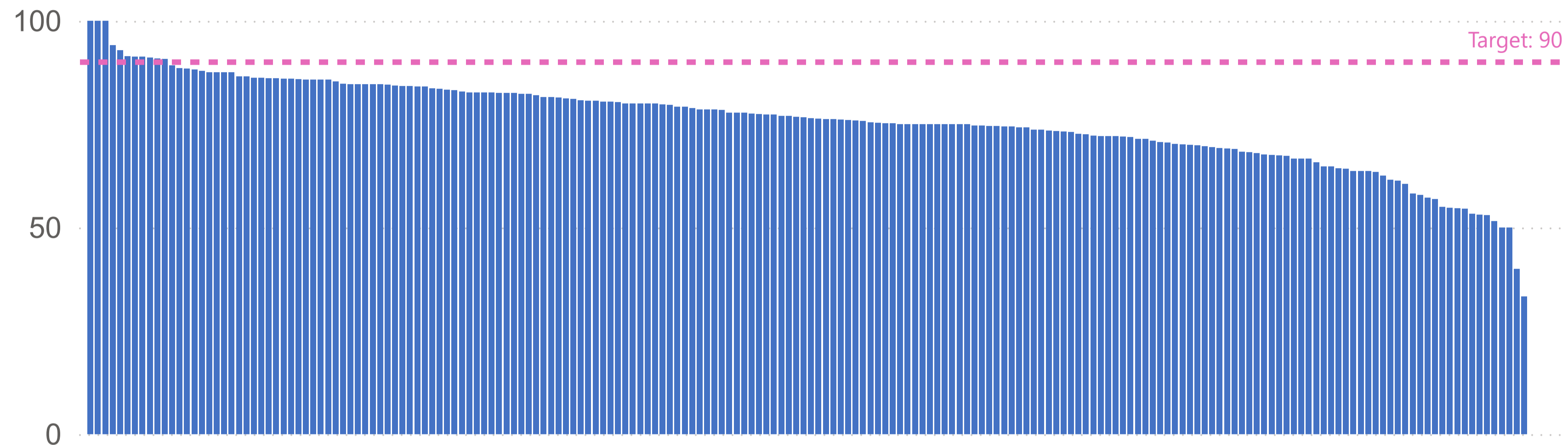
The audit target for beta blockers is that the hospital should prescribe a drug in this class in 90% of patients with HFrEF, unless there is a strong contraindication.

These data show that more hospitals are meeting the minimum standard, alongside an improvement in data quality.

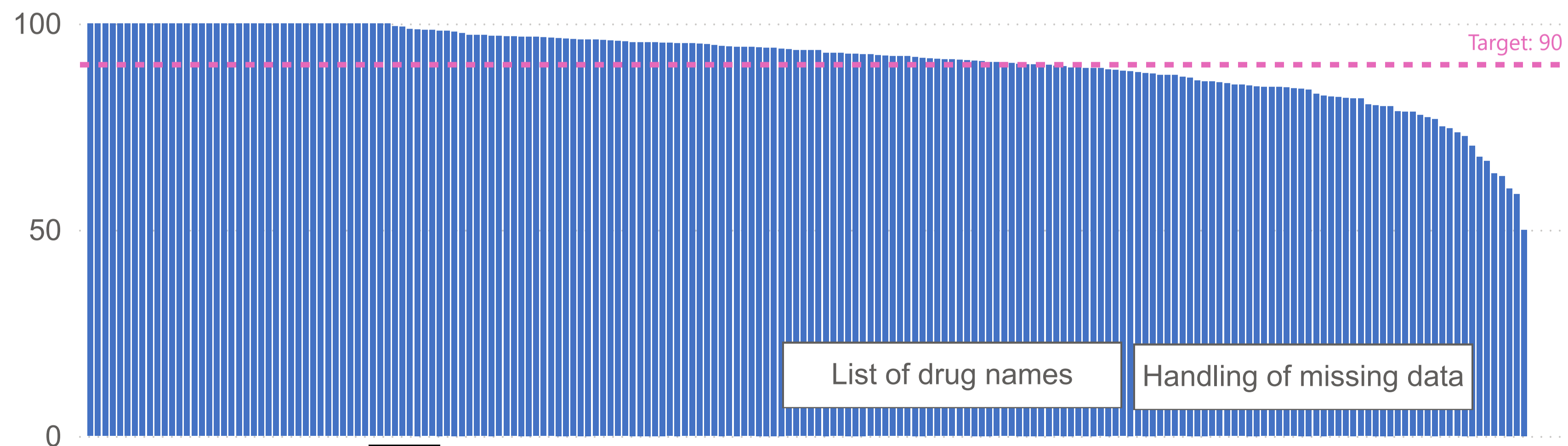
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Data are from 192 hospitals. Hospitals reporting fewer than 20 cases are excluded from the denominator.

Percentage of patients with HFrEF receiving a Beta Blocker by hospital in 2022/23 (including unknowns)



Percentage of patients with HFrEF receiving a Beta Blocker (excluding unknowns) by hospital in 2023/24



Select a Cardiac Network

Select hospital



Mineralocorticoid receptor antagonist (MRA) prescribing in HFrEF remains unacceptably low at 68%, with an audit target of 90%



In acute heart failure patients with HFrEF, early introduction of an MRA can help control fluid and avoid acute falls in potassium (K+) levels. Furthermore, early introduction of small amounts of all four drugs in HFrEF is now recommended, including MRAs.

Both strategies should increase effective MRA prescribing which results in improved LV function, reduced hospital readmission and avoidance of life threatening arrhythmias and premature death.

However, MRA rates are substantially below the target of 90% of patients, with only two hospitals achieving this.

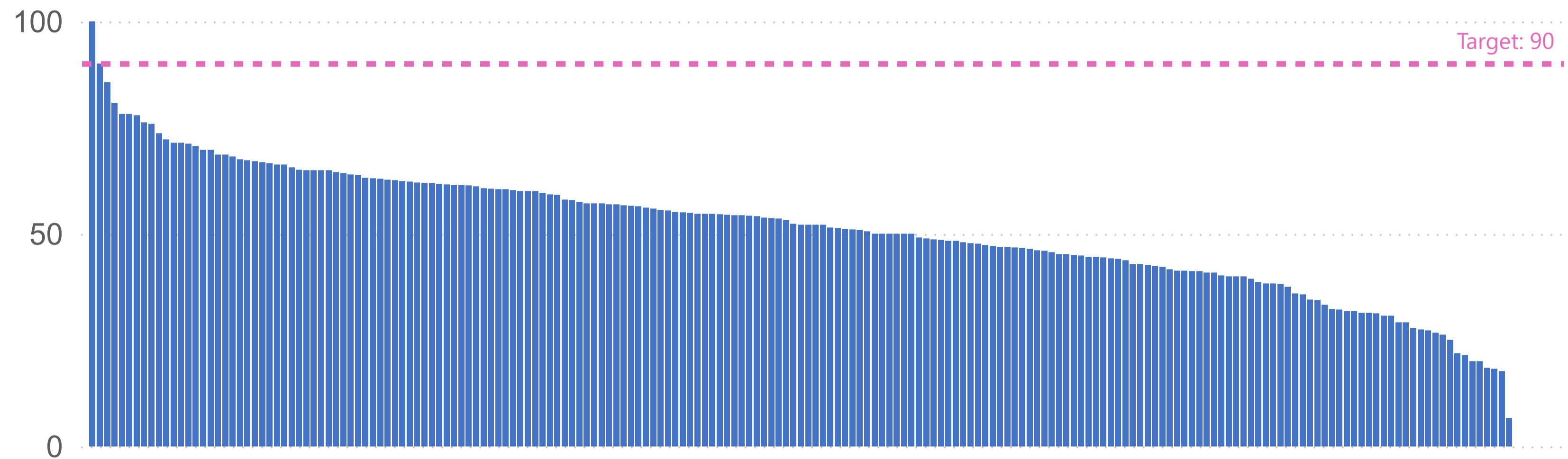
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Data are from 192 hospitals. Hospitals reporting fewer than 20 cases are excluded from the denominator.

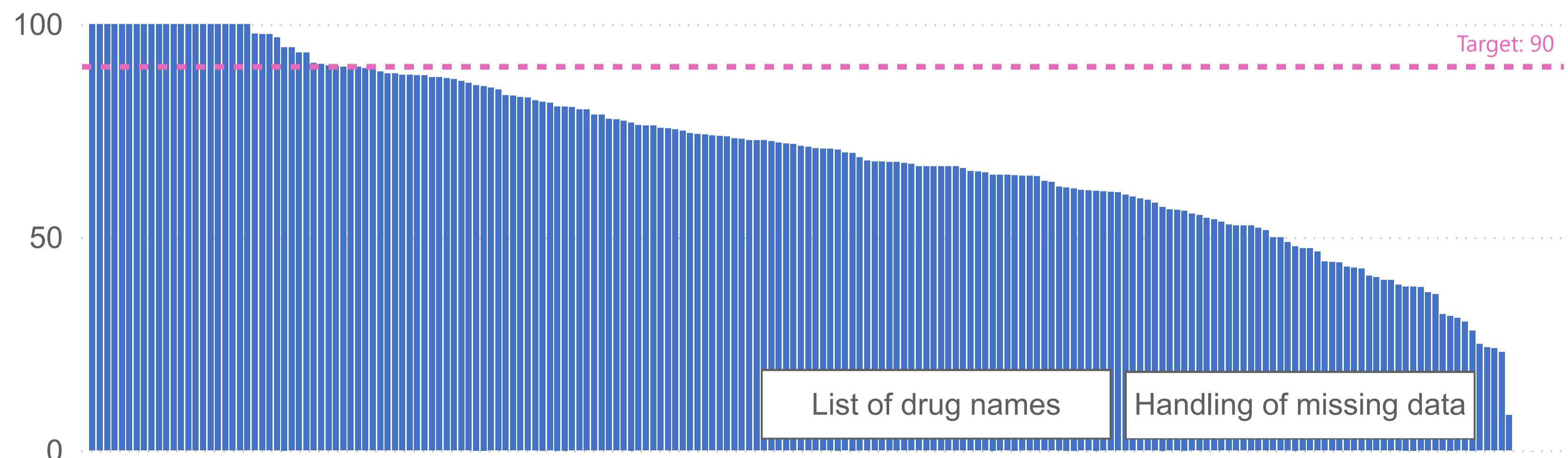
Select a Cardiac Network

Select hospital

Percentage of patients with HFrEF receiving an MRA (including unknowns) by hospital in 2023/24



Percentage of patients with HFrEF receiving an MRA (excluding unknowns) by hospital in 2023/24



The proportion of patients receiving ACEi/ARB/ARNI + MRA + Beta Blocker is disappointingly low across hospitals



The audit target is for hospitals to prescribe a combination of all three standard outcome-improving drugs to 90% of patients with HFrEF, unless there is a clear contraindication to one or more of the drugs.

However, prescribing rates are substantially below this target, with only one hospital achieving it.

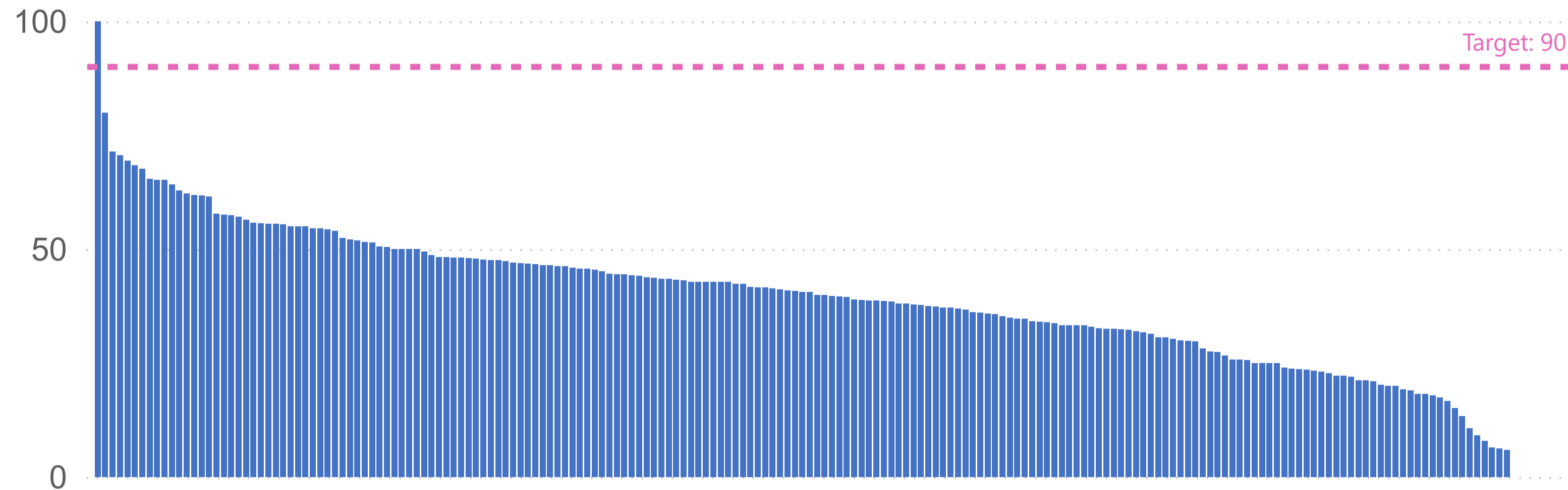
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Data are from 192 hospitals. Hospitals reporting fewer than 20 cases are excluded from the denominator. Patients with clearly defined contraindications are not included in either denominator.

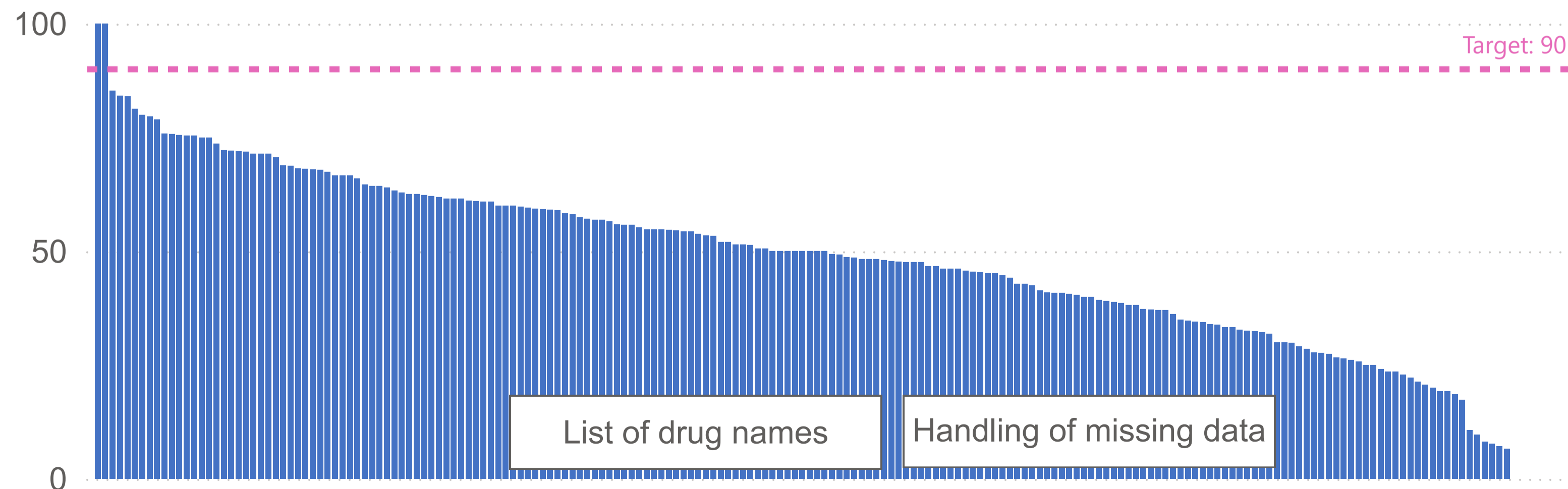
Select a Cardiac Network

Select hospital

Percentage of patients with HFrEF receiving ACEi/ARB/ARNI + BB + MRA (including unknowns) by hospital 2023/24



Percentage of patients with HFrEF receiving ACEi/ARB/ARNI + BB + MRA (excluding unknowns) by hospital 2023/24



The proportion of patients receiving ACEi/ARB/ARNI + MRA + Beta Blocker varies between local health regions



The maps show the prescribing rates for all three standard disease-modifying drugs across:

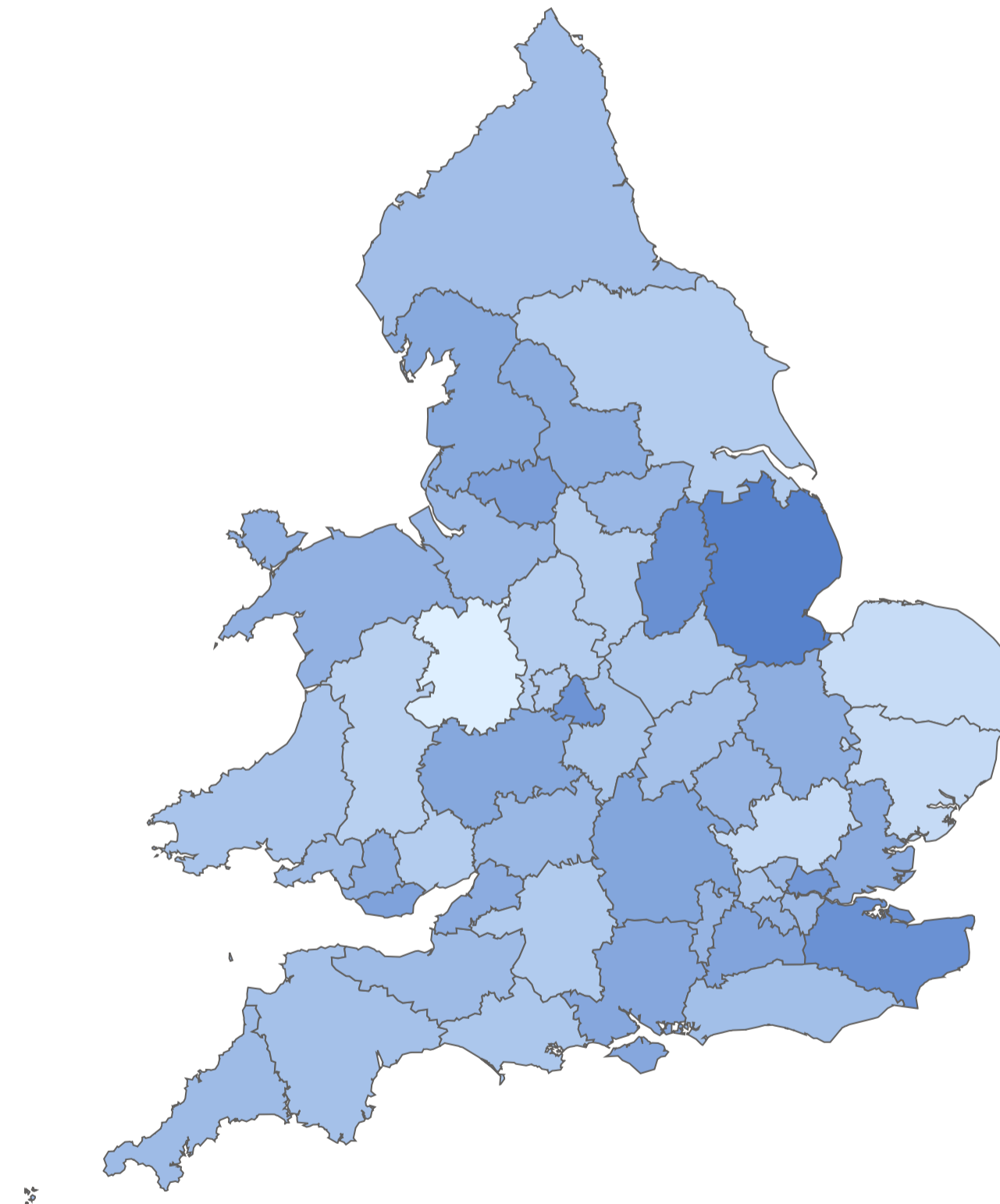
- the 42 Integrated Care Boards (ICBs) in England
- the seven University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks (operational delivery networks)

Darker areas show higher prescribing levels.

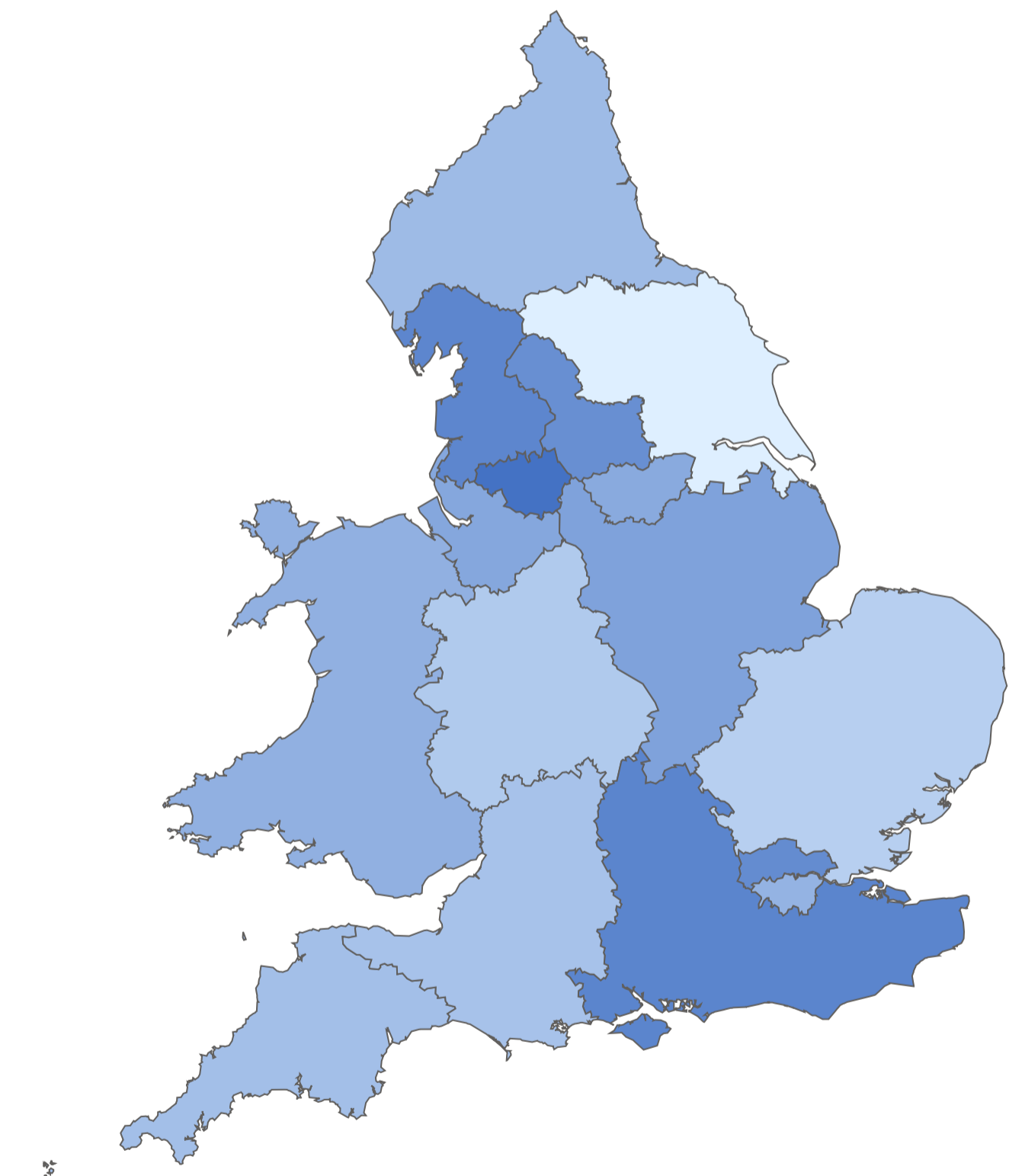
Variation is seen in the prescription of all three standard outcome-improving drugs (ACEi/ARB/ARNI + BB + MRA) in patients with HFrEF.

Prescribing rates vary between 28% and 91%.

ACEi/ARB/ARNI + BB + MRA prescribing rates at discharge based on patient home location by ICB/HB (2023/24)



ACEi/ARB/ARNI + BB + MRA prescribing rates at discharge based on hospital location by Cardiac Network (2023/24)



List of drug names

Handling of missing data

The proportion of patients receiving ACEi/ARB/ARNI + MRA + Beta Blocker + SGLT2i is disappointingly low across hospitals



The audit target is for hospitals to prescribe a combination of all three standard outcome-improving drugs, together with an SGLT2i, to 90% of patients with HFrEF, unless there is a clear contraindication to one or more of the drugs.

However, prescribing rates are substantially below this target, with only one hospital achieving it.

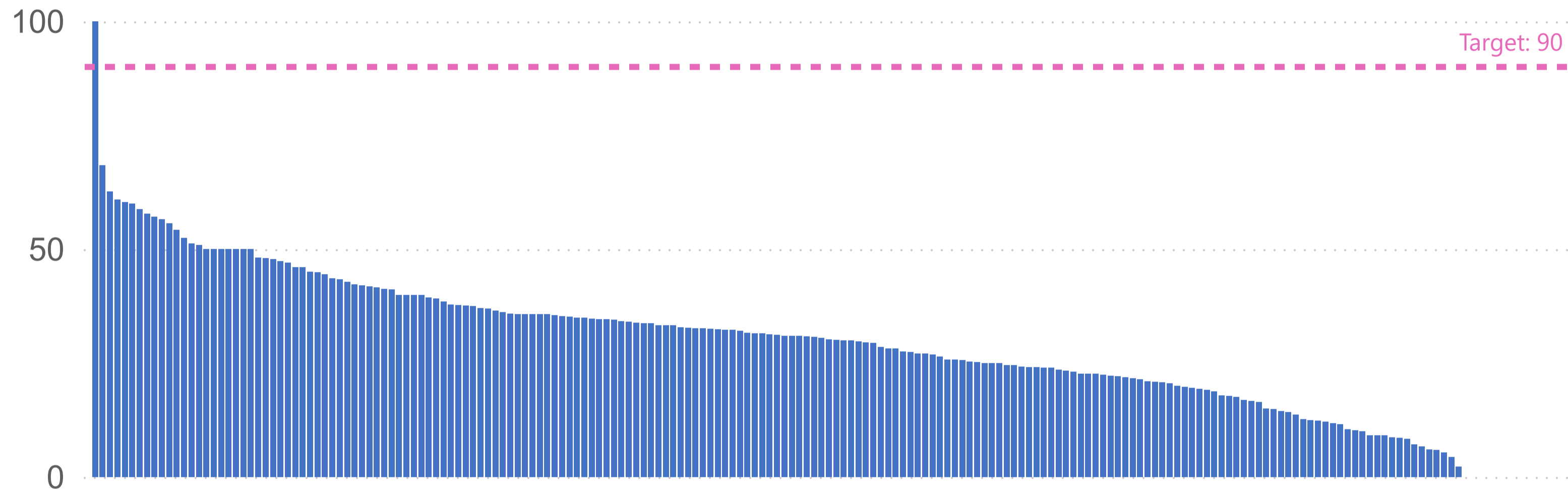
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Data are from 192 hospitals. Hospitals reporting fewer than 20 cases are excluded from the denominator. Patients with clearly defined contraindications are not included in either denominator.

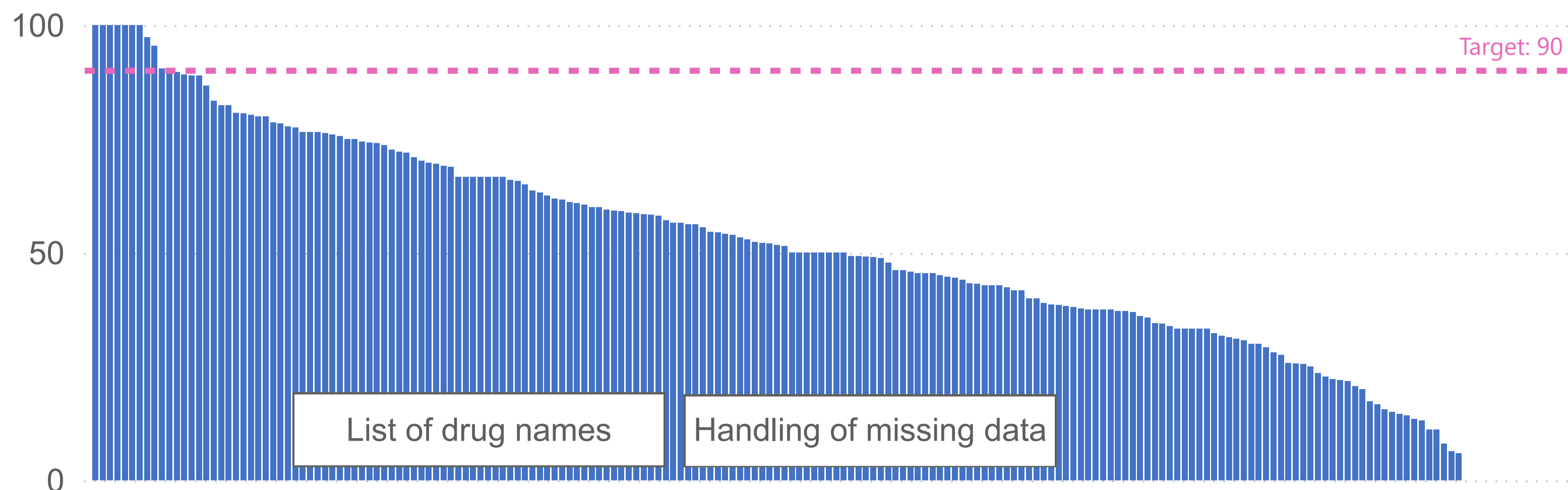
Select a Cardiac Network

Select hospital

Percentage of patients with HFrEF receiving ACEi/ARB/ARNI + BB + MRA + SGLT2i (including unknowns) by hospital 2023/24



Percentage of patients with HFrEF receiving ACEi/ARB/ARNI + BB + MRA + SGLT2i (excluding unknowns) by hospital 2023/24



The prescribing of the relatively new sodium glucose co-transporter 2 inhibitor (SGLT2i) drugs in patients with HFrEF is being adopted rapidly



Sodium glucose co-transporter 2 inhibitors (SGLT2is) are relatively new drugs. Within this drug group, both dapagliflozin and empagliflozin are licensed and recommended as an additional (fourth) disease-modifying drug to be prescribed by discharge for those with HFrEF, unless a clear contraindication exists.

As with the other drugs recommended in HFrEF, the target level of prescribing is now 90%.

Over 60% of patients with HFrEF are receiving an SGLT2i. This represents a 10% increase since 2022/23 (however data quality needs to improve).

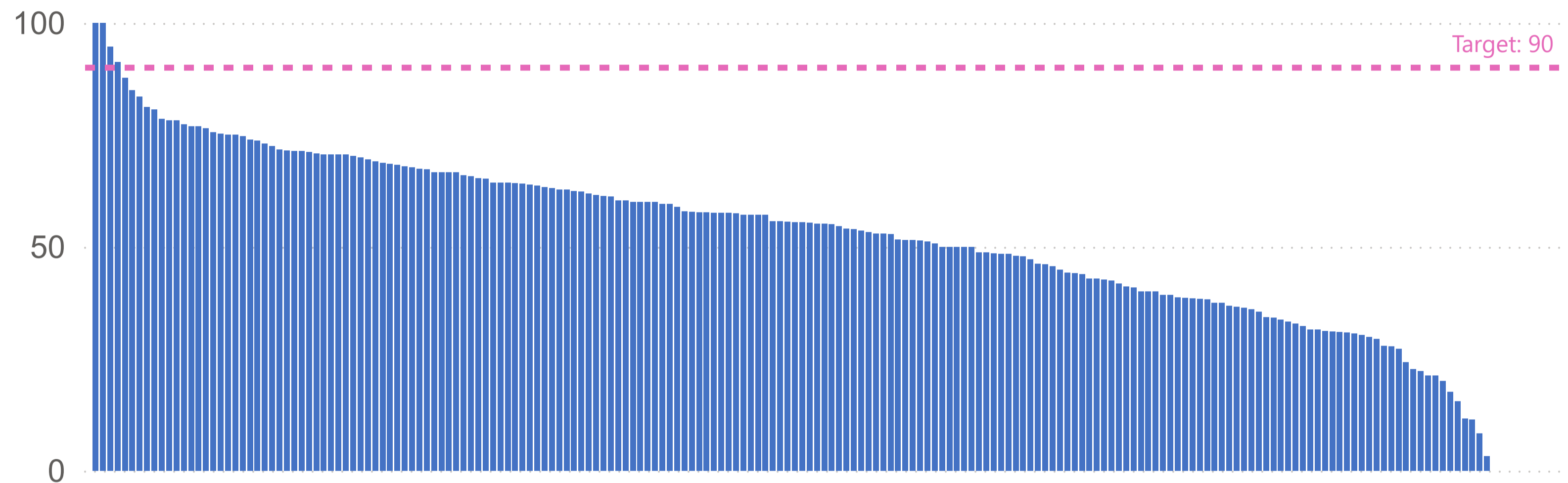
Select a Cardiac Network/hospital below or hover over the graph to see specific data.

Note: Hospitals reporting fewer than 20 cases are excluded from the denominator. Patients with clearly defined contraindications are not included in either denominator. Prescribing of these drugs is monitored in the latest NHFA dataset (V5) which most hospitals use.

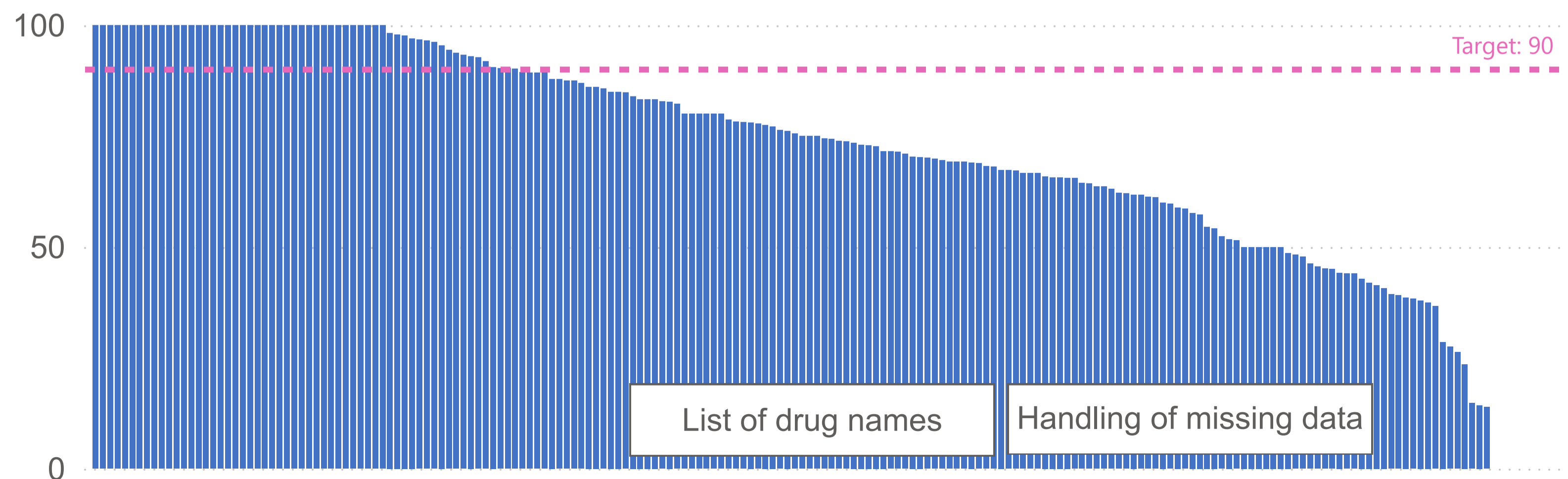
Select a Cardiac Network

Select hospital

Percentage of patients with HFrEF receiving SGLT2i (including unknowns) by hospital in 2023/24



Percentage of patients with HFrEF receiving SGLT2i (excluding unknowns) by hospital in 2023/24





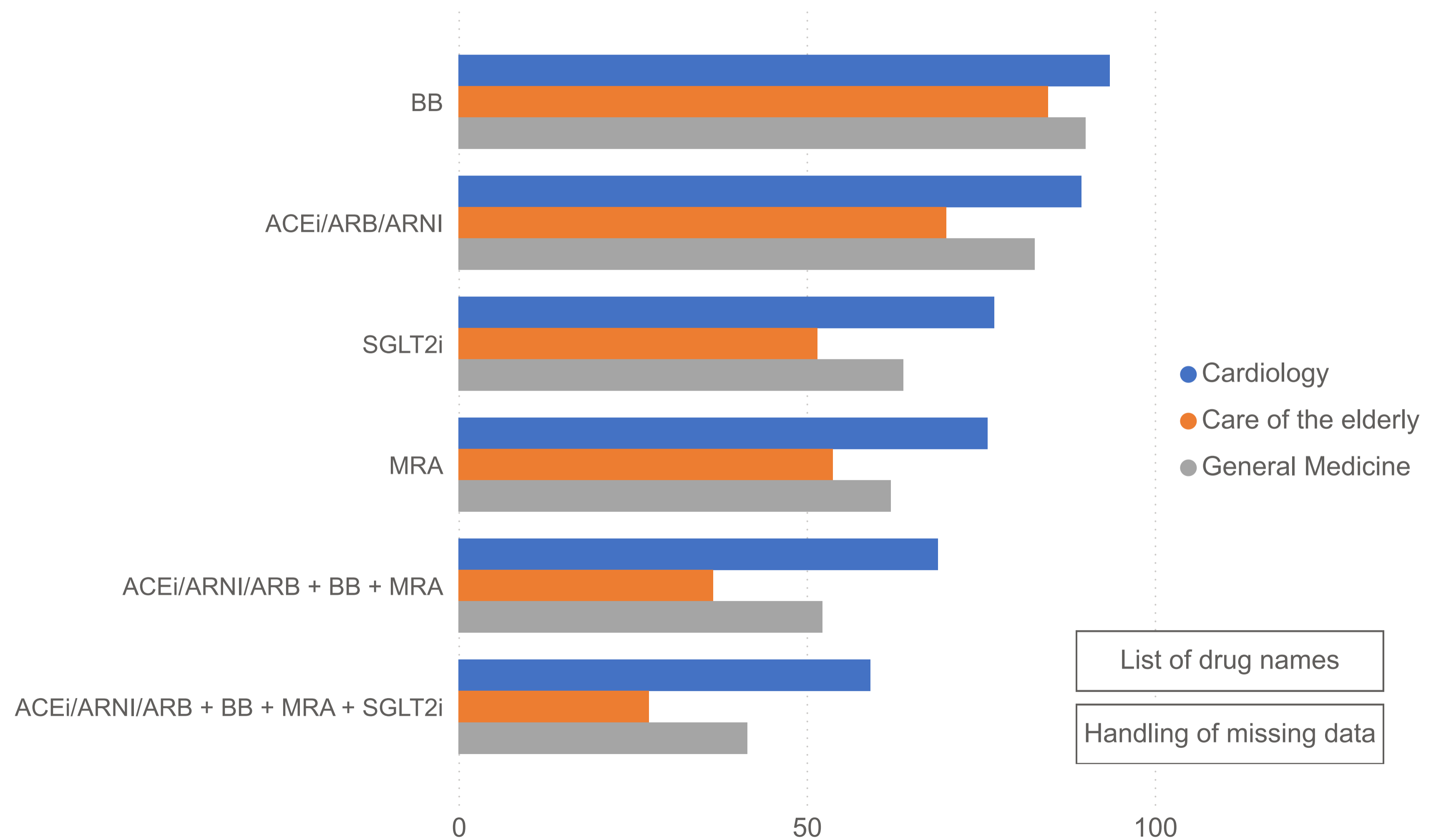
Percentage of HFrEF patients who received disease-modifying drugs, alone and in combination, at discharge from hospital, by place of care

Prescription of ACEi/ARB/ARNI, beta-blocker, MRA and SGLT2i drug classes are key performance indicators for patients with HFrEF as these drugs are associated with better survival, lower hospitalisation rates and improved quality of life.

The main differentials in prescribing practice are seen with MRAs, drug combinations and SGLT2i drugs.

It is recommended to start small doses of all four drugs early. High rates of prescribing of all four drugs will not be achieved unless MRA prescribing improves.

Notably, beta-blockers, and to a lesser extent ACEi/ARB/ARNi drug classes, are relatively well-prescribed across all settings.



List of drug names
 Handling of missing data

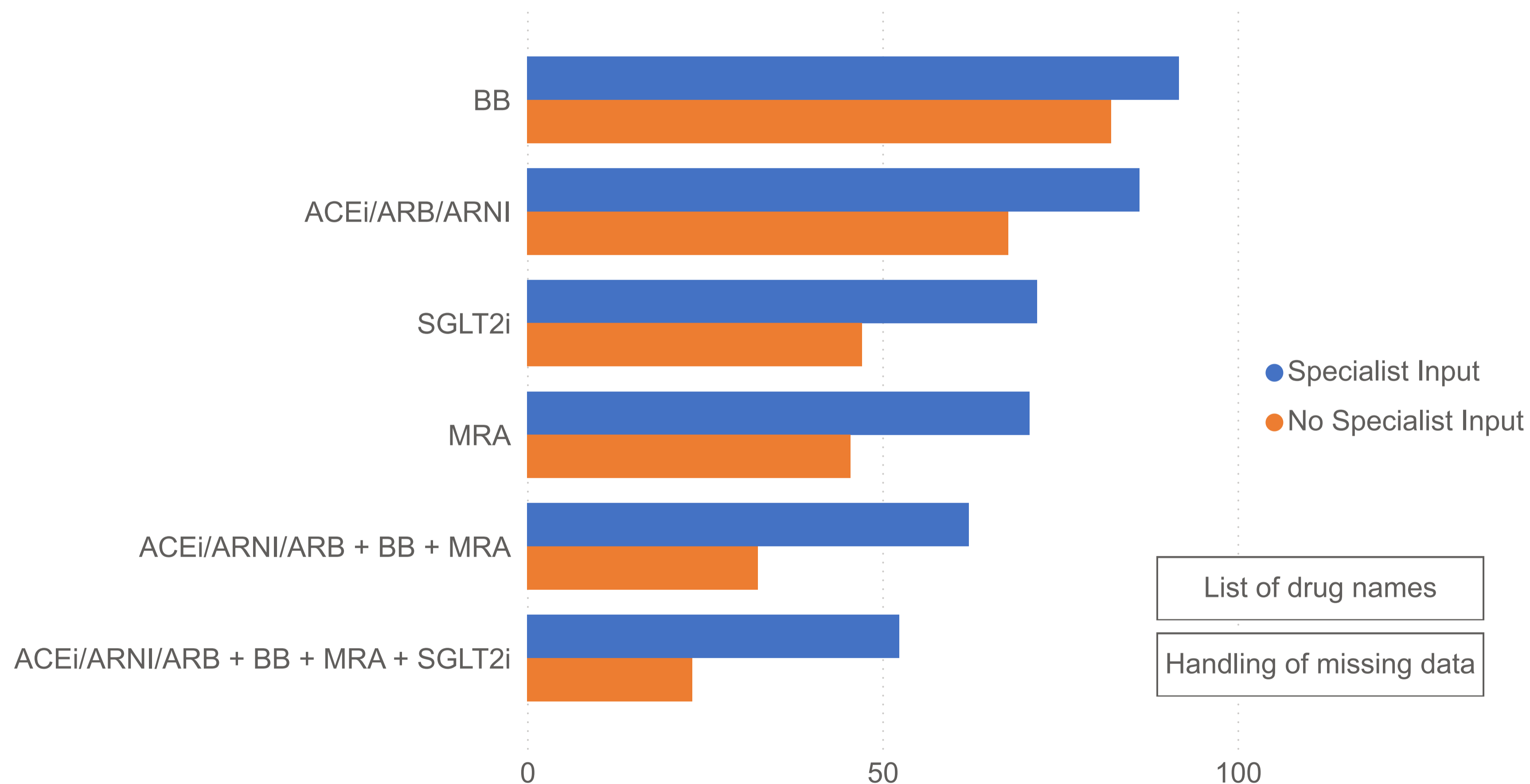


Percentage of patients with HFrEF who received disease-modifying drugs, alone and in combination, at discharge from hospital (2023/24)

All classes of disease-modifying treatments for HFrEF are prescribed more when patients are seen by a member of the specialist HF team.

That prescribing is even more marked for the newer SGLT2i drug class and for the more established MRAs.

Ward teams should strive to have all patients referred to the specialist HF team to improve prescribing rates.



List of drug names

Handling of missing data

SGLT2i prescribing rates in non-HFrEF patients are increasing

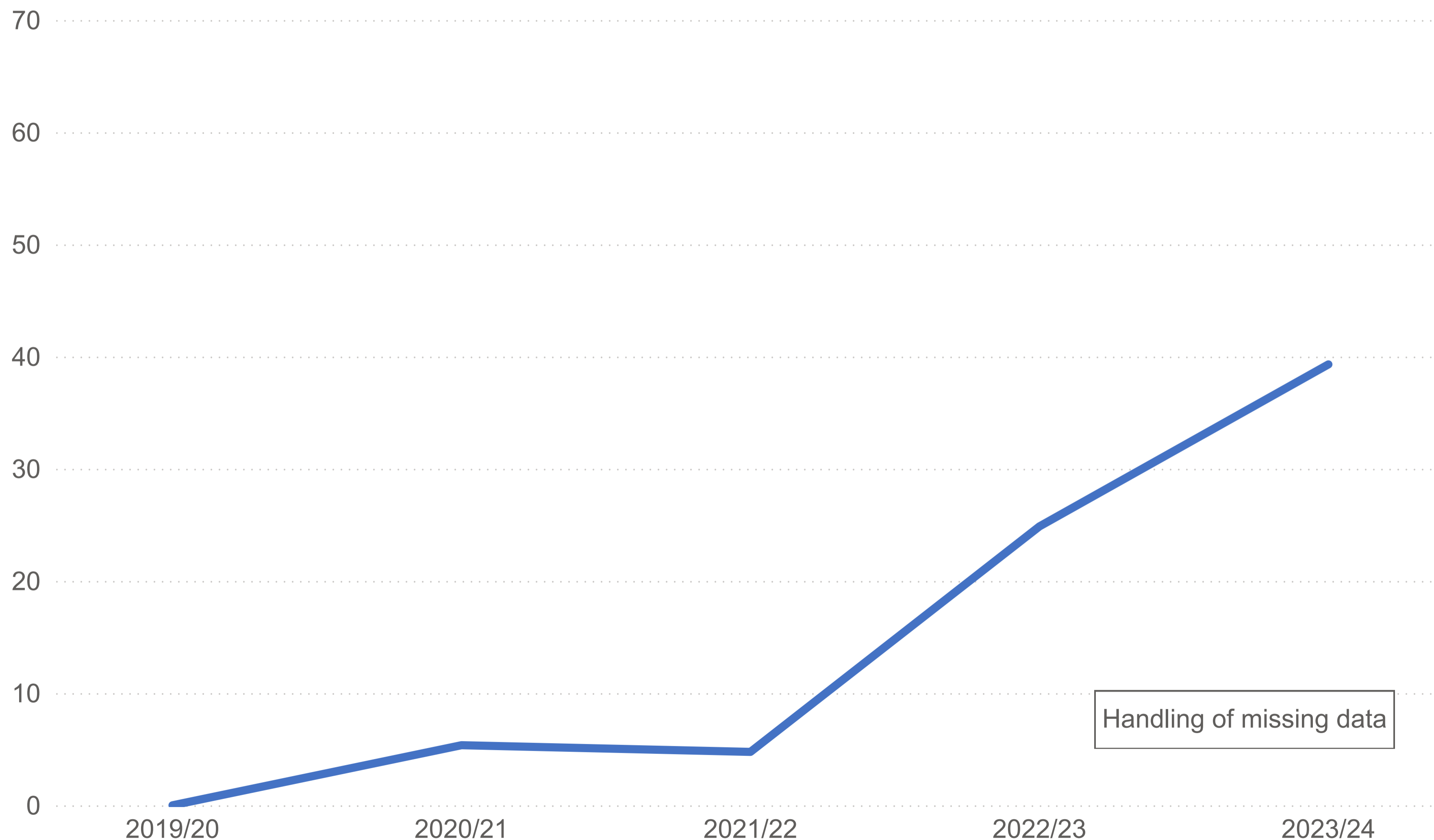


Two large randomised controlled trials using SGLT2i drugs met their primary endpoints of a reduction in cardiovascular deaths or hospitalisations for HF.

The ESC 2023 Heart Failure Guideline Update gave the use of SGLT2i (dapagliflozin and empagliflozin) a Class 1A recommendation for their use in HFmrEF patients (Heart Failure with mildly reduced Ejection Fraction) and HFpEF (i.e. all those with LVEF>40%).

The 2023/24 results show that these recommendations are being adopted with a 15% increase in prescribing compared with the previous year.

Percentage of non-HFrEF patients prescribed SGLT2i



Anticoagulant use in heart failure patients with atrial fibrillation needs to improve



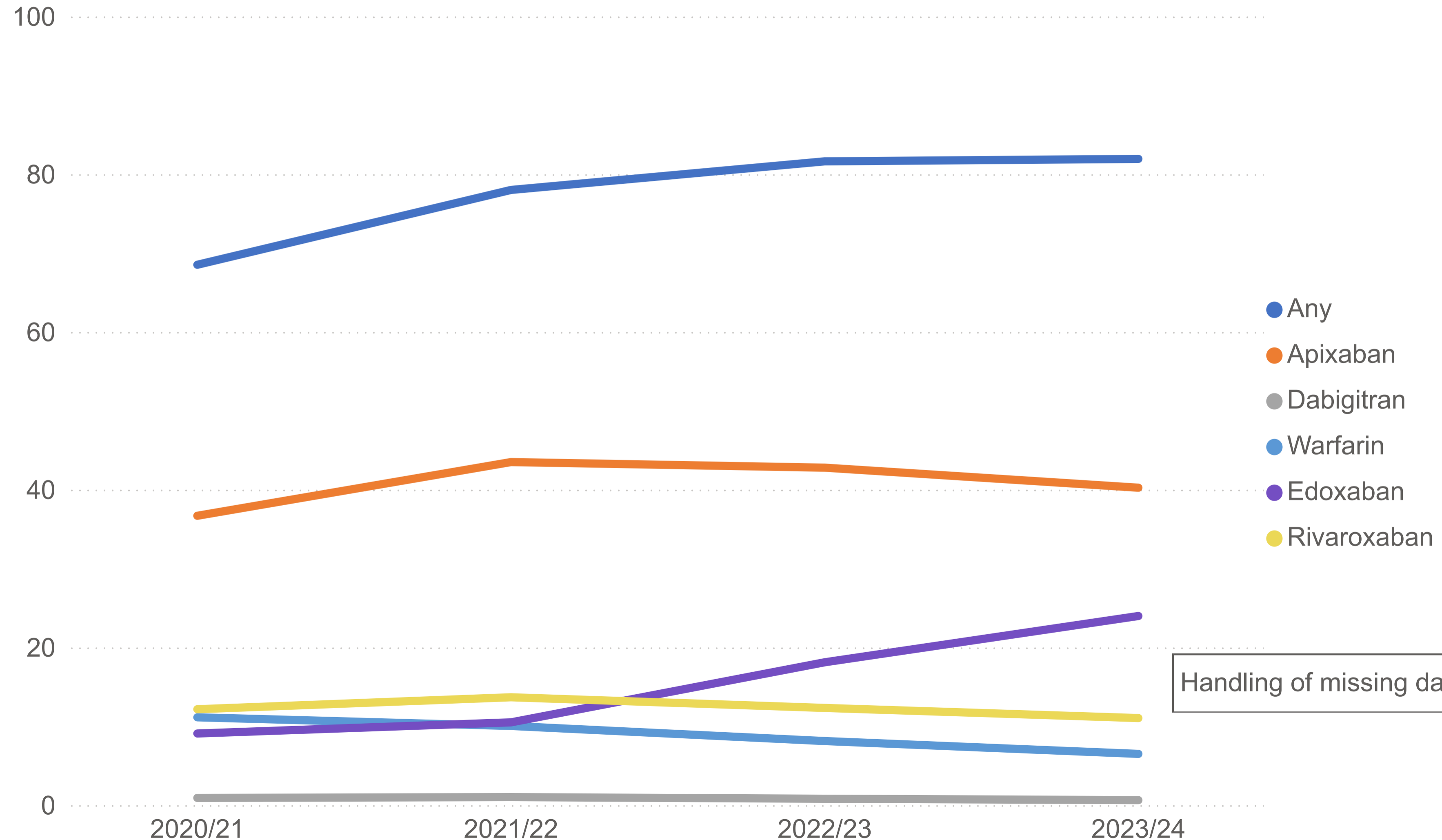
Patients with heart failure who develop the irregular heartbeat termed atrial fibrillation (AF) are at considerably increased risk of thromboembolic events, including stroke.

The likelihood of these complications (which can be devastating and are associated with increased mortality) can be markedly reduced by prescribing anticoagulation (see both the [2021 ESC HF](#) and the [NICE AF guidance](#)).

When the bleeding and other risks do not outweigh the benefits, this should be undertaken before the patient leaves hospital. If the risks of bleeding are considered to be too high, this is a contraindication and those patients are not included in the denominator.

Where no contraindication to anticoagulation has been identified, only 82% of the patients with HF and AF were prescribed anticoagulation at discharge, leaving 18% at risk

Anticoagulant use in Atrial Fibrillation (%) by type excluding unknowns



Handling of missing data

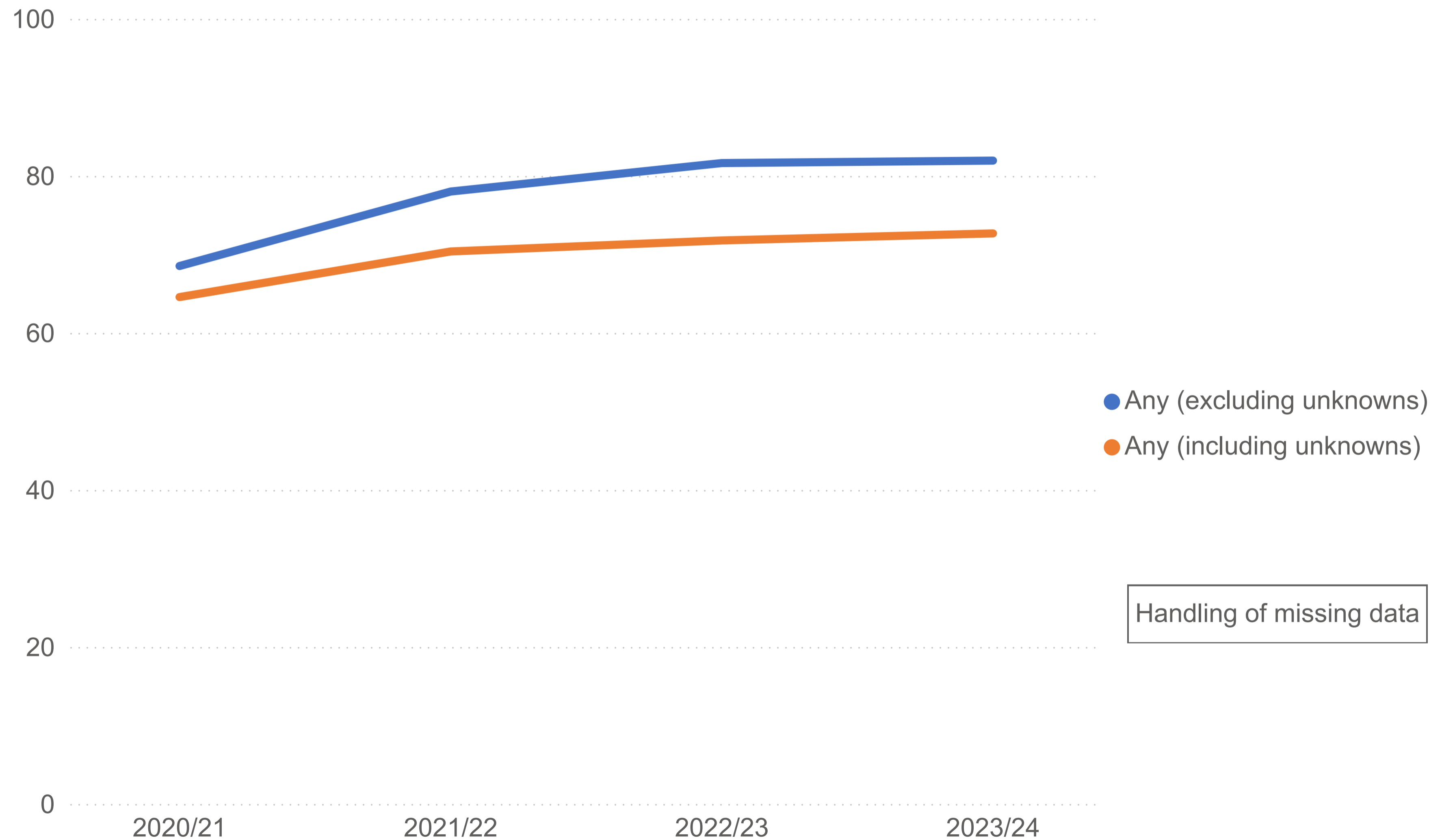


In assessing the rate of use for anticoagulants, the difference between data excluding unknowns from the denominator (blue line) and the likely more accurate and representative data where the unknowns are included in the denominator as a 'No' (orange line), is almost 10%.

This means that up to 27% of patients are being sent home at serious risk of stroke and other TE events.

The HF teams, including those entering data, should pay particular attention to this aspect of HF care and data accuracy.

Anticoagulant use in Atrial Fibrillation (%) excluding vs including unknowns





Length of stay varies by place of care

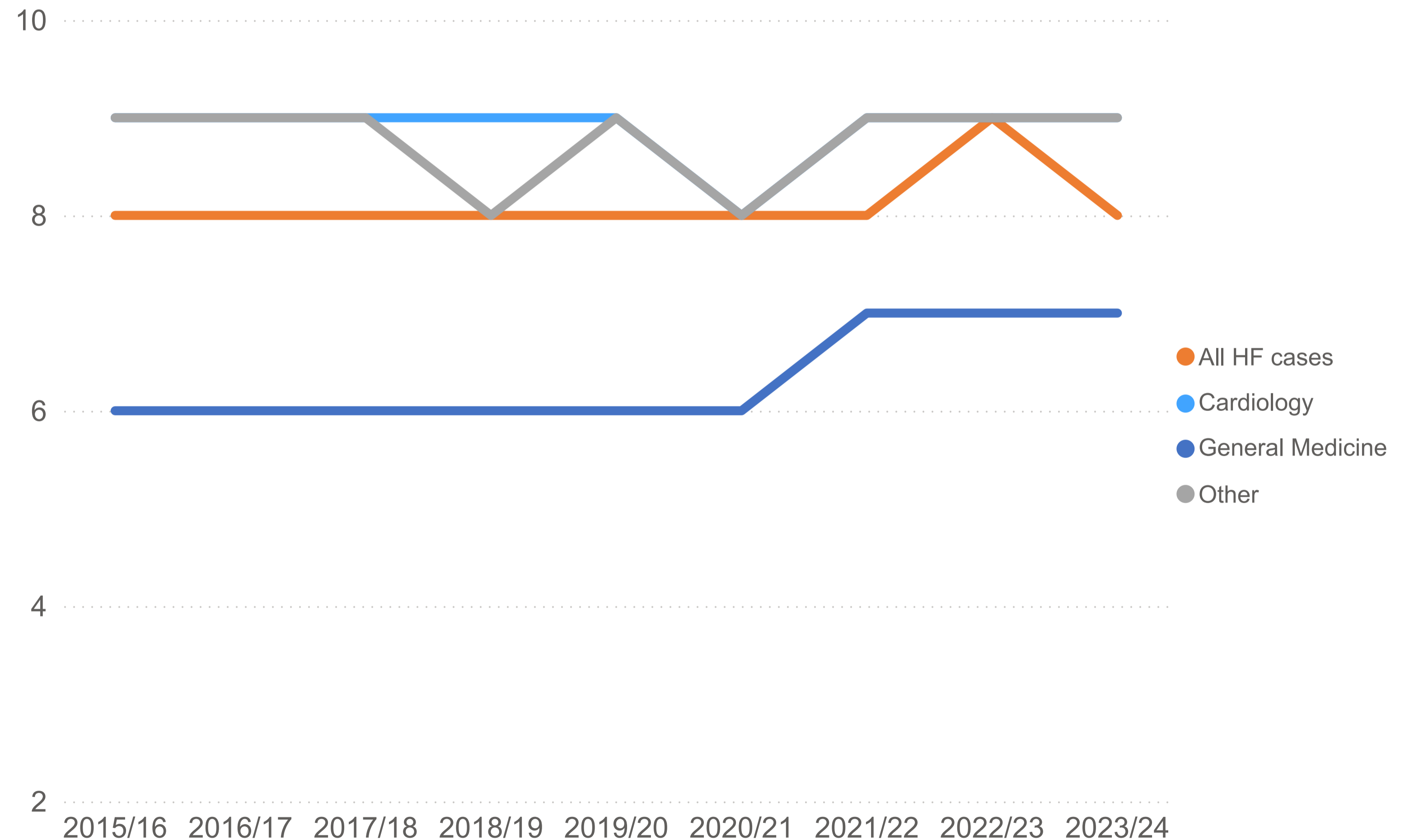
The optimal LOS is unknown and likely varies by patient. The optimal management suggested by NICE during an index admission may explain the longer values on Cardiology wards, and will improve inpatient and subsequent mortality, individual well-being and reduce likelihood of re-admissions.

Thus, a longer stay is likely to result in fewer bed days overall for HF patients.

Where lines are overlapping, selecting the category of interest in the legend will show the relevant line.

Note: The data on length of stay have previously been presented as means and medians, but given the skewed nature of the figures, this year we present only median values.

Median length of stay (days) by main place of care



Length of stay is longer for those receiving specialist input



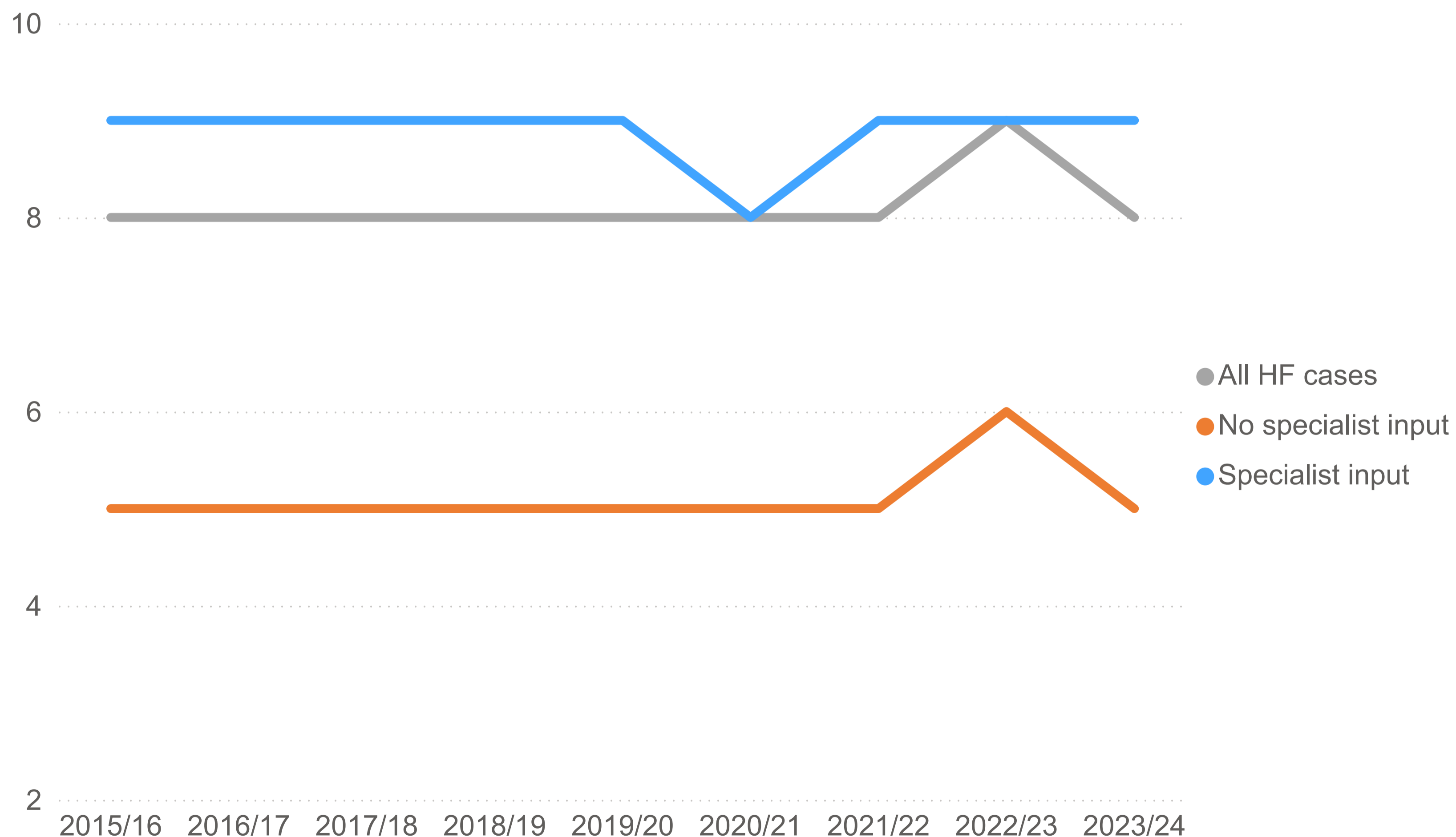
Patients who have not been seen by a specialist HF team have consistently had a median length of stay of five days.

The optimal LOS is unknown and likely varies by patient. The optimal management suggested by NICE during an index admission may explain the longer values on Cardiology wards, and will improve inpatient and subsequent mortality, individual well-being and reduce likelihood of re-admissions.

Where lines are overlapping, selecting the category of interest in the legend will show the relevant line.

Note: The data on length of stay have previously been presented as means and medians, but given the skewed nature of the figures, this year we present only median values.

Median length of stay (days) by specialist care



Cardiology care is associated with more specialist follow up, though recorded cardiology follow-up remains low



All patients fit for discharge should ideally leave hospital knowing when (within two weeks), where and by which member of the specialist HF team they will be reviewed.

They should also be referred to cardiac rehabilitation. Specialist follow-up and rehabilitation is associated with lower morbidity and mortality. The audit also now includes a first set of data on pharmacy follow-up.

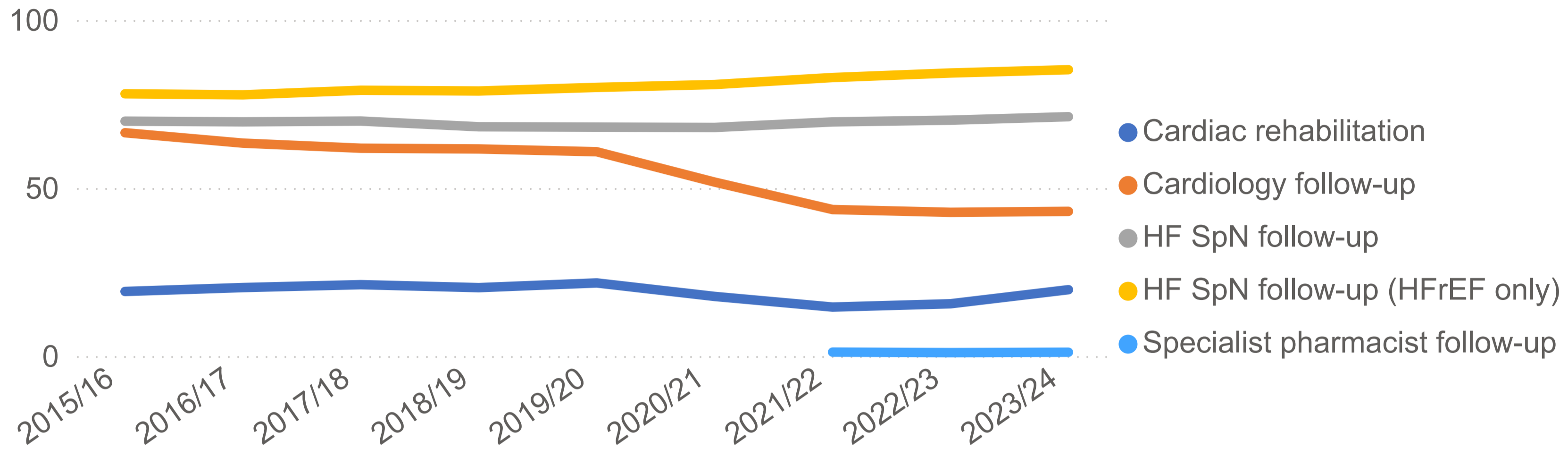
There has been an increase in those referred to rehabilitation from 16% to 20% over the last year. This needs to improve further.

Of concern is the failure to see recovery of the drop-off in cardiology follow-up that coincided with the COVID-19 pandemic. This applies to patients admitted to Cardiology and those admitted elsewhere. The HF teams need to address this.

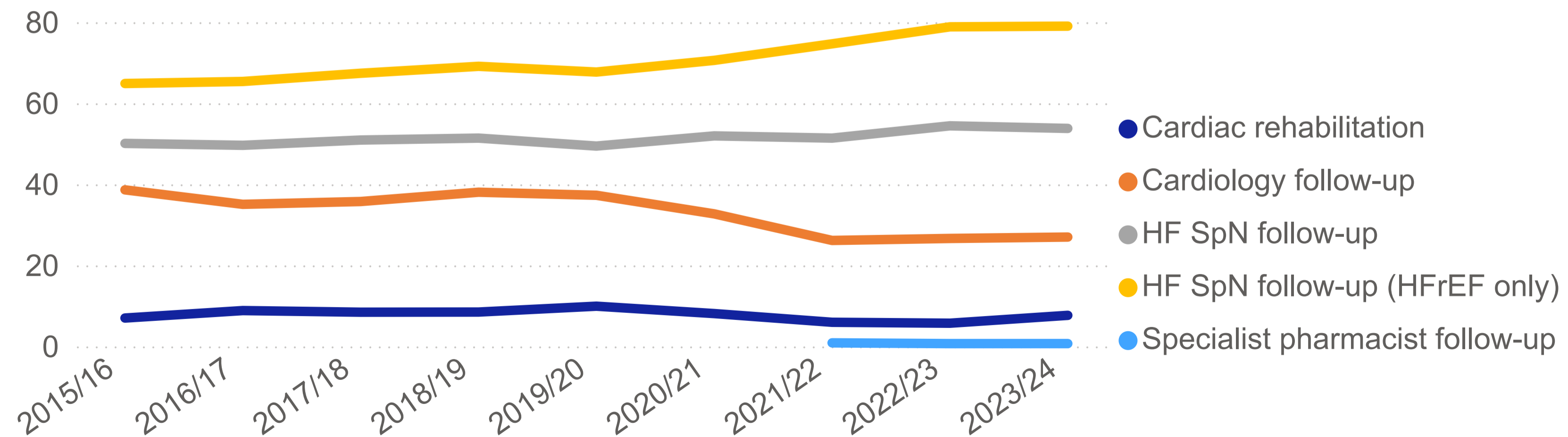
Elsewhere rates of follow-up were maintained in 2023/24.

Note: The data on pharmacy follow up is likely an underestimation since this is a new field and we encourage accurate completion.

Percentage of patients treated in a Cardiology ward who received referrals to HF services post-discharge



Percentage of patients treated in a General Medicine ward who received referrals to HF services post-discharge



In-hospital mortality is lower for those admitted to Cardiology wards and those who receive specialist care

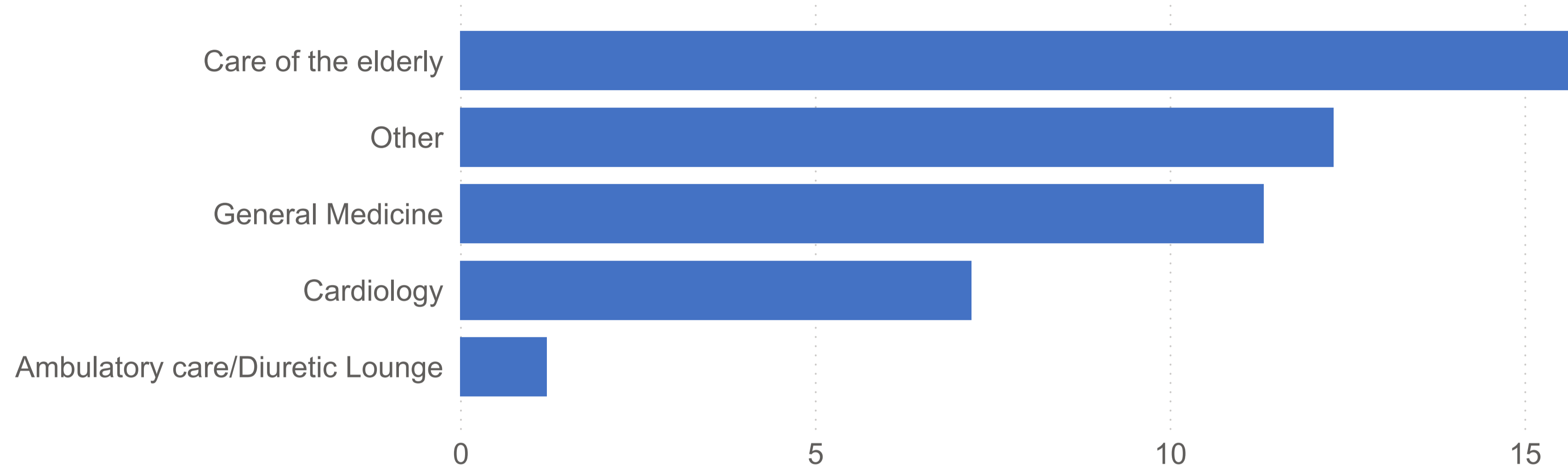


In-hospital mortality was lowest for patients who:

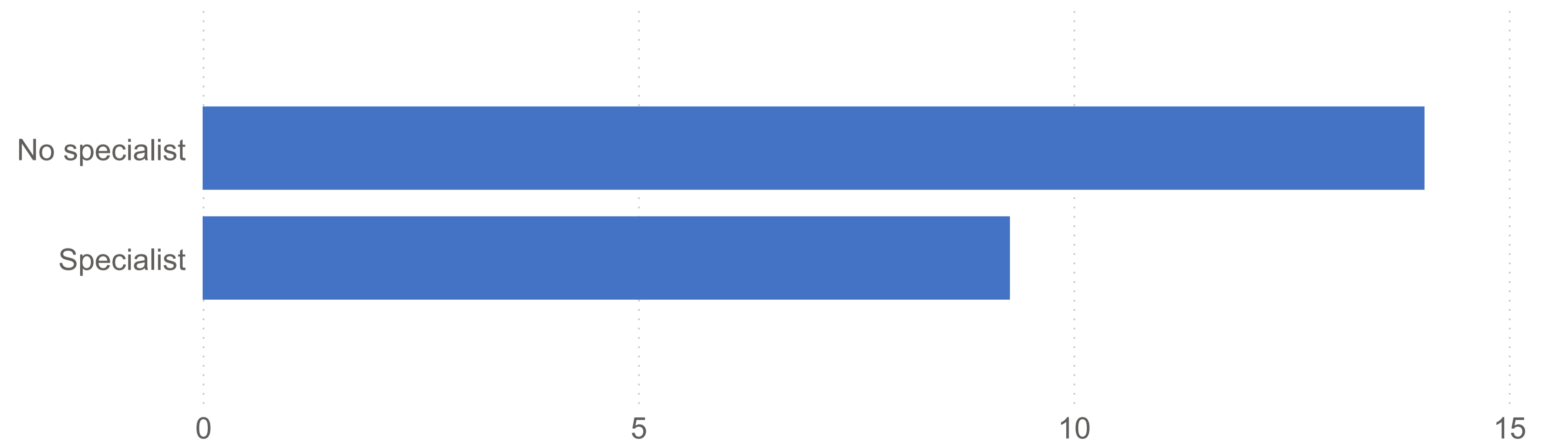
- were cared for on a Cardiology ward
- received specialist cardiology care.

These data are not adjusted for differences in patient characteristics but information on multivariate analysis is available in subsequent slides.

Percentage in-hospital mortality by ward type



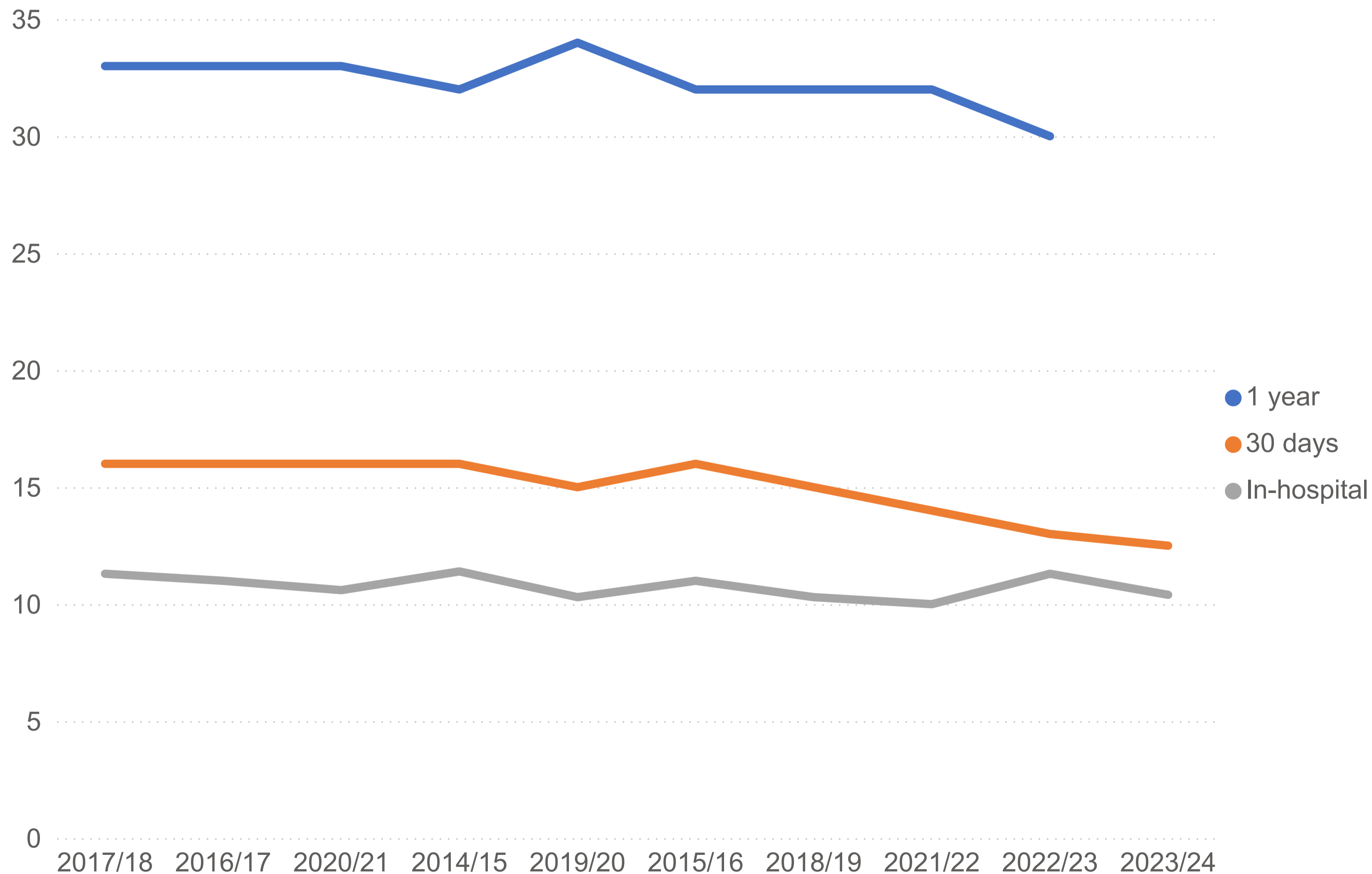
Percentage in-hospital mortality by specialist input



In-hospital and 30-day mortality dropped to 10.4% in 2023/24



In-hospital, 30-day and 1-year post-admission mortality (%) of HF patients



In-hospital mortality fell to 10.4% in 2023/24 from 11.3% in 2022/23.

There is a trend towards a consistent reduction in 30-day mortality.



The following pages contain analyses previously contained in the appendices available on the NICOR website.

These supplemental data may not be relevant to all users of our report.



ACEi	Angiotensin Converting Enzyme Inhibitor
ARB	Angiotensin Receptor Blocker
ARNI	Angiotensin Receptor / Neprilysin Inhibitor
BB	Beta Blocker
MRA	Mineralocorticoid (aldosterone) Receptor Antagonist
SGLT2i	Sodium-glucose co-transporter 2 inhibitor

Prescribing rates for drugs/drug combinations include 'unknowns' in the denominator in response to poor data quality



The figures for drug prescribing rates have historically been analysed excluding a number of categories collectively described as 'unknowns' from the denominator. These unknowns include blanks, empty fields, not applicable and missing. However, this limits the reporting to a narrower group of patients than are submitted to the HF Audit with HFrEF, or other categories. This approach then leads to an overestimation of the drug prescribing rates.

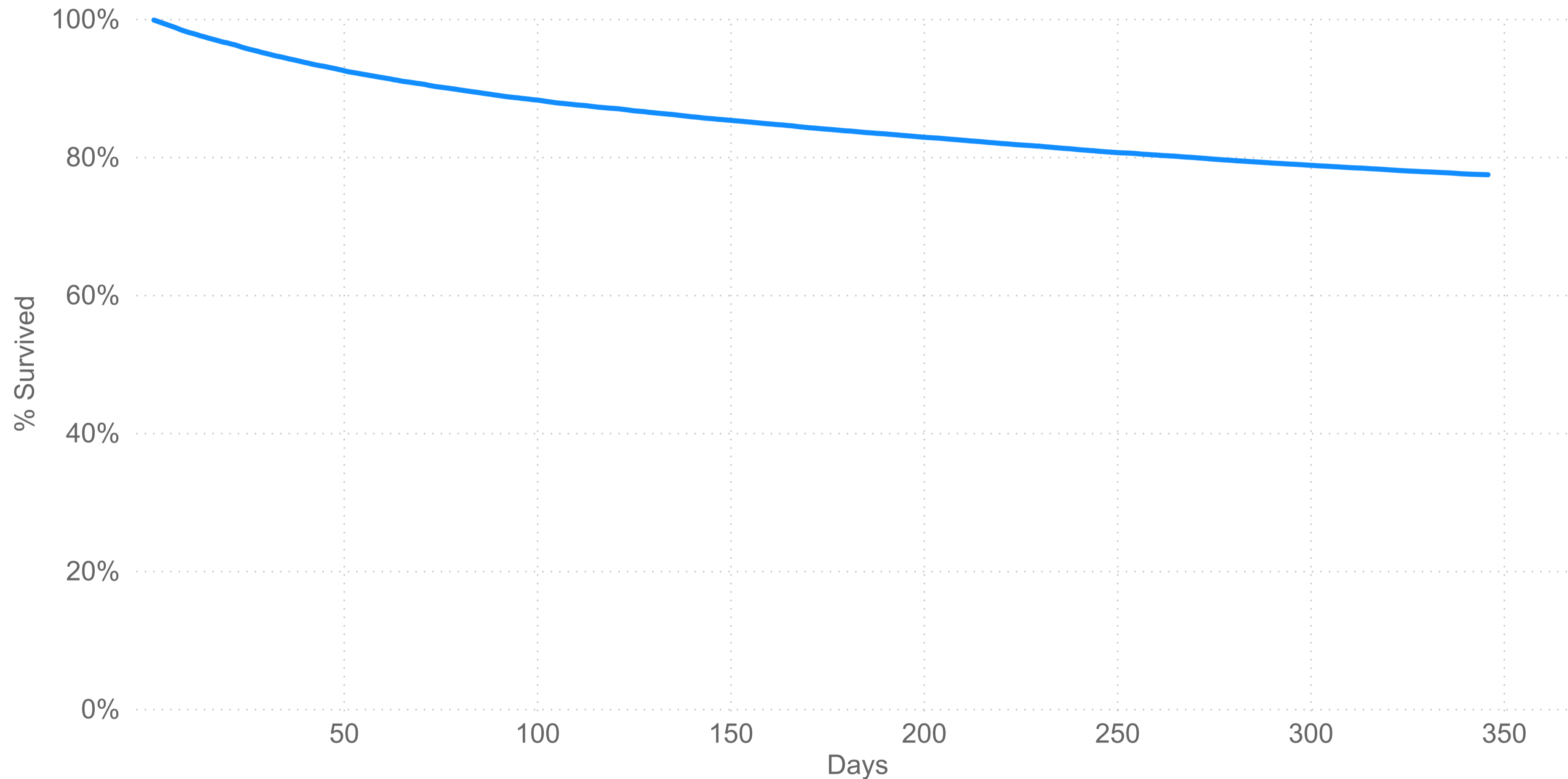
It is essential that hospitals should submit complete and accurate data to the audit on all the drugs being prescribed at discharge. Where data quality is good, there should be little or no difference in the prescribing rates between the % prescribing with and without the 'Unknowns'.

To encourage accurate data submissions, the audit reporting has moved to including 'unknowns' in the denominator as a 'No', resulting in lower % prescribing rates for some drugs/drug combinations.

This approach is being used for all the key disease-modifying drugs in HFrEF and includes ACEI/ARNI/ARB, Beta blockers, MRAs and SGLT2is. It will also apply to anticoagulation in atrial fibrillation (AF), to emerging drugs in HFpEF and other categories. In contrast, where a clear contraindication is noted, those patients are not included in the denominator.



Kaplan Meier plot of survival following discharge from hospital, 2023/24



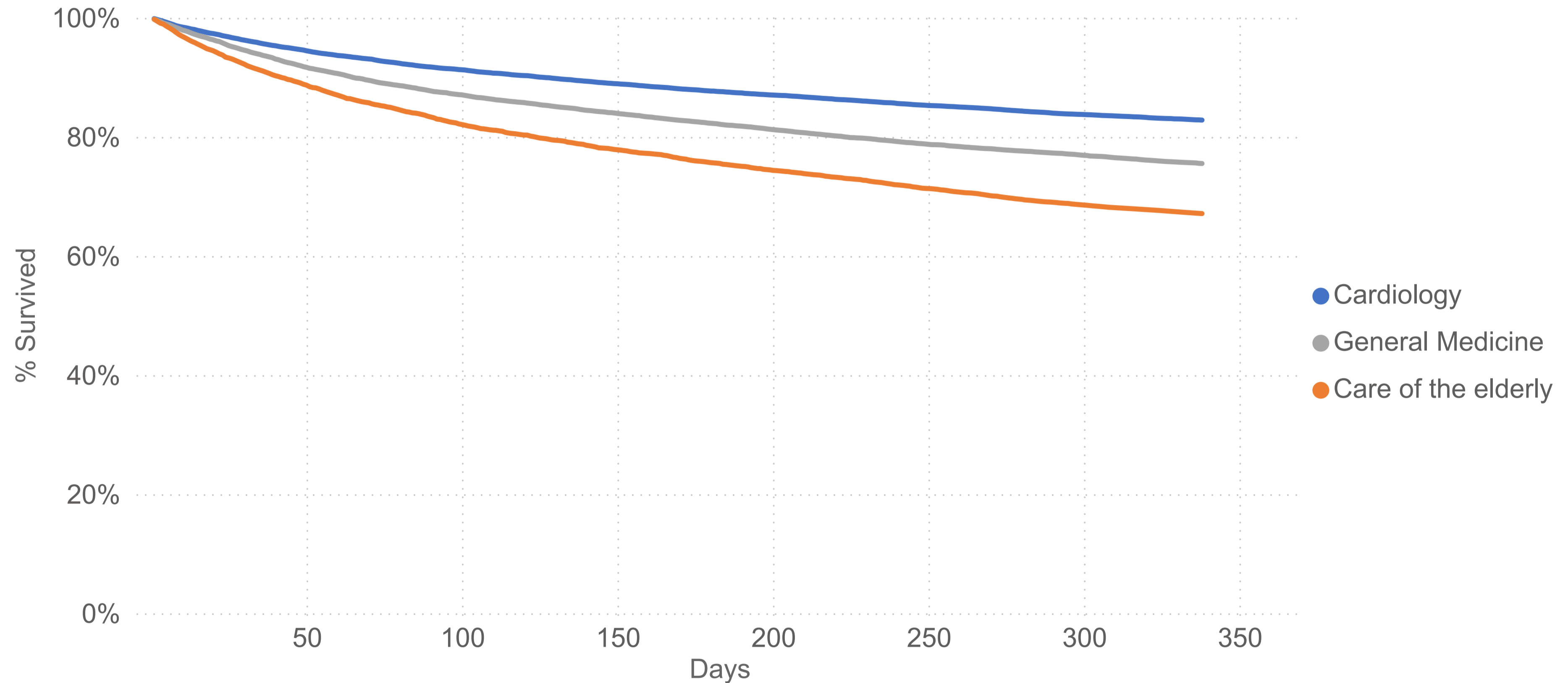
Number at risk

43072	39987	38249	37069	35444	29729	24416	19411
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1-year survival is better for those discharged from cardiology wards



Kaplan Meier plot of survival following discharge from hospital according to place of care during admission, 2023/24



Number at risk

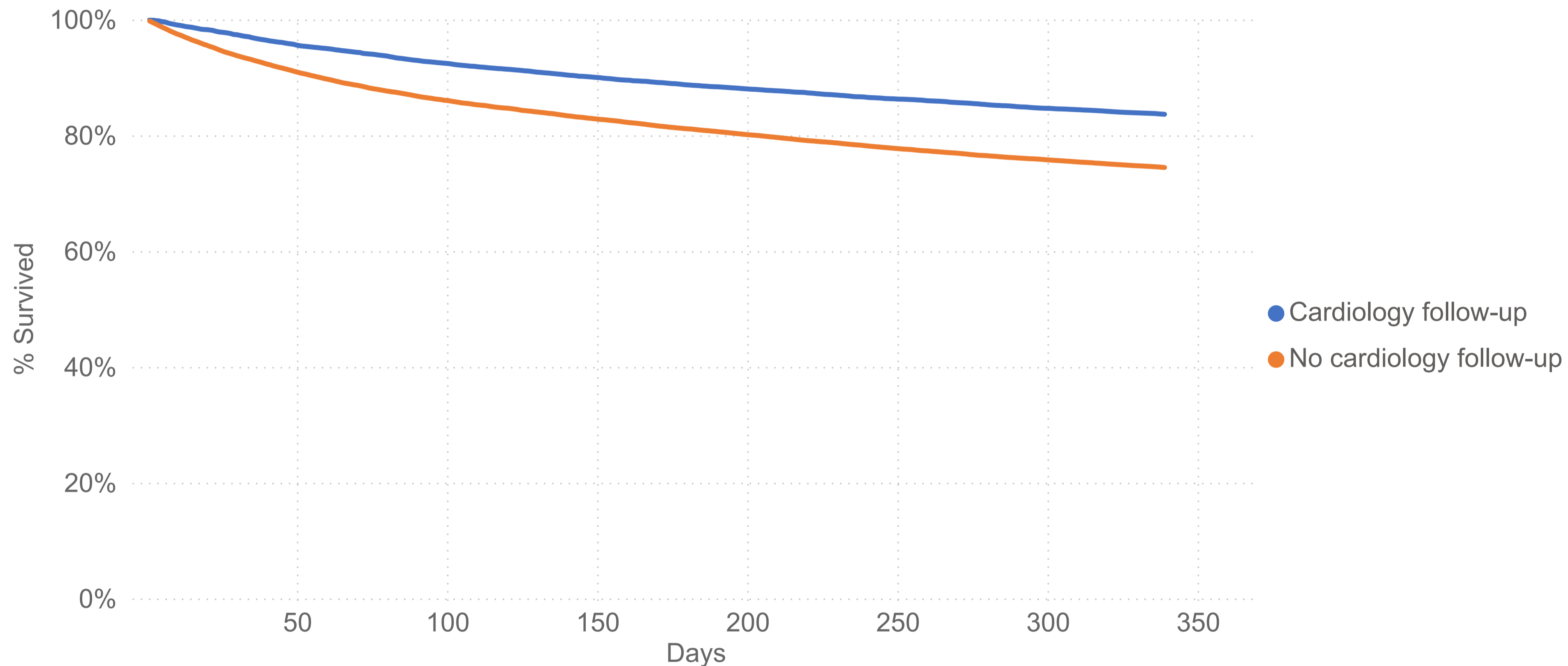
Cardiology
General Medicine
Care of the elderly

20020	18923	18274	17800	17129	14491	12020	9628
6847	6078	5620	5330	4967	4094	3329	2611
16184	14849	14094	13591	12962	10915	9011	7246

1-year survival is better for those receiving cardiology follow-up



Kaplan Meier plot of survival following discharge from hospital according to cardiology follow-up, 2023/24



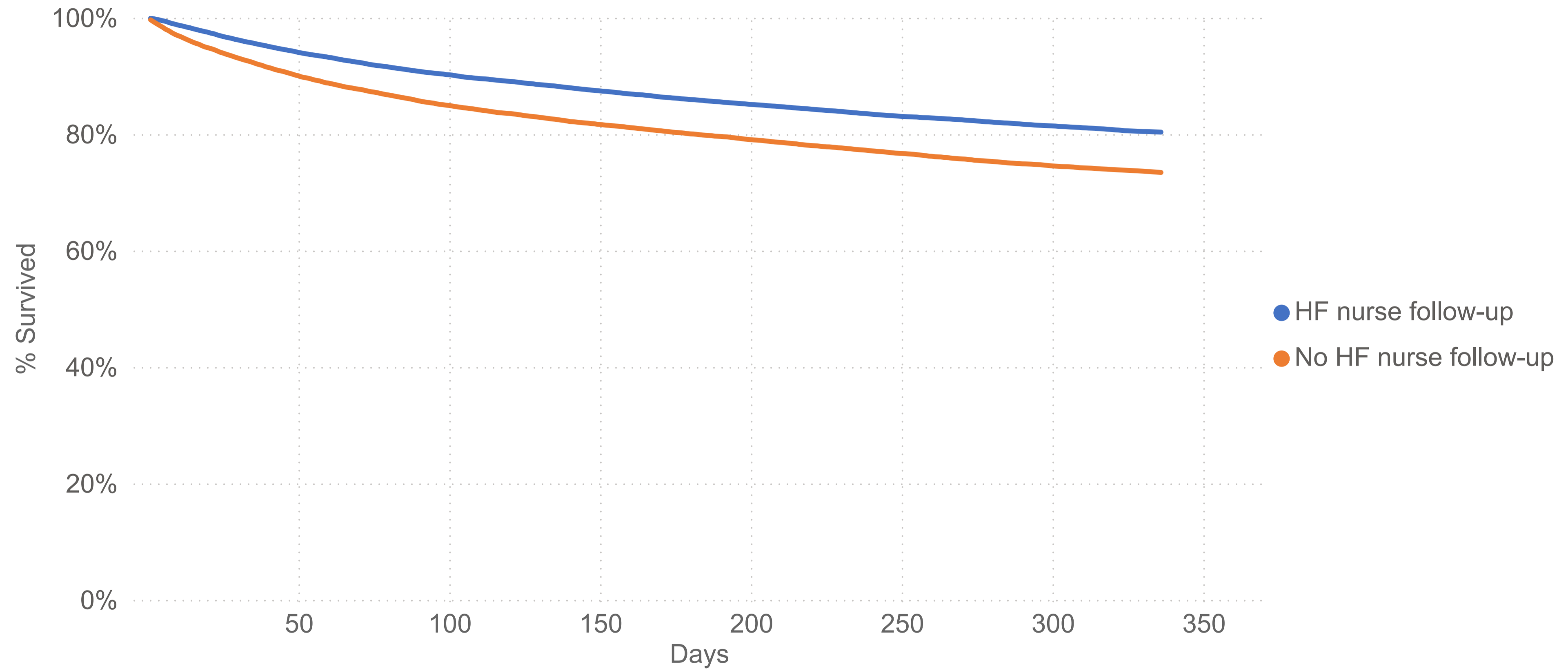
Number at risk

	0	50	100	150	200	250	300	350
Cardiology follow-up	15346	14677	14183	13811	13315	11353	9424	7631
No cardiology follow-up	31805	28943	27361	26338	25004	20921	17245	13690

1-year survival is better for those having HF specialist nurse follow-up



Kaplan Meier plot of survival following discharge from hospital according to HF nurse follow-up, 2023/24



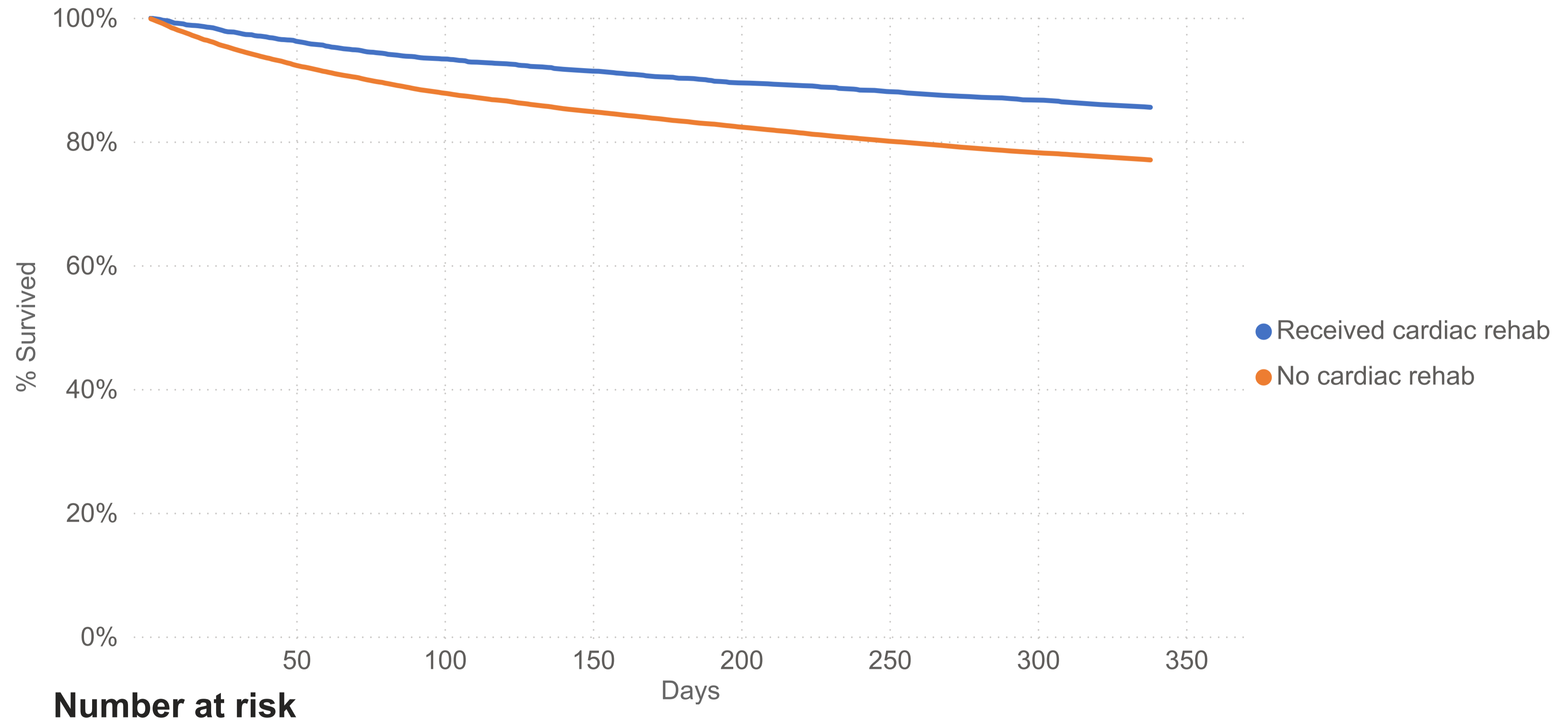
Number at risk

	0	50	100	150	200	250	300	350
HF nurse follow-up	18776	16914	15949	15330	14566	12251	10143	8128
No HF nurse follow-up	27979	26329	25237	24468	23415	19708	16240	12936

1-year survival is better for those referred for cardiac rehabilitation



Kaplan Meier plot of survival following discharge from hospital according to referral for cardiac rehabilitation, 2023/24



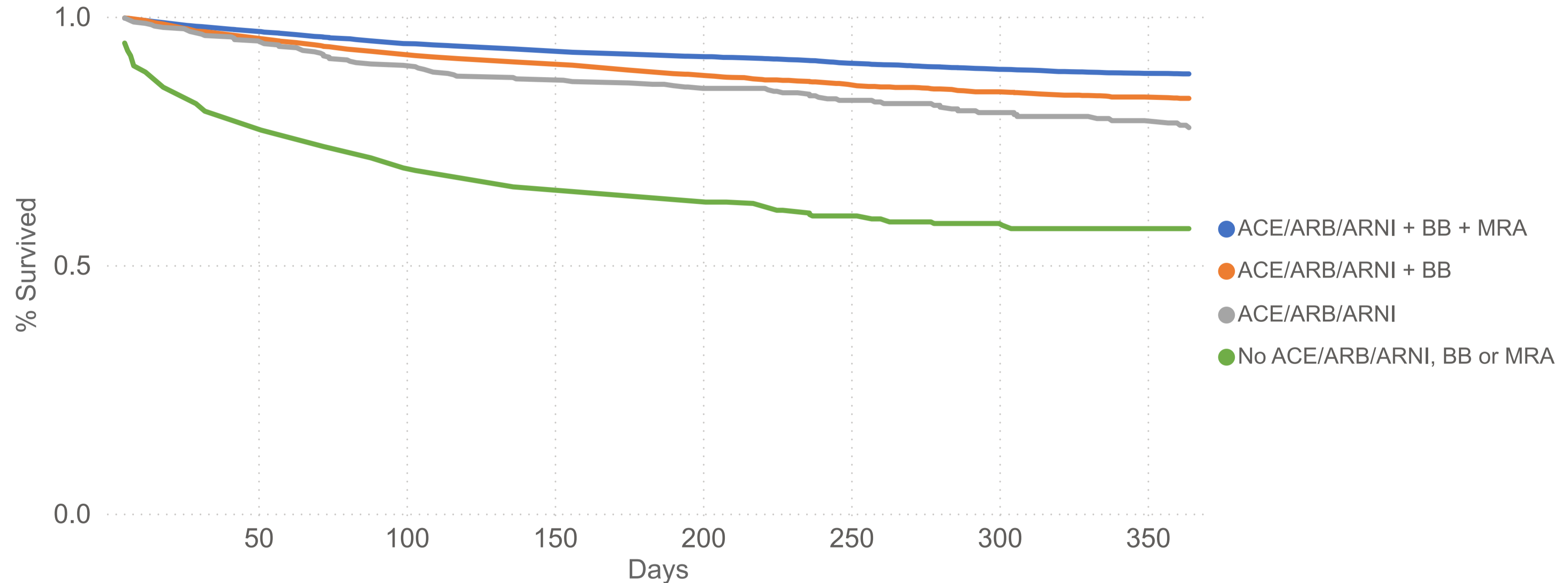
Number at risk	0	50	100	150	200	250	300	350
Received cardiac rehab	4559	4388	4255	4165	4025	3375	2725	2102
No cardiac rehab	28653	26469	25163	24303	23195	19630	16358	13159

Received cardiac rehab
No cardiac rehab

1-year survival much better for those with HFrEF discharged on all three classes of disease-modifying drugs



Kaplan Meier plot of survival for patients with HFrEF following discharge from hospital according to drugs received, 2022/23



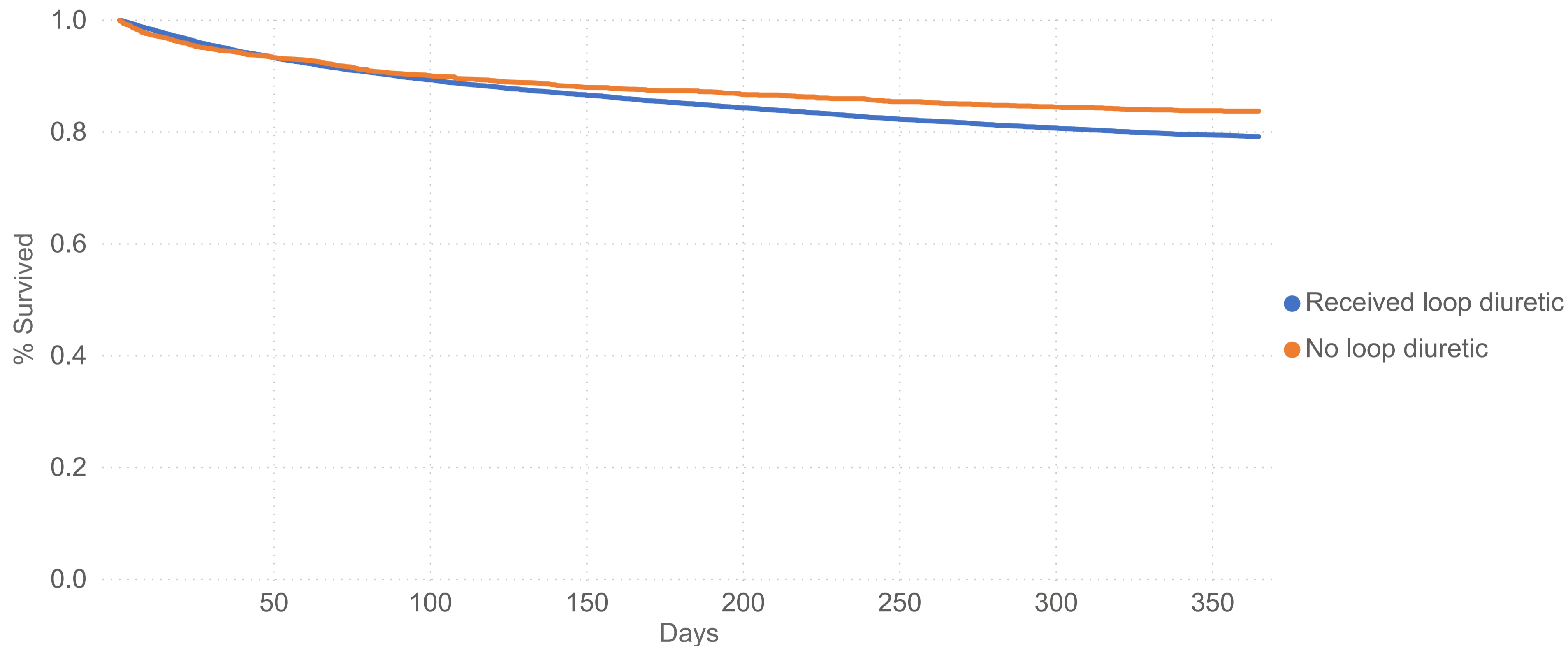
Number at risk

	11795	11424	11113	10908	10597	9027	7497	6034
ACE/ARB/ARNI + BB + MRA	5997	5730	5510	5386	5192	4411	3667	2914
ACE/ARB/ARNI + BB	1580	1503	1443	1407	1350	1155	929	732
ACE/ARB/ARNI	2632	2038	1896	1818	1720	1439	1165	912
No ACE/ARB/ARNI, BB or MRA								

1-year survival is worse for those discharged on loop diuretics



Kaplan Meier plot of all-cause mortality following discharge from hospital according to loop diuretic prescription, 2023/24



Number at risk

Received loop diuretic	2141	1997	1926	1881	1815	1536	1282	1042
No loop diuretic	16566	15446	14778	14330	13717	11582	9605	7724