

NCAP

NATIONAL CARDIAC AUDIT PROGRAMME

NICOR

National Audit of Percutaneous Coronary Intervention (NAPCI)

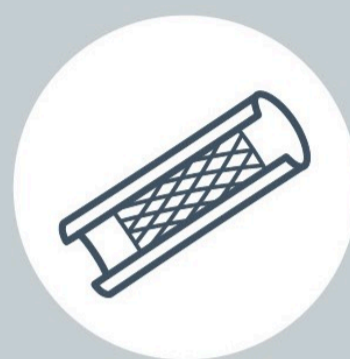
2025 Annual Report

Data up to 2023/24

BCIS



All data are for 2023/24 unless otherwise stated.



91,092 PCI procedures (7% down on 2017/18)



25% reduction in elective PCI is the biggest change but a slight fall in PCI for acute coronary syndrome (ACS) cases since 2017/18



2.5-fold difference between areas with the lowest and highest PCI volumes per 100,000 population



68% of patients with ST-elevation myocardial infarction (STEMI) taken directly to a Primary Percutaneous Coronary Intervention (PPCI) centre were treated within a Call-To-Balloon (CTB) time of 150 minutes



163 minutes median CTB time for inter-hospital transfers was significantly longer than that for direct admissions to the PPCI centre (119 minutes)



30% of complex PCI cases used intracoronary imaging (up from 16% in 2019/20)



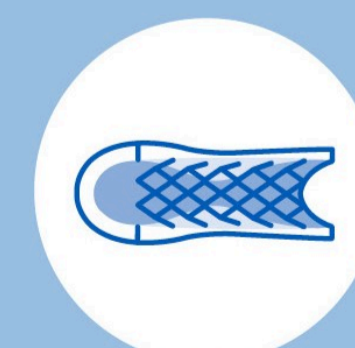
78% of PCI for left main stem artery cases used intracoronary imaging (up from 62% in 2018/19)



59% of primary PCI for STEMI cases were prescribed the more effective P2Y12 drugs (up from 44% in 2019/20)



Use of prasugrel grew faster than ticagrelor but is still below the level recommended by guidelines



35% of PCI cases for in-stent restenosis used drug-eluting balloons (up from 1% in 2018/19)



1. Treatment times for primary PCI for STEMI are too long, particularly for inter-hospital transfers where there is a failure to achieve target Call-To-Balloon times. ESC guidelines currently recommend thrombolysis if primary PCI cannot be performed within 120 min of the first medical contact.
2. Centres undertaking PCI for left main stem artery or complex lesions should use intra-coronary imaging in 75% or more of cases.
3. Use of prasugrel is lagging that of ticagrelor, especially in NSTEMI cases. This is despite international guidelines recommending it in preference to ticagrelor in PCI undertaken for ACS indications. Prasugrel should be used in preference to ticagrelor and clopidogrel where there are no clinical contraindications.
4. Recording of drug-coated balloon use in the audit should be improved, as significant differences exist between the NAPCI data and that from the annual BCIS survey. Until randomised trials defining the role of drug-coated balloons begin reporting, outcomes will continue to be assessed using NAPCI data.



The National Audit of Percutaneous Coronary Intervention (NAPCI) is part of the National Cardiac Audit Programme (NCAP) which is run by the National Institute for Cardiovascular Outcomes Research (NICOR).

This report provides details of the percutaneous coronary intervention (PCI) procedures undertaken in England and Wales during the financial year 2023/24, along with longer-term trends on the scale and the quality of PCI services. **The report focuses on a number of specific quality improvement (QI) metrics in relation to the delivery of PCI services derived from national and/or international standards and guidelines.** It is designed to be of value to a wide range of stakeholders and importantly it allows patients and their relatives to better understand how PCI services are delivered. **The slides in the report are interactive so you can select and explore the data that interest you.**

The data generated by the audit is also used as the basis for two other publications:

1. A slide deck of comprehensive analyses published as the British Cardiovascular Intervention Society BCIS Audit. This contains all adult interventional procedures performed in the UK from 1st April 2023 to 31st March 2024. The report can be found on the [BCIS website](#).
2. The annual Clinical Outcomes Publication (COP) which provides 3-year rolling data on individual PCI operators and centres and includes an assessment of risk-adjusted 30-day survival for England and Wales. The COP analysis was due to be published in 2024, but has been temporarily frozen as it is unclear whether the risk model performs well in contemporary practice given it was derived using data from 2007-2011. The COP analysis will resume once the risk model performance is assessed and, if necessary, recalibrated.^{1,2}

For most heart attack patients, optimal care includes a PCI procedure. NAPCI data are therefore also combined with that from the NCAP's Myocardial Ischaemia National Audit Project (MINAP) to create a report that focuses on the care given to people admitted to hospital with a heart attack. This includes time delays to treatment for patients presenting with ST-segment elevation myocardial infarction (STEMI) or non-ST-segment elevation myocardial infarction (NSTEMI).

We are very grateful to all the PCI and audit teams for their diligence in collecting the data and we will strive to produce meaningful outputs with information that will stimulate quality improvement exercises at local level. This will lead to better clinical services and better outcomes for patients.

The NICOR NAPCI audit team



Clicking on a page title will take you to that page.

Number of procedures

- All PCI cases
- PCIs by age group
- PCI cases by month
- PCI cases by ICB/HB/CN

Timeliness of treatment

- Definition of PPCI treatment times
- PPCI times
- PPCI times direct and IHT
- PPCI times by ICB/HB/CN
- PPCI times by hospital

Use of intracoronary imaging

- ICI for complex cases
- ICI for complex cases by ICB/HB/CN
- ICI for complex cases by hospital
- ICI for LMS cases
- ICI for LMS by ICB/HB/CN
- ICI for LMS by hospital

Use of newer antiplatelet drugs

- New P2Y12 drugs
- New P2Y12 by ICB/HB/CN
- New P2Y12 by hospital
- New P2Y12 hospital rank
- New P2Y12 for STEMI
- New P2Y12 for STEMI by ICB/HB/CN
- New P2Y12 for STEMI by hospital
- New P2Y12 for STEMI hospital rank

New P2Y12 for NSTEMI

New P2Y12 for NSTEMI by ICB/HB/CN

New P2Y12 for NSTEMI by hospital

New P2Y12 for NSTEMI hospital rank

Use of drug eluting balloons

- DEB use
- DEB use by hospital
- DEB use hospital rank
- DEB without stent by hospital
- DEB without stent hospital rank
- DEB with stent by hospital
- DEB with stent hospital rank
- DEB use restenosis by hospital
- DEB use restenosis hospital rank

References

The number of PCI procedures increased slightly in 2023/24 but is 7% lower than in 2017/18

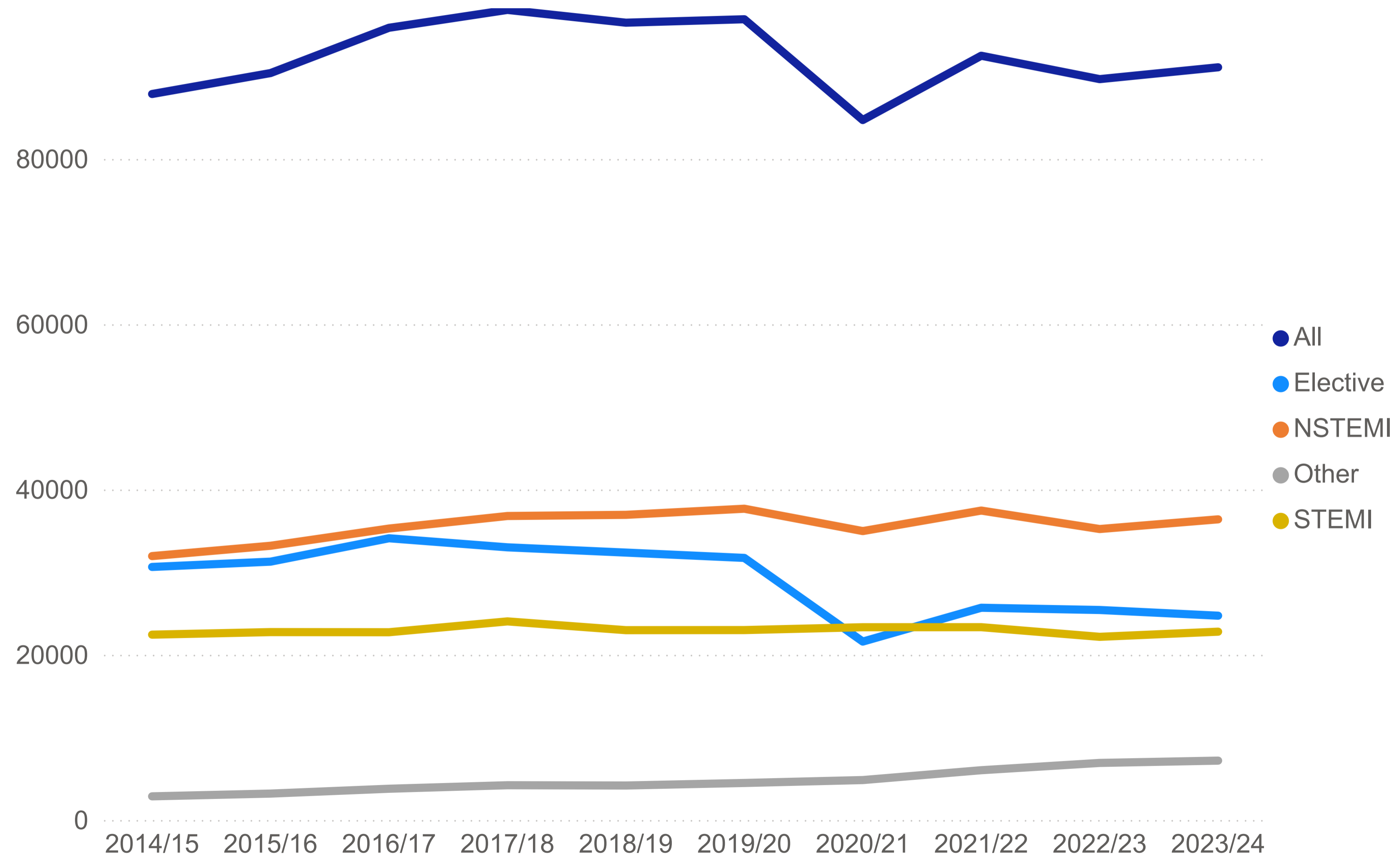


Just over 91,000 percutaneous coronary intervention (PCI) procedures were performed in England and Wales during 2023/24, very similar to the previous year.

The number of procedures for different categories of PCI all remain largely unchanged, with the acute coronary syndromes representing the most common indication.

The decline in elective PCIs since 2017/18 is likely related to the evolving evidence from recent trials showing that elective PCI does not reduce the risk of death or heart attack but may be associated with an improvement in symptoms.

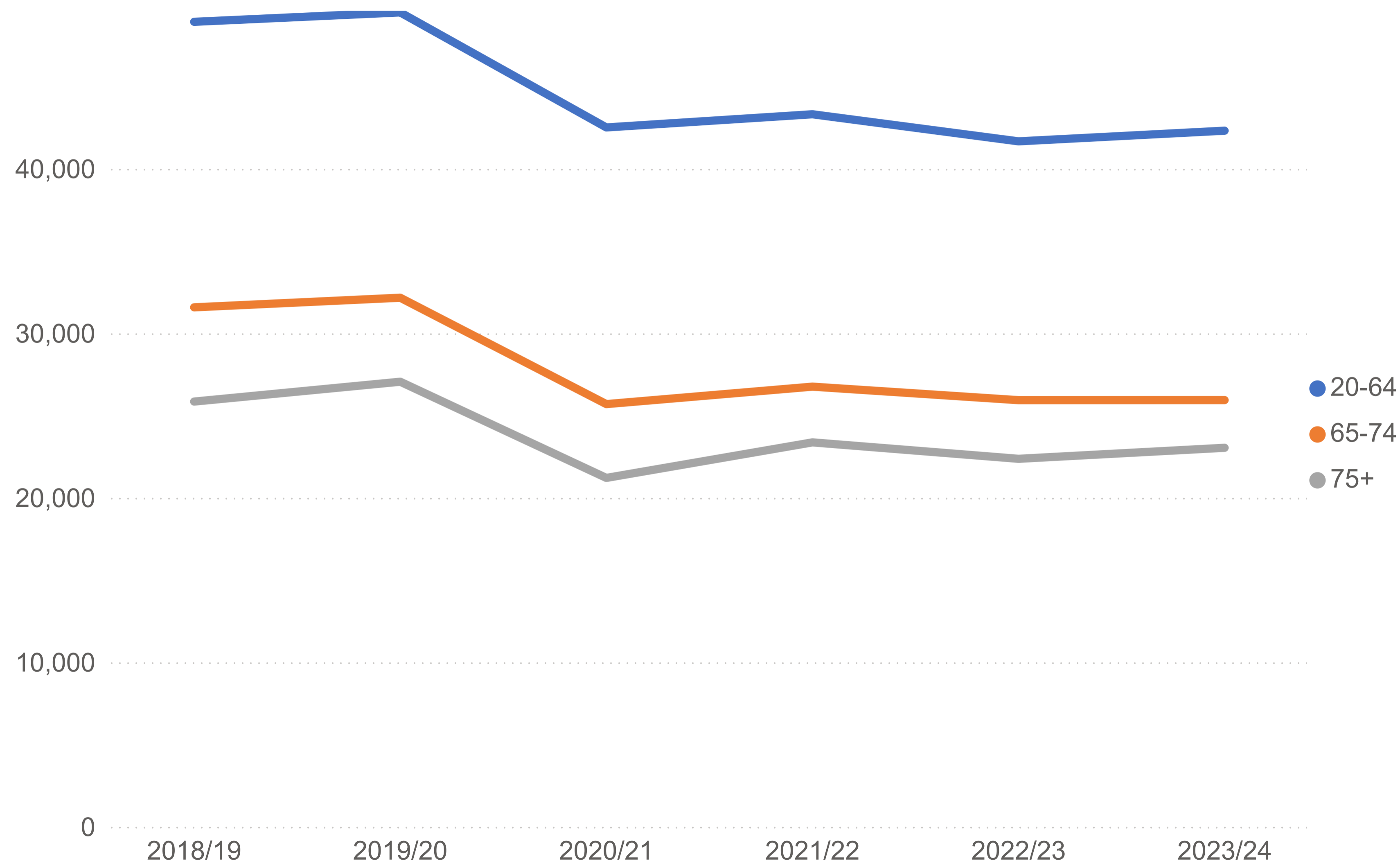
PCI procedures by category



Patients aged under 65 are the largest group undergoing PCI



PCI procedures by age group



The most common age group in which PCI procedures are undertaken is those aged up to 65.

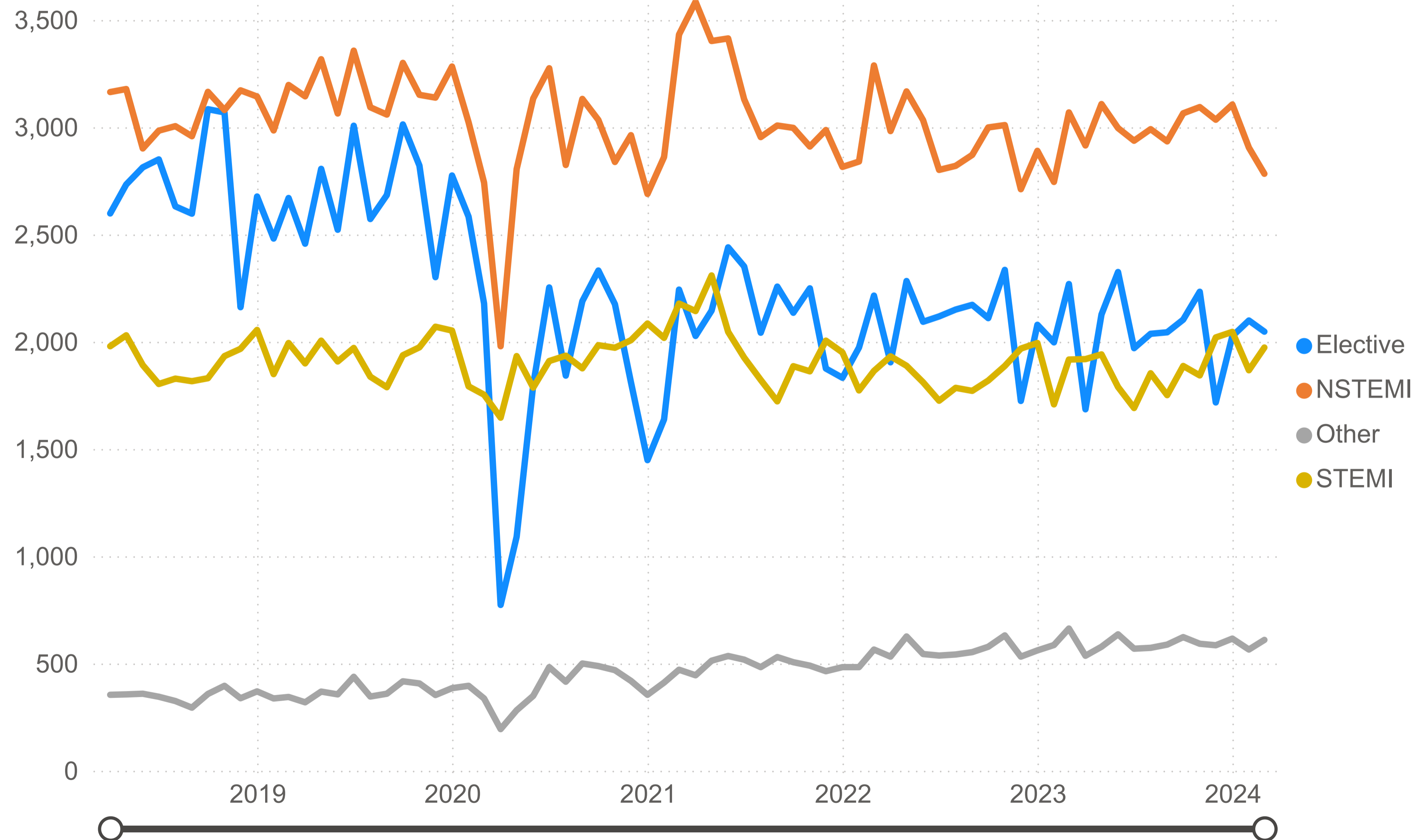
Fewer procedures are carried out on patients in 65-74 and 75+ age groups.

Patterns in activity over time have remained very similar amongst the different age groups.

There are only minor fluctuations in the monthly PCI procedures



Monthly PCI procedures by category



Since moving out of the COVID-19 pandemic and subsequent recovery period, the volume of monthly procedures across all PCI categories varies only slightly.

Elective PCI cases are significantly lower than prior to the COVID-19 pandemic.

Rates of PCI vary significantly by geographical area



These maps show rates of PCI per 100,000 population for PCI across:

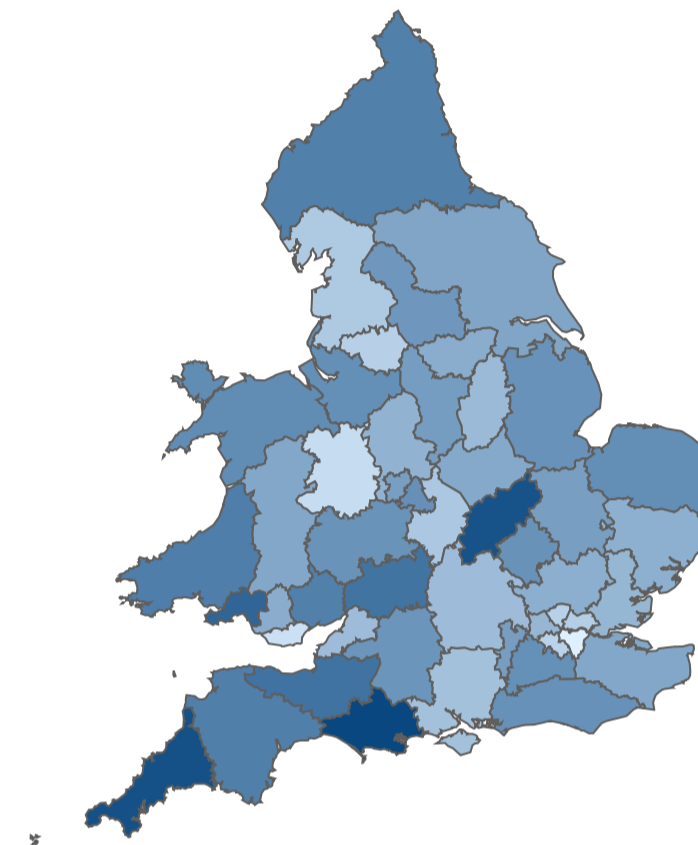
- the 42 Integrated Care Boards (ICBs) in England and the 7 University Health Boards (HBs) in Wales
- the 16 Cardiac Networks (CNs) in England and Wales.

A darker colour represents a higher number of cases per 100,000 population. Hover over each area to see the data.

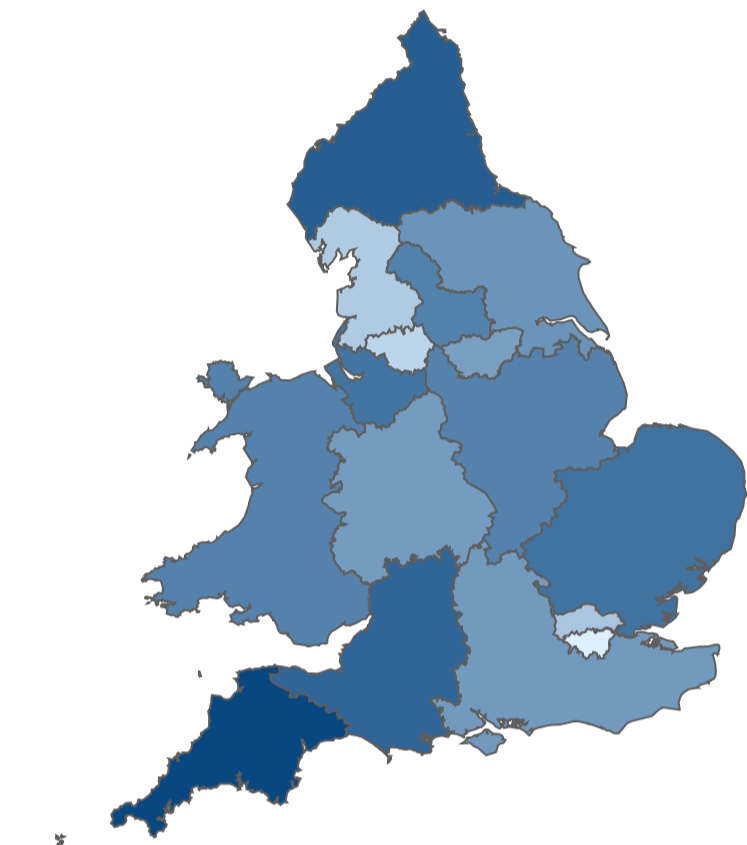
In 2023/24, there was significant variation in the number of cases per 100,000 population for each category of PCI. This may relate to differences in:

- risk factor profiles amongst different populations (such as differences in age, sex and cardiovascular risk factors)
- clinical practice, particularly the use of elective PCI for stable indications and less so for NSTEMI.

PCI cases per 100k population based on patient home location by ICB/HB (2023/24)

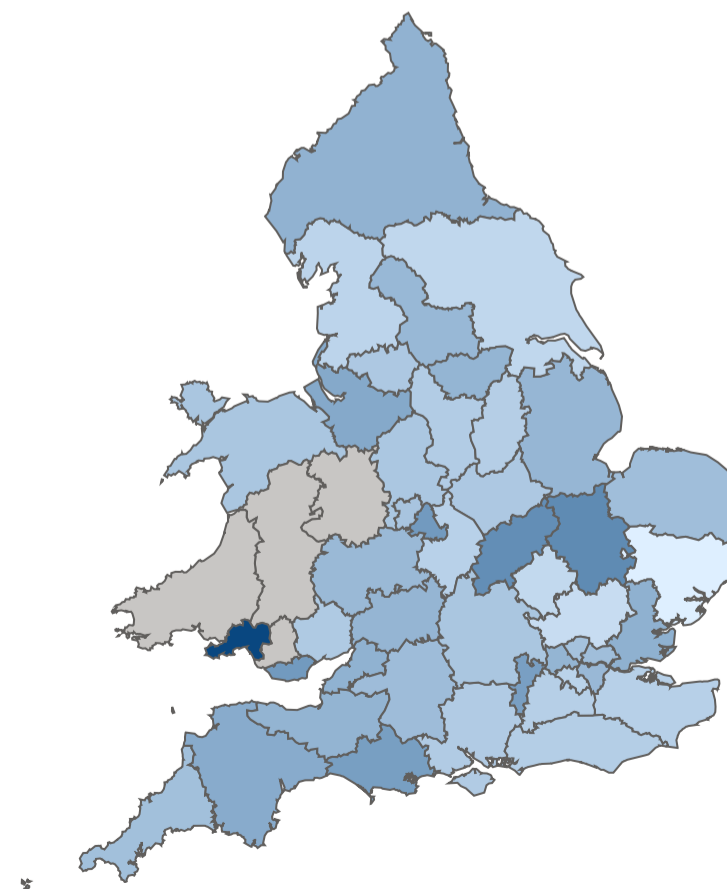


PCI cases per 100k population based on patient home location by Cardiac Network (2023/24)

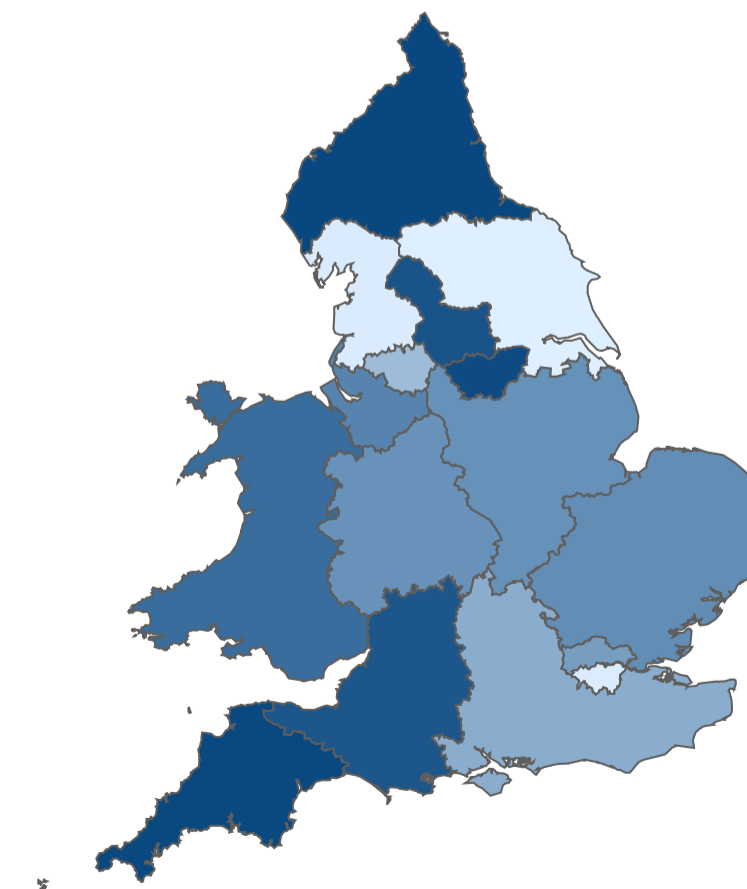


- Select all
- Elective
- NSTEMI
- Other
- STEMI

PCI cases per 100k population based on hospital location by ICB/HB (2023/24)



PCI cases per 100k population based on hospital location by Cardiac Network (2023/24)



The times taken to treat higher-risk STEMI heart attacks with primary PCI are critical to patient outcomes



To achieve the best possible outcomes, after an initial call for help or self-presentation at hospital, patients must be rapidly assessed, and an ECG performed. Patients should then receive Primary PCI (PPCI) if a 'higher risk' STEMI heart attack is confirmed.

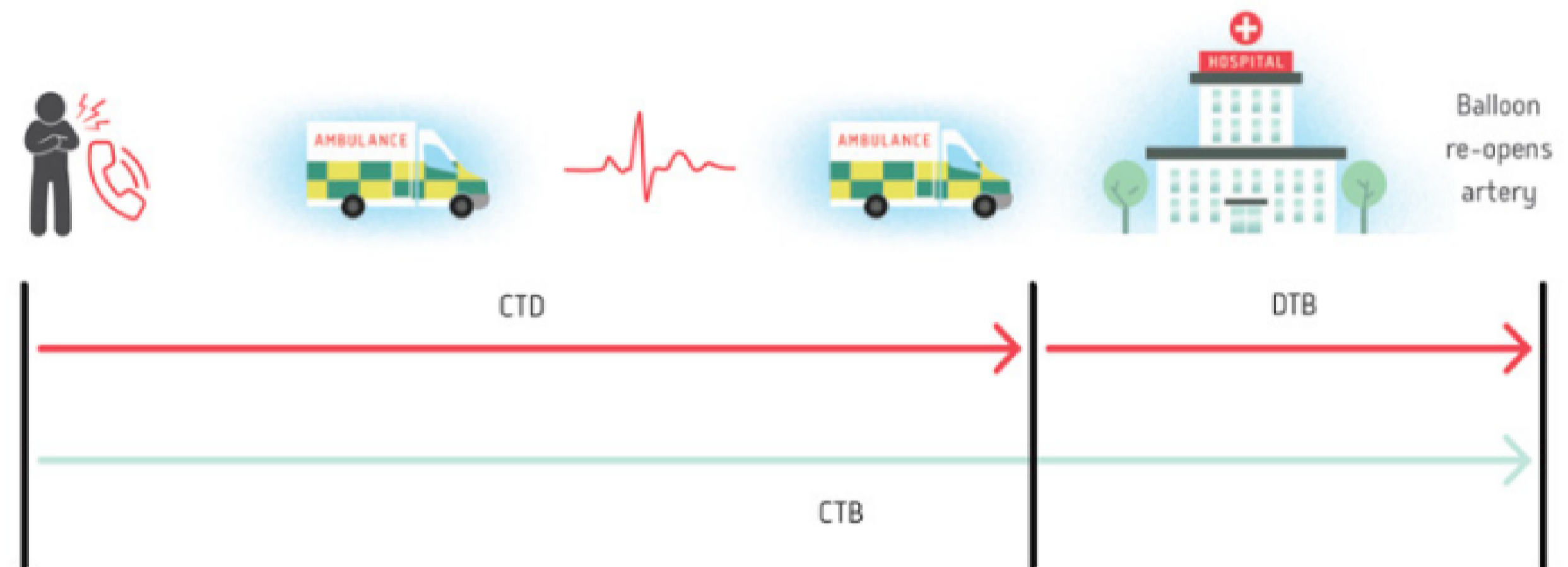
The Call-To-Door (CTD) time covers the period when the patient is brought to hospital by the ambulance services.

The Door-To-Balloon (DTB) time measures how long it takes the hospital to admit a patient and start PPCI treatment. Hospitals not set up to deliver PPCI transfer patients directly to the catheter laboratory of the nearest PCI Centre able to do this.

For patients who present themselves to hospital (usually to the A&E department), the DTB period covers the arrival at hospital to the start of treatment.

Taken together, the CTD and DTB times comprise the overall Call-To-Balloon (CTB) time.

Emergency time periods for the treatment of high-risk STEMI heart attack patients



CTD = Call-To-Door time

From patient 999 call to arrival at hospital

DTB = Door-To-Balloon time

From arrival at hospital to re-opening of artery using reperfusion primary PCI therapy

CTB = Call-To-Balloon time

From patient 999 call to re-opening of artery using reperfusion primary PCI therapy

Many patients are not treated within target times



Primary PCI (PPCI) is the gold standard treatment for ST-elevation myocardial infarction (STEMI). Delays in treatment lead to increased damage to the heart and greater risk of heart failure and death.

Guidelines recommend PPCI treatment:

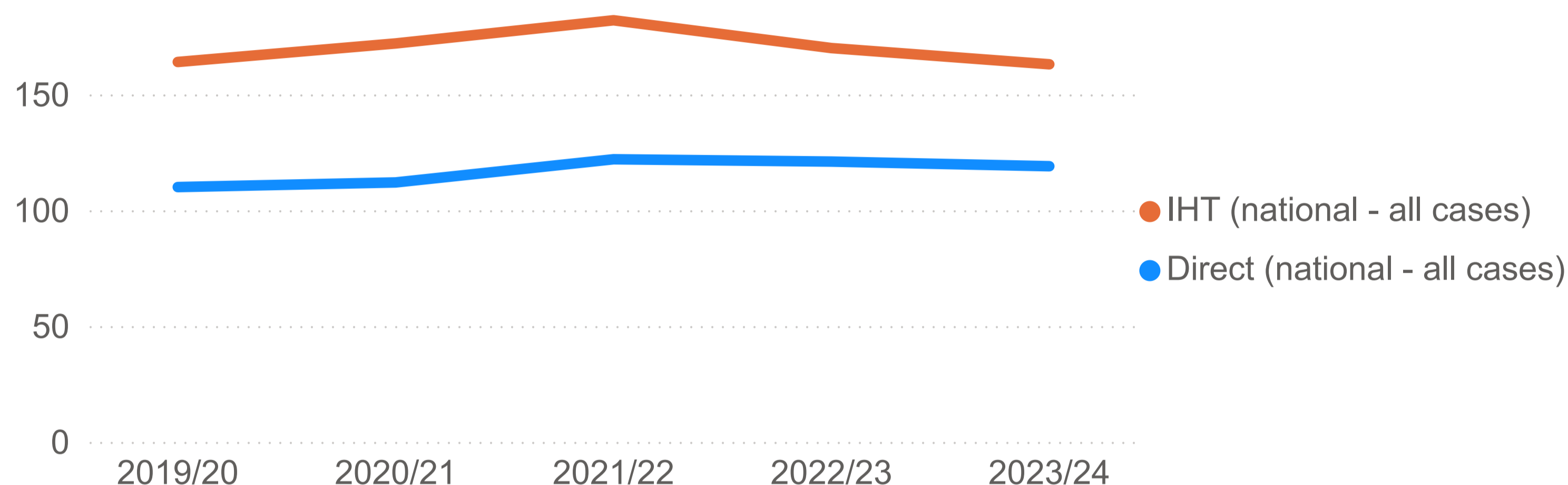
- within 90 minutes of arrival of the patient at the angioplasty centre (the Door-To-Balloon or DTB time)
- within 150 minutes of a patient's call for help (the Call-To-Balloon or CTB time).

Patients are treated much faster if taken straight to a PCI centre (the 'direct' time), but some require to be brought from another hospital, known as the 'inter-hospital transfer' time (IHT).

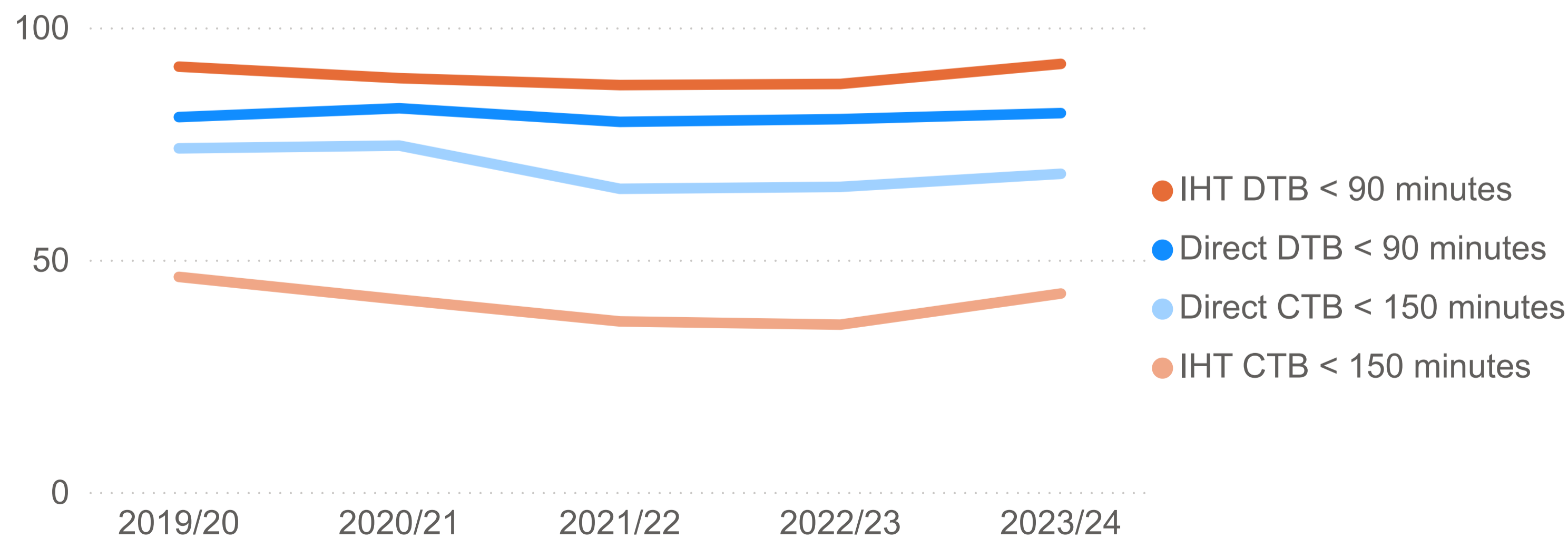
It is encouraging that the median CTB times for both direct and IHT cases fell in 2023/24. CTB times remain significantly longer for IHT cases than for direct admissions (163 mins vs 119 mins).

A significant proportion of patients are still not being treated within guideline times. While more than 80% of direct and 90% of IHT cases fall within the DTB target time, the proportions treated within the CTB target are much lower (68% for direct and 43% for IHT).

Median CTB time (minutes) for PPCI



Percentage of cases meeting CTB and DTB targets



Patients requiring inter-hospital transfer are less likely to receive timely PCI against both the tighter CTB and DTB target times

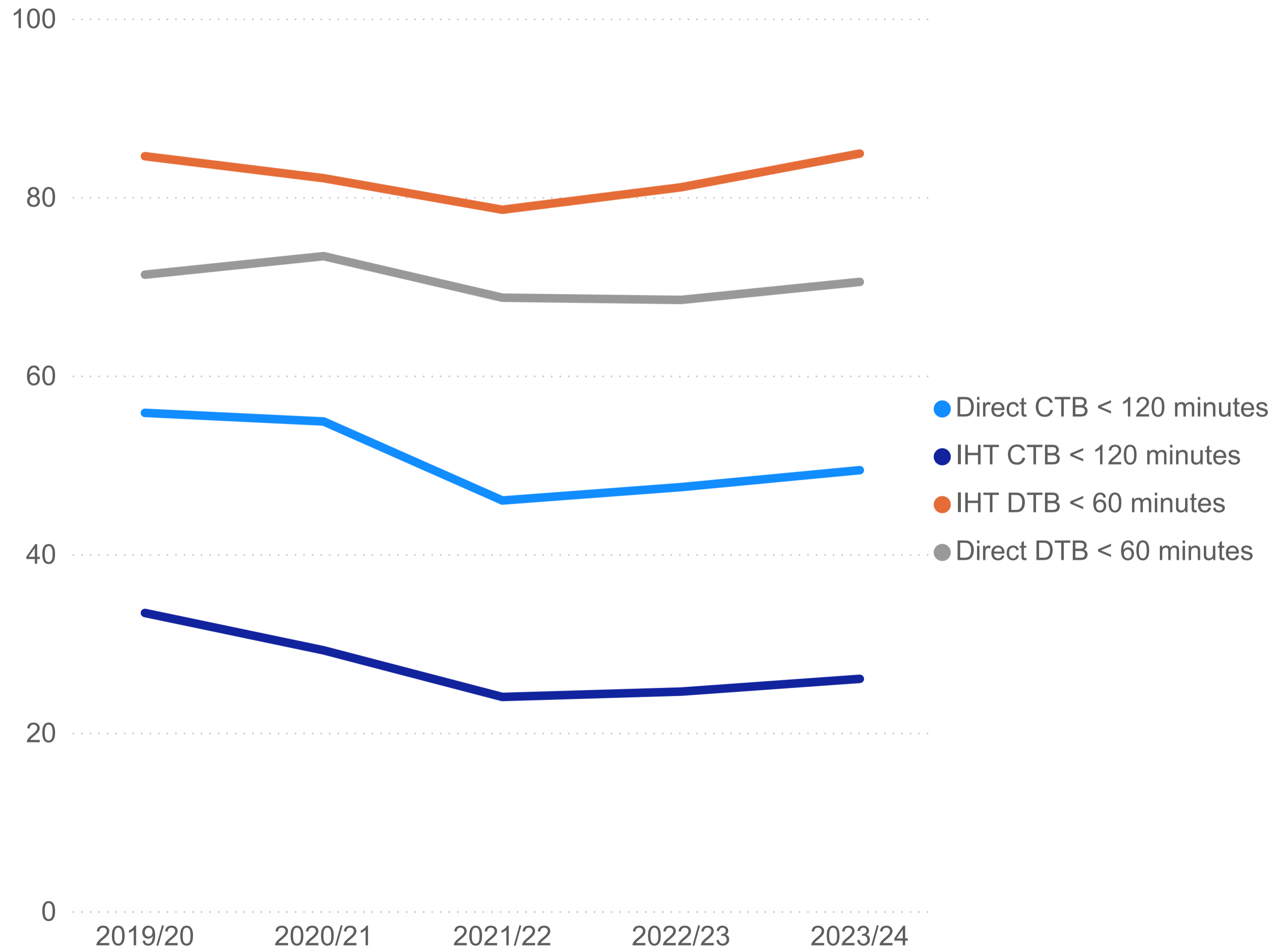


Although the original treatment time targets were set to maximise the number of patients treated within 150 minutes of a call for help (CTD <150 mins), and within 90 minutes of arriving at hospital (DTB <90 mins), the ideal is for patients to undergo the PPCI procedure within 120 minutes of a call for help or 60 minutes of arrival at a PCI-capable hospital.

Again, significantly fewer IHT patients achieved the tighter CTB time of 120 minutes in 2023/24 than if admitted directly to a PCI-capable hospital (26% compared with 49%).

The significant proportion of patients not meeting guideline recommended CTB is concerning, and may require refinement of models of care for patients with significant delays such as initial thrombolysis, as recommended in European Society of Cardiology guidelines where primary PCI cannot be delivered within 120 minutes.

Percentage of cases meeting tighter CTB and DTB targets

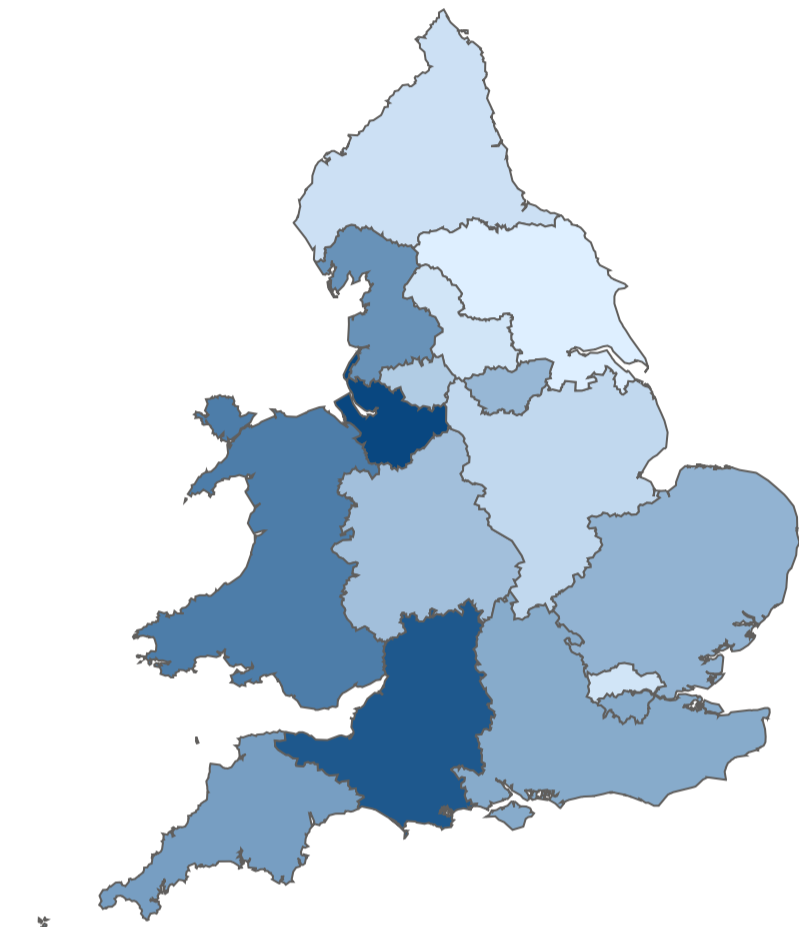
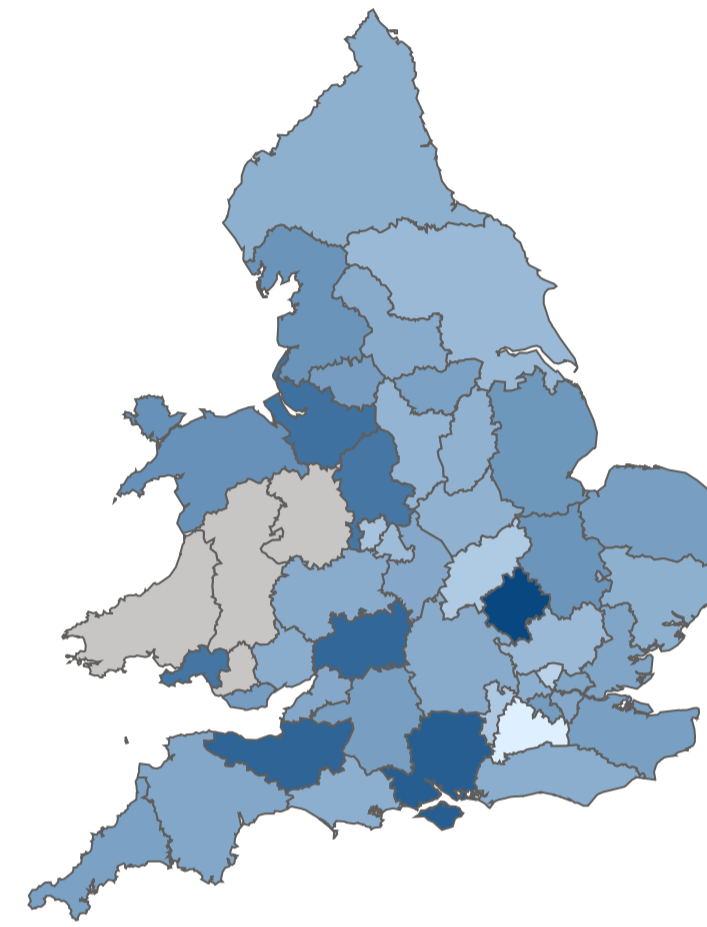


Call-To-Balloon (CTB) times vary between Integrated Care Boards / Health Boards, and between Cardiac Networks.



Median CTB for PPCI based on hospital location by ICB/HB (2023/24)

Median CTB for PPCI based on hospital location by Cardiac Network (2023/24)



The maps show the median Call-To-Balloon (CTB) times for:

- the 42 Integrated Care Boards (ICBs) in England and 7 Welsh University Health Boards (HBs) (commissioning organisations)
- the 16 Cardiac Networks (operational delivery networks) in England and Wales.

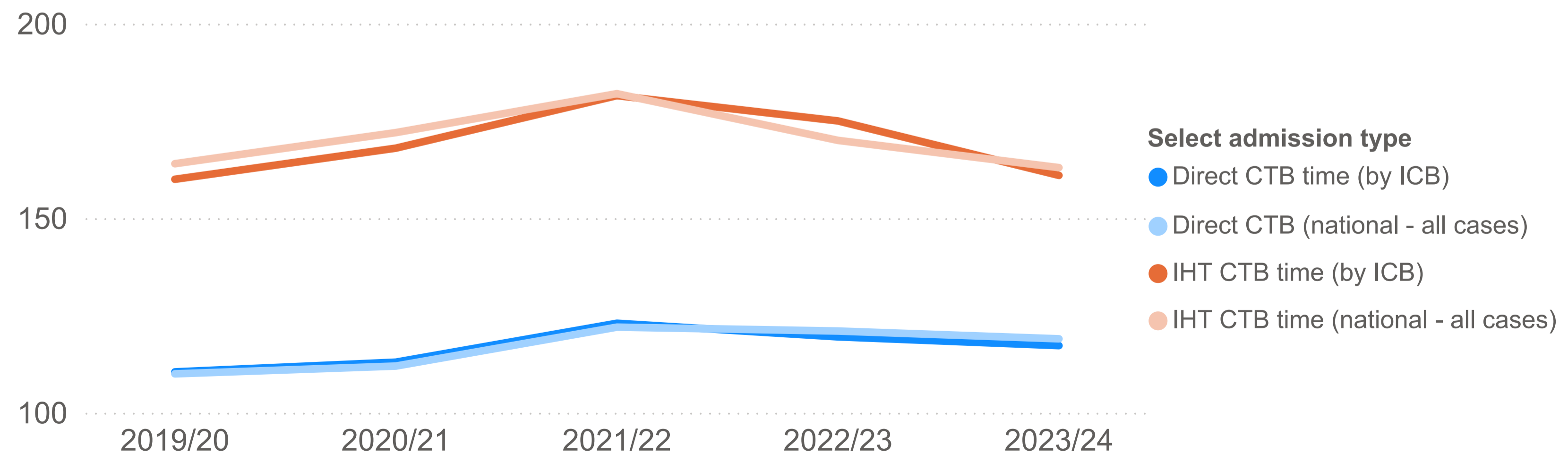
Lighter colours represents better performance (i.e. lower median CTB treatment times).

Selecting an area in the maps will provide its specific trend data below.

Note: The ICB median is based on the average of the hospital medians in that area. More information on CTB and DTB times can be found in the ['heart attack' audit report](#).

[Link to be added at publication stage](#)

Median PPCI CTB times (minutes) by ICB



There is substantial variation in Call-To-Balloon times between hospitals



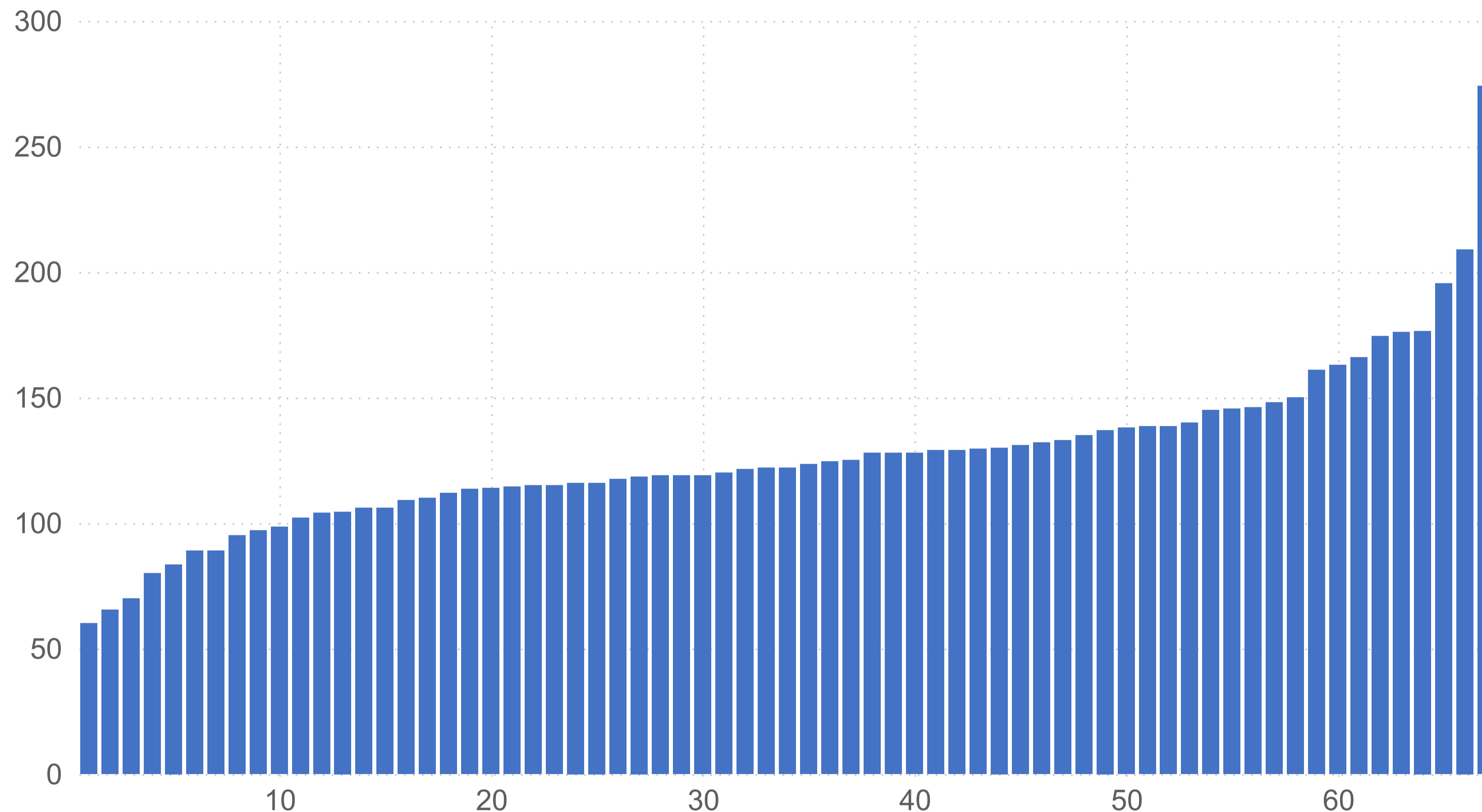
There is considerable variation in the median Call-To-Balloon (CTB) times between hospitals offering a PPCI service to patients with STEMI. The best-performing hospitals achieve times that can be up to half of the worst-performing.

Hospitals can optimise their own care pathways to reduce the Door-To-Balloon (DTB) component. Work at a regional level is required to reduce the Call-To-Door (CTD) component.

For patients who present to a hospital without immediate PPCI services, rapid diagnosis and inter-hospital transfer (IHT) of the patient to the PPCI service is essential.

Select a hospital or cardiac network to see their specific data.

Median CTB times (minutes) for PPCI by hospital (2023/24)



Select hospital

Select Cardiac Network

Intracoronary imaging for complex PCI procedures continues to increase



Risks of complications during or following a PCI procedure (such as stent thrombosis or restenosis) that may require an intervention (e.g. further PCI or coronary artery bypass grafting) are minimised by ensuring the stent is well-expanded and well-opposed to the vessel wall, with no residual tears (dissections) left at the stent edge.

Suboptimal stent deployment / expansion is often difficult to identify using angiography alone (which also cannot determine if the stent struts are in contact with the wall).

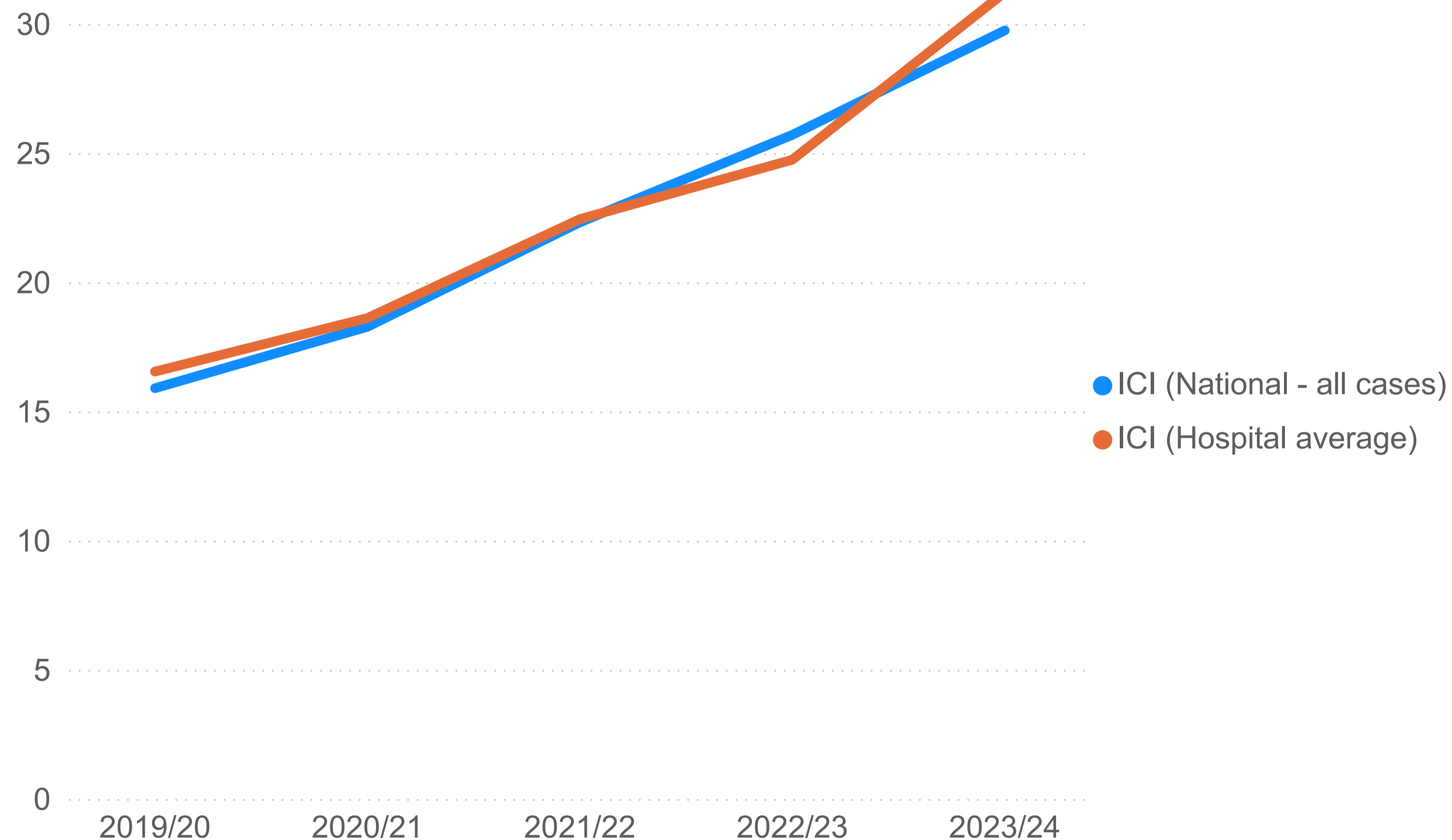
Intracoronary imaging (ICI) provides information on how well the stent has expanded and whether the stent struts are in contact with the wall. This is done either with ultrasound (intravascular ultrasound - IVUS) or laser (optical coherence tomography - OCT).

There is growing recognition that such imaging is particularly important for complex PCI lesions where the absolute risk of complications is much greater (as supported by recent randomised controlled trials). **This has resulted in ICI use increasing from 26% in 2022/23 to 30% in 2023/24, though there is wide variation between hospitals.**

Select a hospital to see its data.

Note: The ICI (Hospital average) line shows the average of the hospital averages or the trend for a selected hospital.

Percentage of complex PCI cases using intracoronary imaging



Select hospital

All

Intracoronary imaging during complex PCI varies substantially between Integrated Care Boards / Health Boards, and between Cardiac Networks



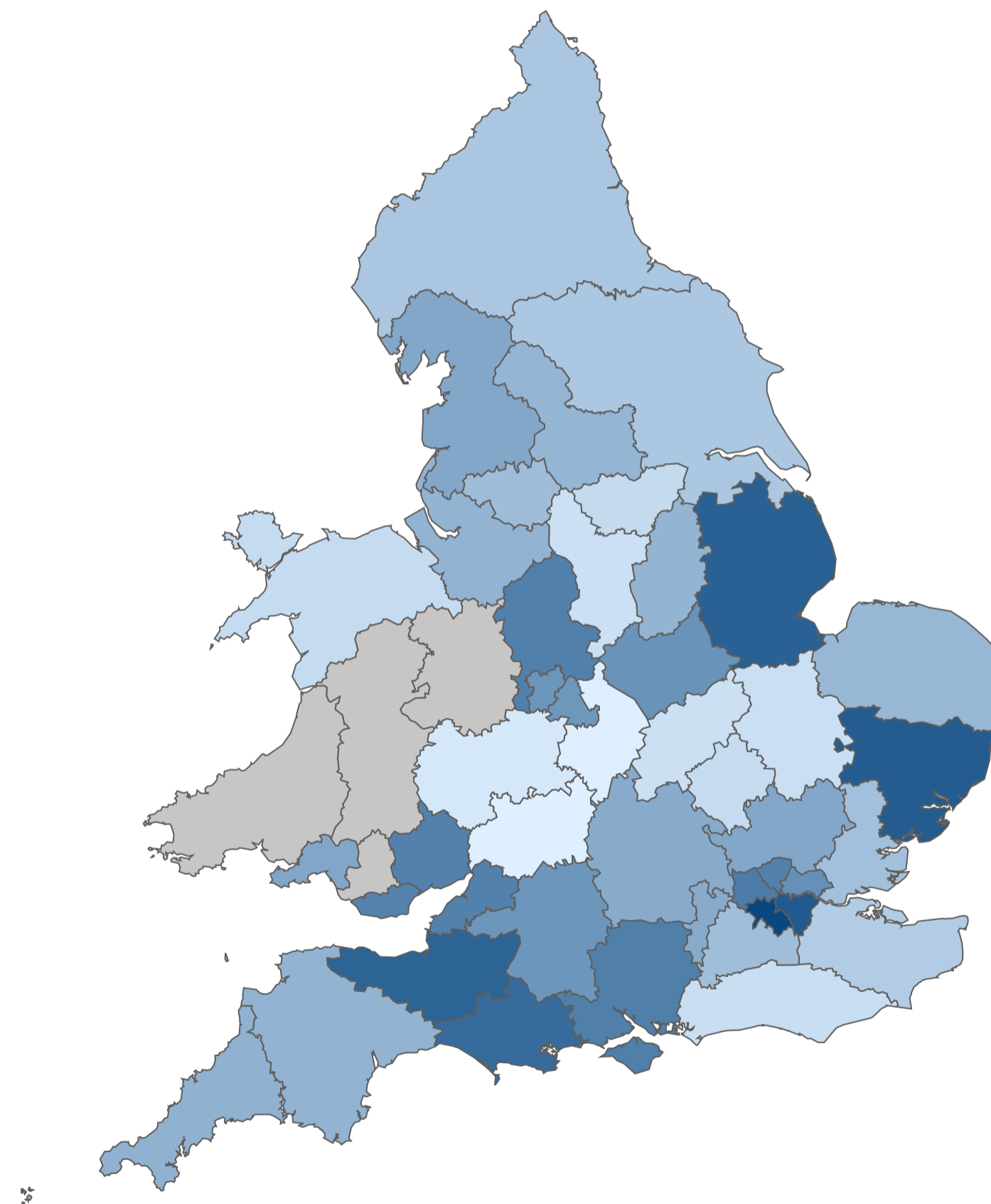
The maps show use of intracoronary imaging (ICI) during complex percutaneous coronary intervention (PCI) in 2023/24 for:

- the 42 Integrated Health Boards (ICBs) in England and 7 University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks in England and Wales (service delivery networks).

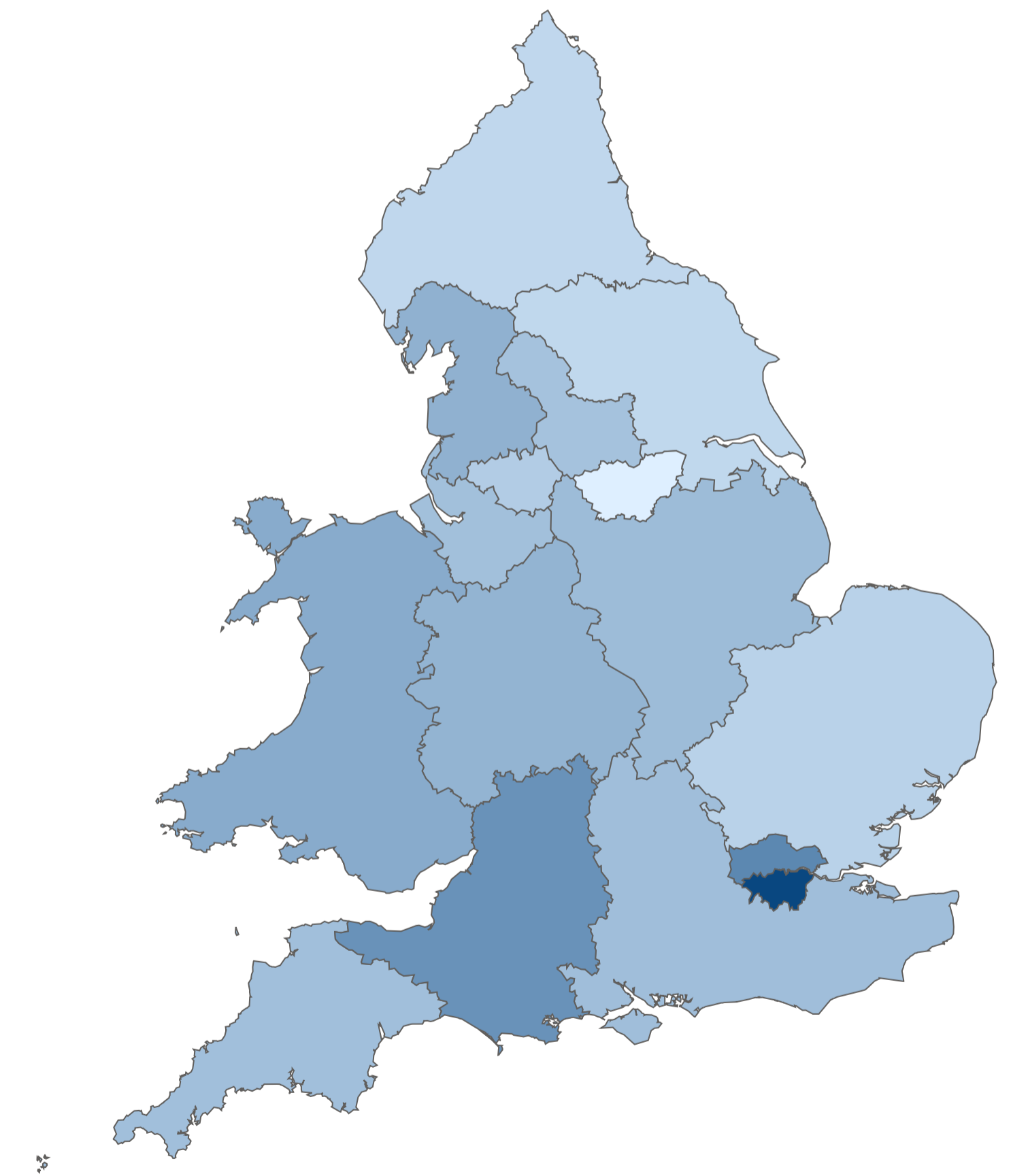
A darker colour on the map demonstrates a higher rate of use of ICI for complex PCI.

Intracoronary imaging use shows significant variation between regions. ICI is used in 52% of complex PCI cases in NHS Lincolnshire ICB but in less than 10% of cases in the NHS Coventry and Warwickshire and NHS Gloucestershire ICBs.

Percentage use of intracoronary imaging in complex PCI by ICB/HB (2023/24)



Percentage use of intracoronary imaging in complex PCI by Cardiac Network (2023/24)



Note: Area data are based on the location of the hospital rather than the patient home location.

Intracoronary imaging use for complex cases varies between hospitals



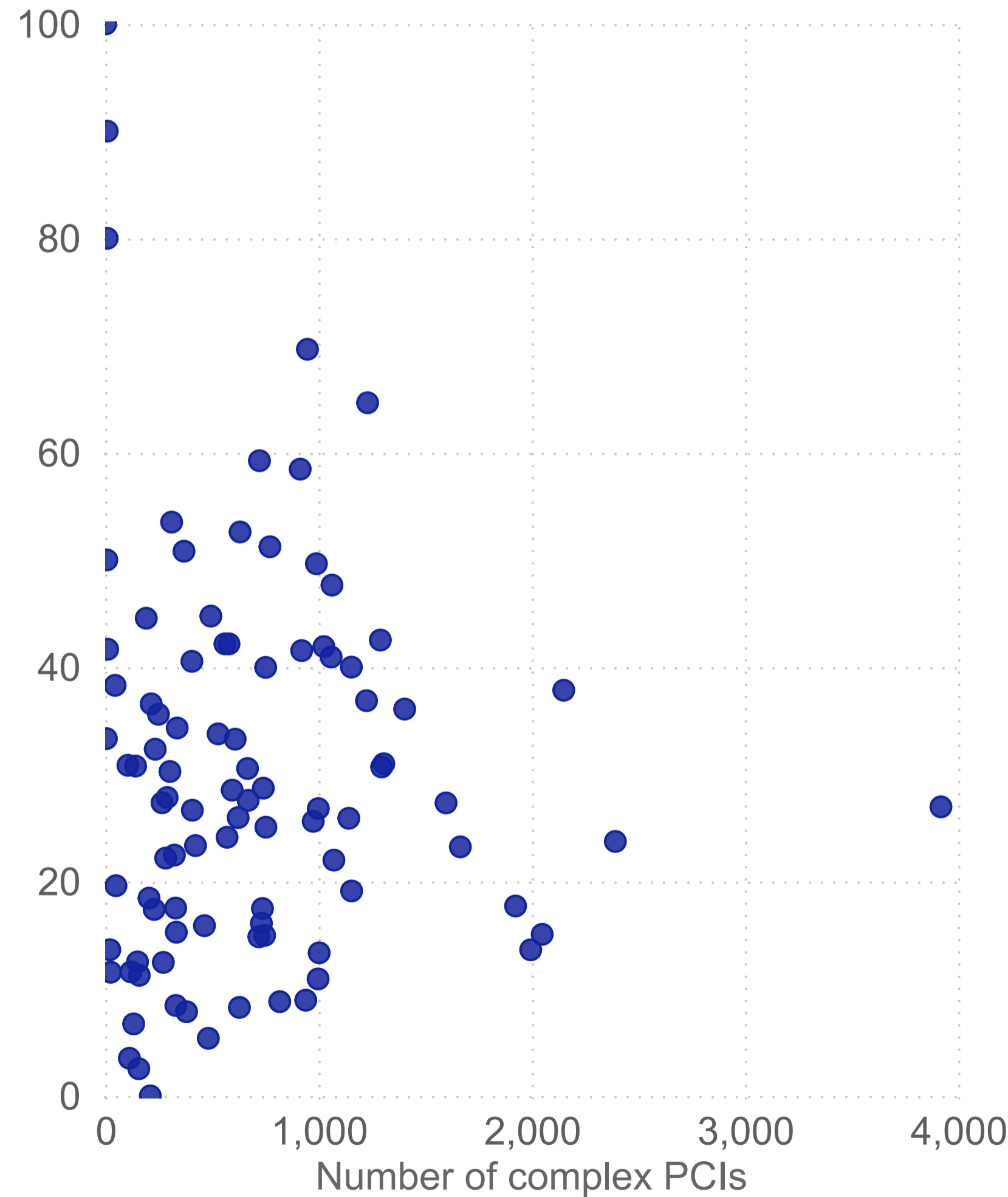
There is huge variation in the use of intracoronary imaging for complex PCI in between hospitals (from 24% to 70% for those undertaking more than 500 complex PCI procedures).

Select a hospital below to see its data or hover over a dot in the scatter plot.

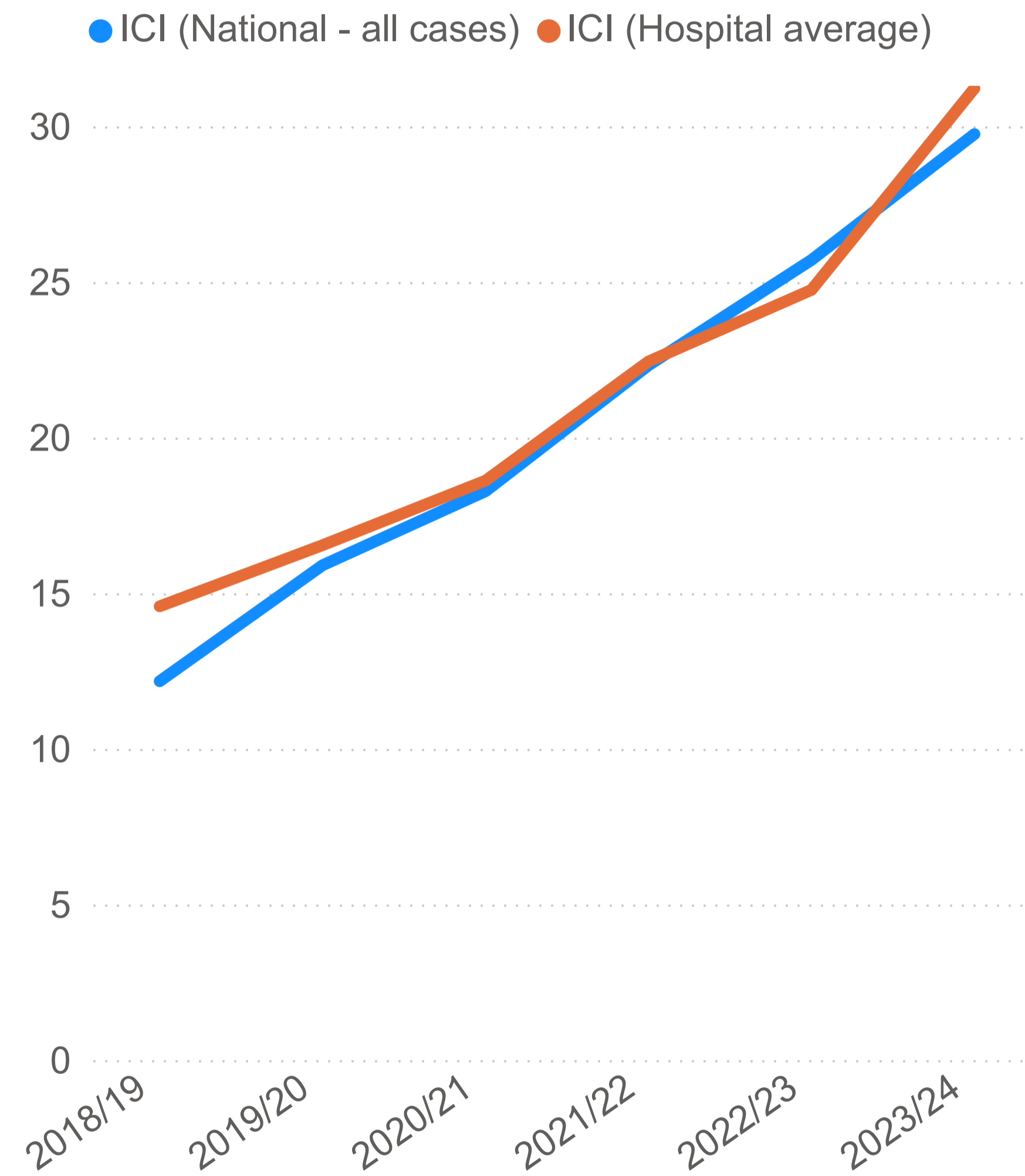
Note: The ICI (Hospital average) line shows the average of the hospital averages or the trend for a selected hospital.

Select hospital

Percentage use of intracoronary imaging during complex PCI, by hospital (2023/24)



Percentage use of intracoronary imaging during complex PCI



There is a growing use of intracoronary imaging in PCI for left main stem (LMS) lesions



The left main stem (LMS) coronary artery supplies blood to the left ventricle and atrium. Having the LMS sufficiently open is critical as it provides the blood supply to most of the heart. Abrupt closing or blockage of the LMS is almost always fatal.

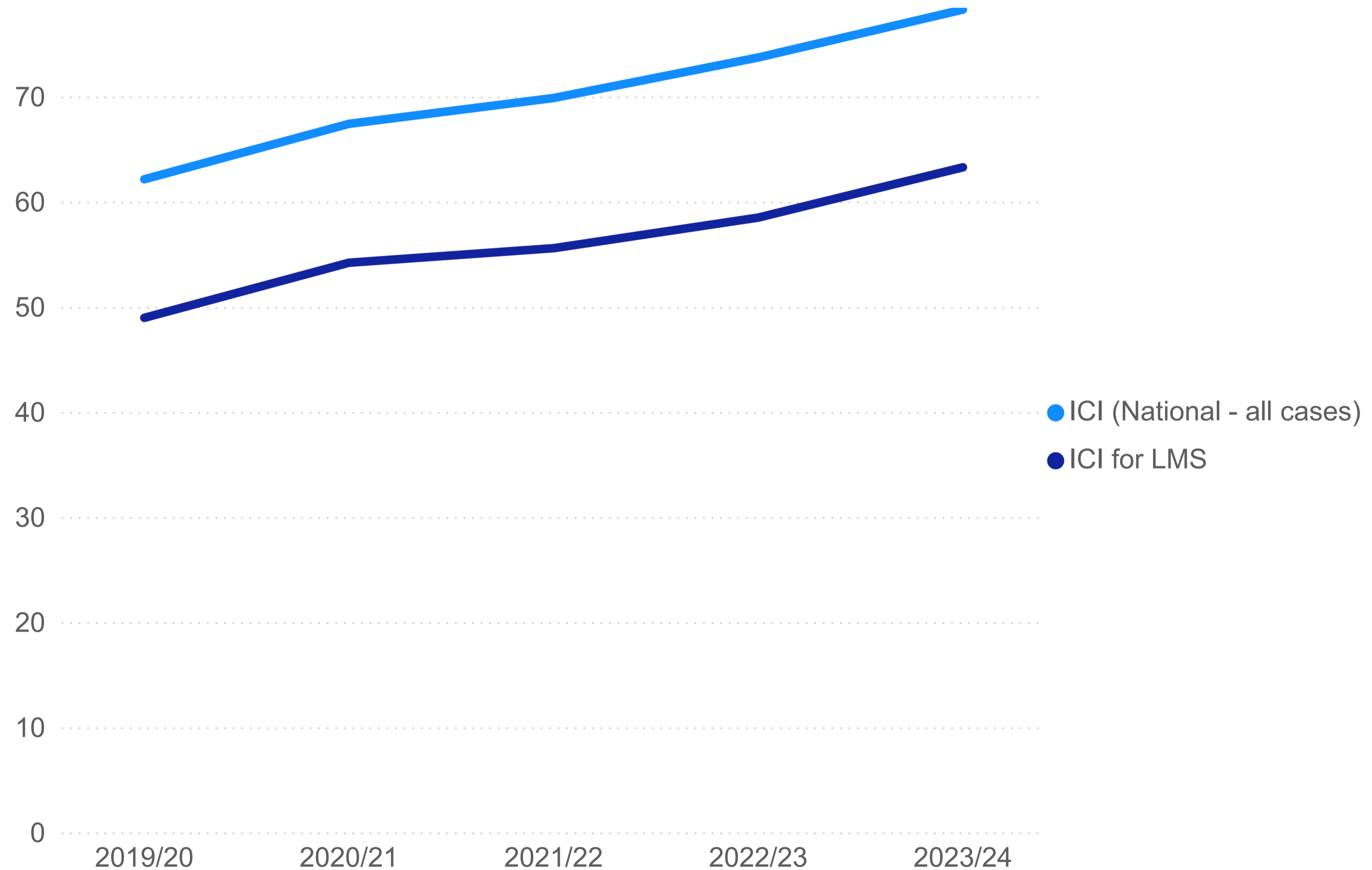
The technique for treating the LMS depends on the distribution, nature and severity of the coronary disease within the LMS. This can be better determined by intracoronary imaging (ICI) than angiography alone. Moreover, ICI enables optimal evaluation of the results of the percutaneous coronary intervention (PCI) to treat the LMS.

Research shows that intracoronary imaging is associated with a 30% decrease in mortality one year following LMS PCI. The international guidance on the use of ICI for LMS PCI can be seen [here](#).

Selecting a hospital below shows the data for that centre.

Note: The ICI (Hospital) line shows the average of the hospital averages or the trend for a selected hospital.

Percentage use of intracoronary imaging for LMS PCI



Select hospital

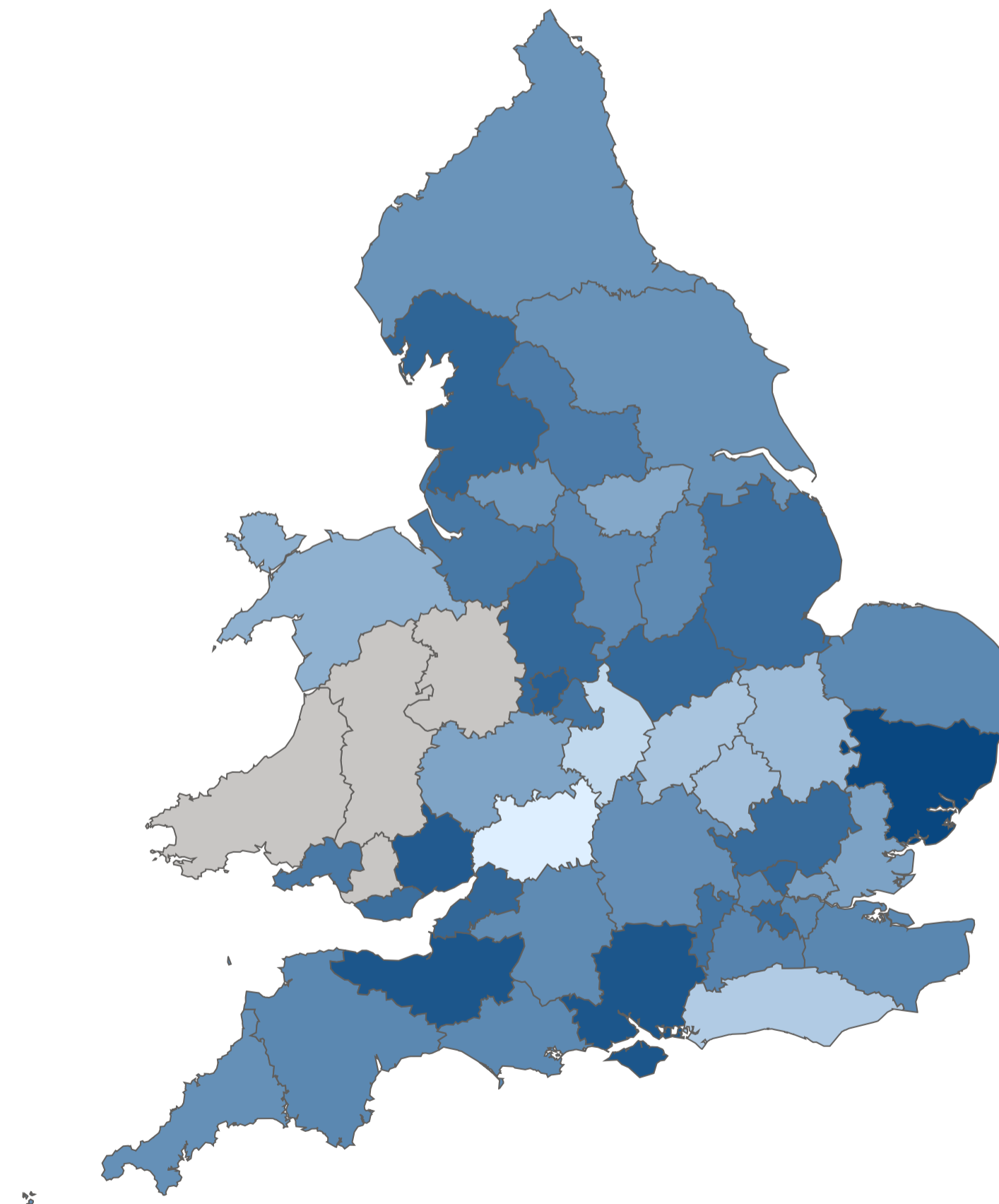
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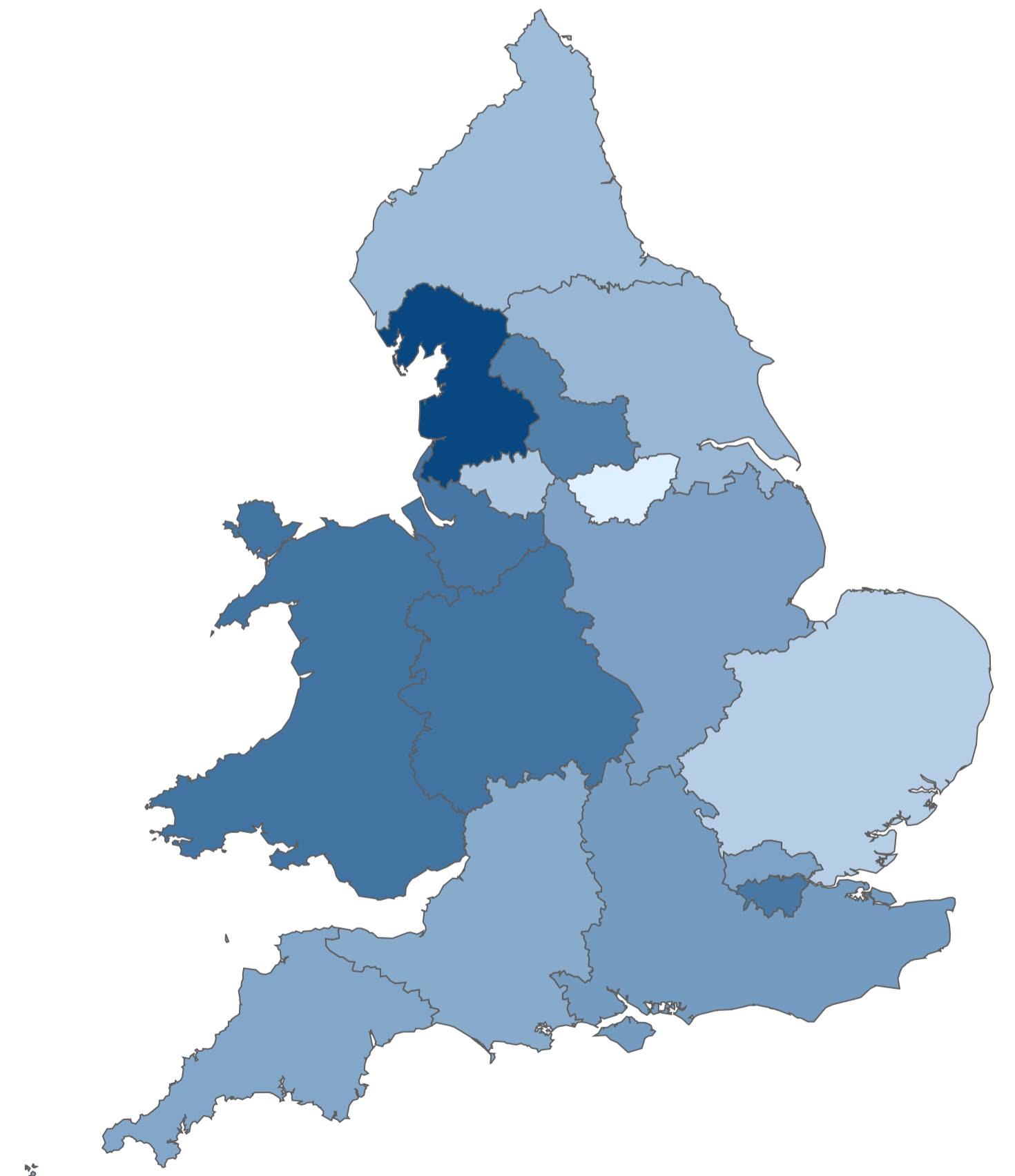
Intracoronary imaging during left main stem PCI varies substantially between Integrated Care Boards / Health Boards, and between Cardiac Networks



Percentage use of intracoronary imaging during LMS PCI by ICB/HB (2023/24)



Percentage use of intracoronary imaging during LMS PCI by Cardiac Network (2023/24)



This slide shows the rate of use of intracoronary imaging (ICI) during left main stem (LMS) percutaneous coronary intervention (PCI) for:

- the 42 Integrated Health Boards (ICBs) in England and 7 University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks in England and Wales (service delivery networks).

A darker colour signifies a higher rate of use. Hover over each region to see its data.

The use of ICI during LMS PCI varies from 100% in hospitals in the NHS Suffolk and North East Essex ICB to 37% in NHS Gloucestershire ICB.

Note: Area data are based on the location of the hospital rather than the patient home location.

Intracoronary imaging for LMS PCI varies substantially between hospitals



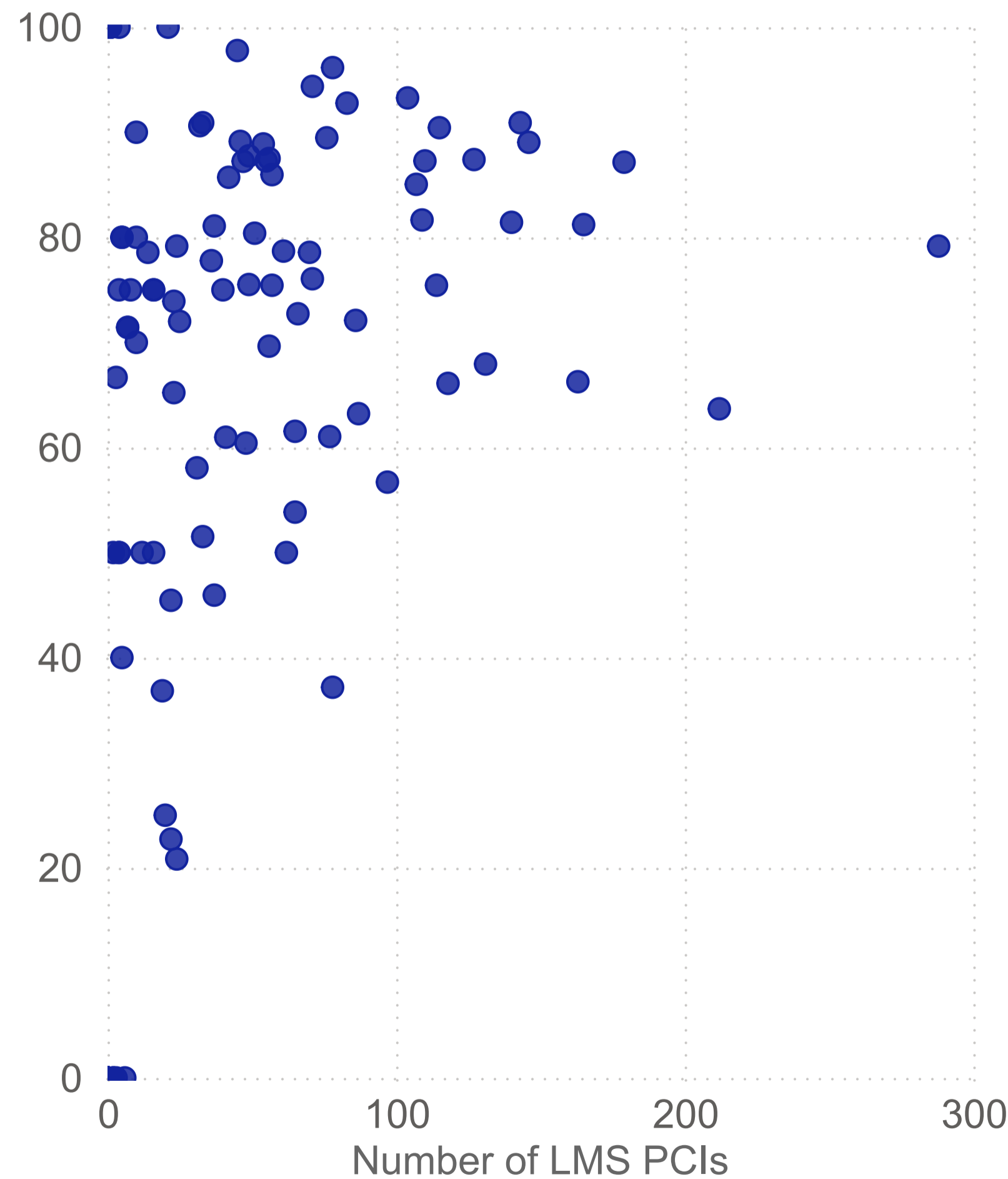
There is huge variation in the use of intracoronary imaging for LMS PCI between hospitals (from 50% to 96% for those undertaking more than 50 LMS PCI procedures).

Select a hospital below to see its data or hover over a dot in the scatter plot.

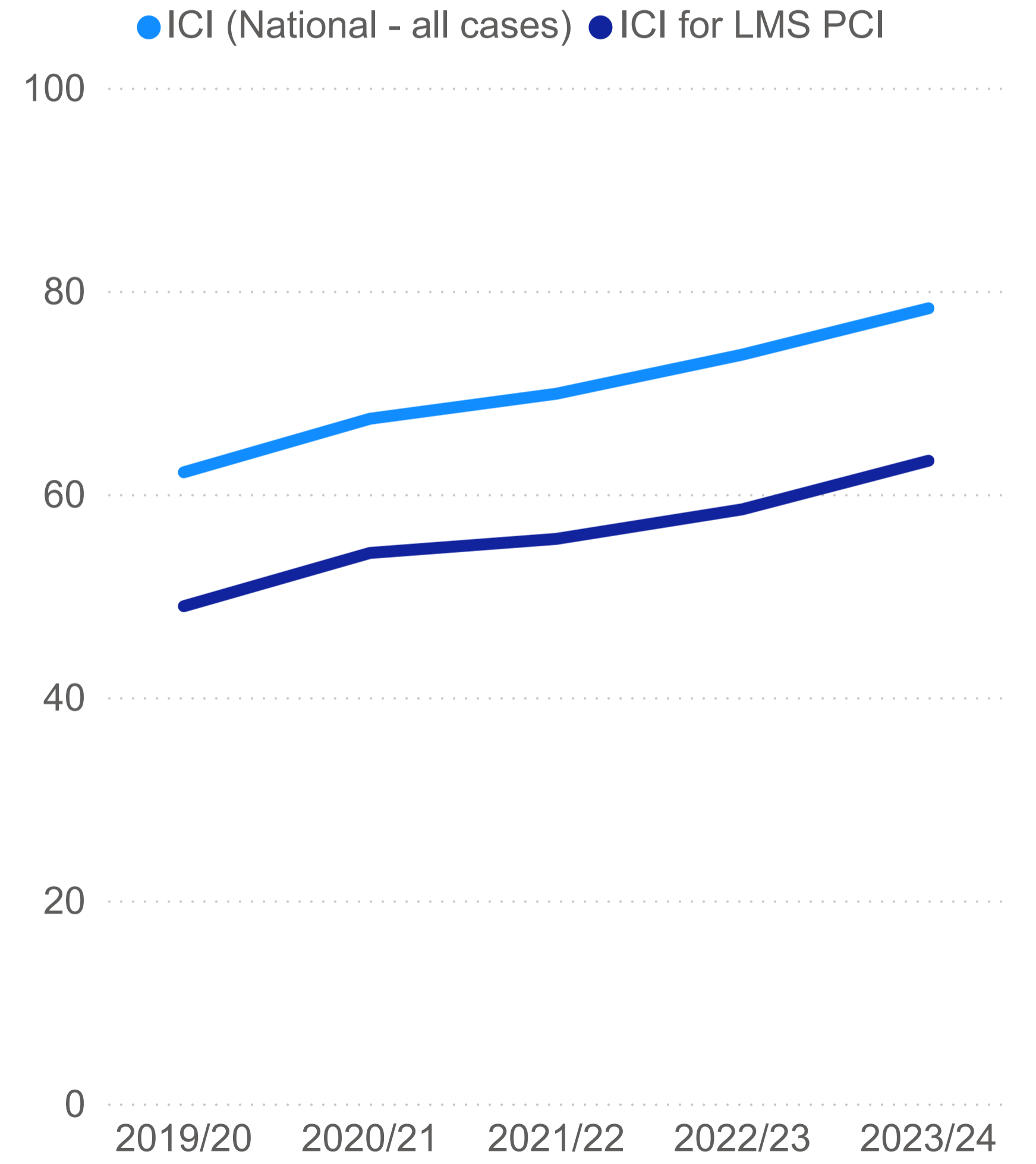
Note: The ICI (Hospital average) line shows the average of the hospital averages or the trend for a selected hospital.

Select hospital

Percentage use of intracoronary imaging for LMS PCI, by hospital (2023/24)



Percentage use of intracoronary imaging for LMS PCI



There has been a continued increase in the overall prescription of both prasugrel and ticagrelor in PCI for acute coronary syndromes



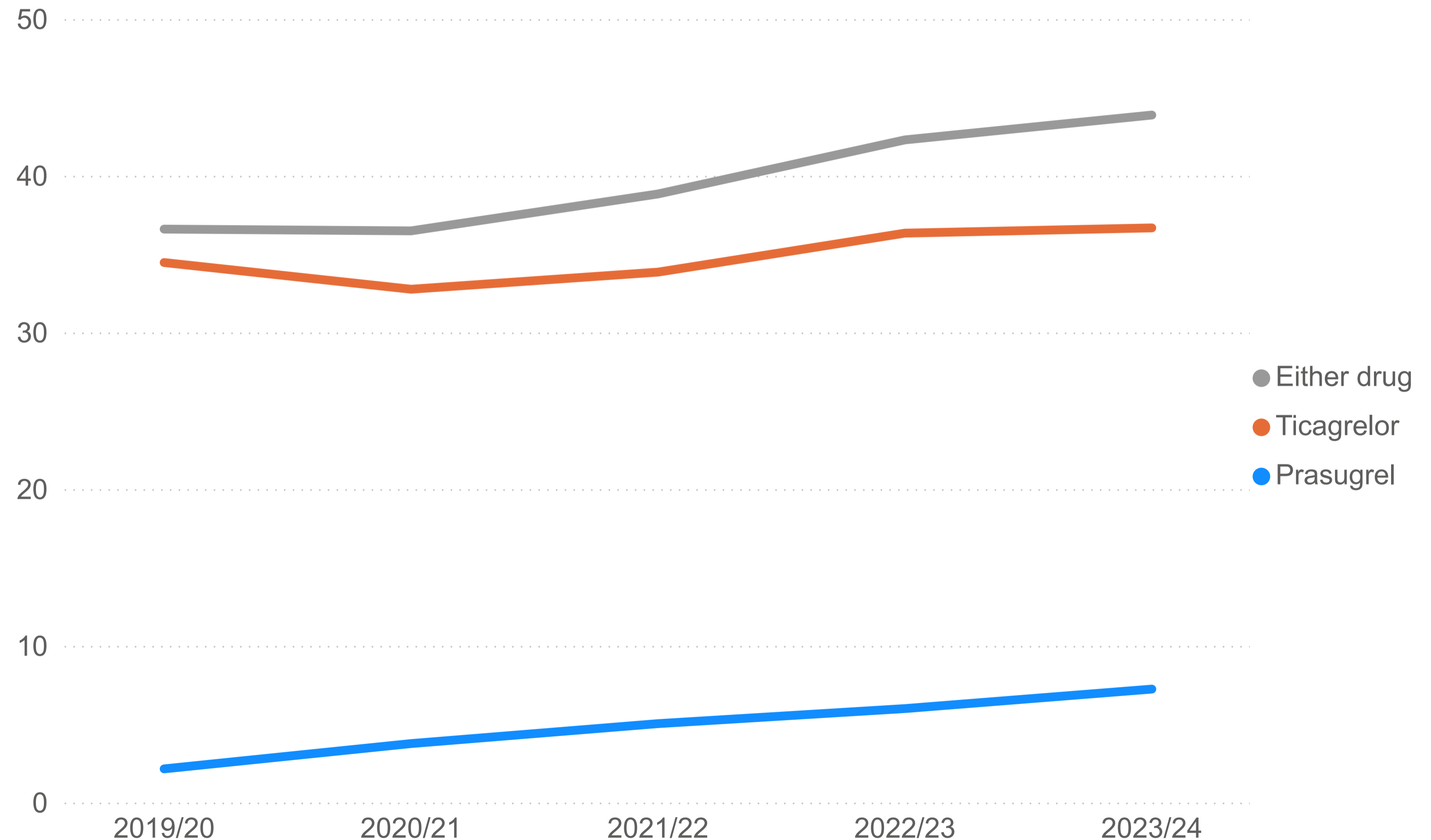
Antiplatelet drugs are used in acute coronary syndromes (ACS) and following percutaneous coronary intervention (PCI) to reduce the risks of further cardiovascular events.

Two different types of antiplatelet are used, aspirin and a P2Y12 inhibitor. Traditionally the P2Y12 inhibitor that has been used is clopidogrel, but recent trials have shown that prasugrel and ticagrelor are associated with better outcomes. One trial has shown better outcomes with prasugrel compared to ticagrelor. For more details, see references.

Current European Society of Cardiology [guidelines](#) recommend that prasugrel or ticagrelor are used in preference to clopidogrel in patients undergoing PCI in whom there are no contra-indications, and prasugrel in preference to ticagrelor.

The use of either ticagrelor or prasugrel after PCI for ACS has slowly increased (44% in 2023/24). There has been a gradual increase in the prescription of prasugrel.

Percentage use of prasugrel and ticagrelor for PCI in acute coronary syndromes



There is significant variation in prasugrel and ticagrelor use in PCI for an acute coronary syndrome between ICBs / HBs, and between Cardiac Networks



Percentage use of prasugrel or ticagrelor in acute coronary syndromes treated by PCI by ICB/HB (2023/24)

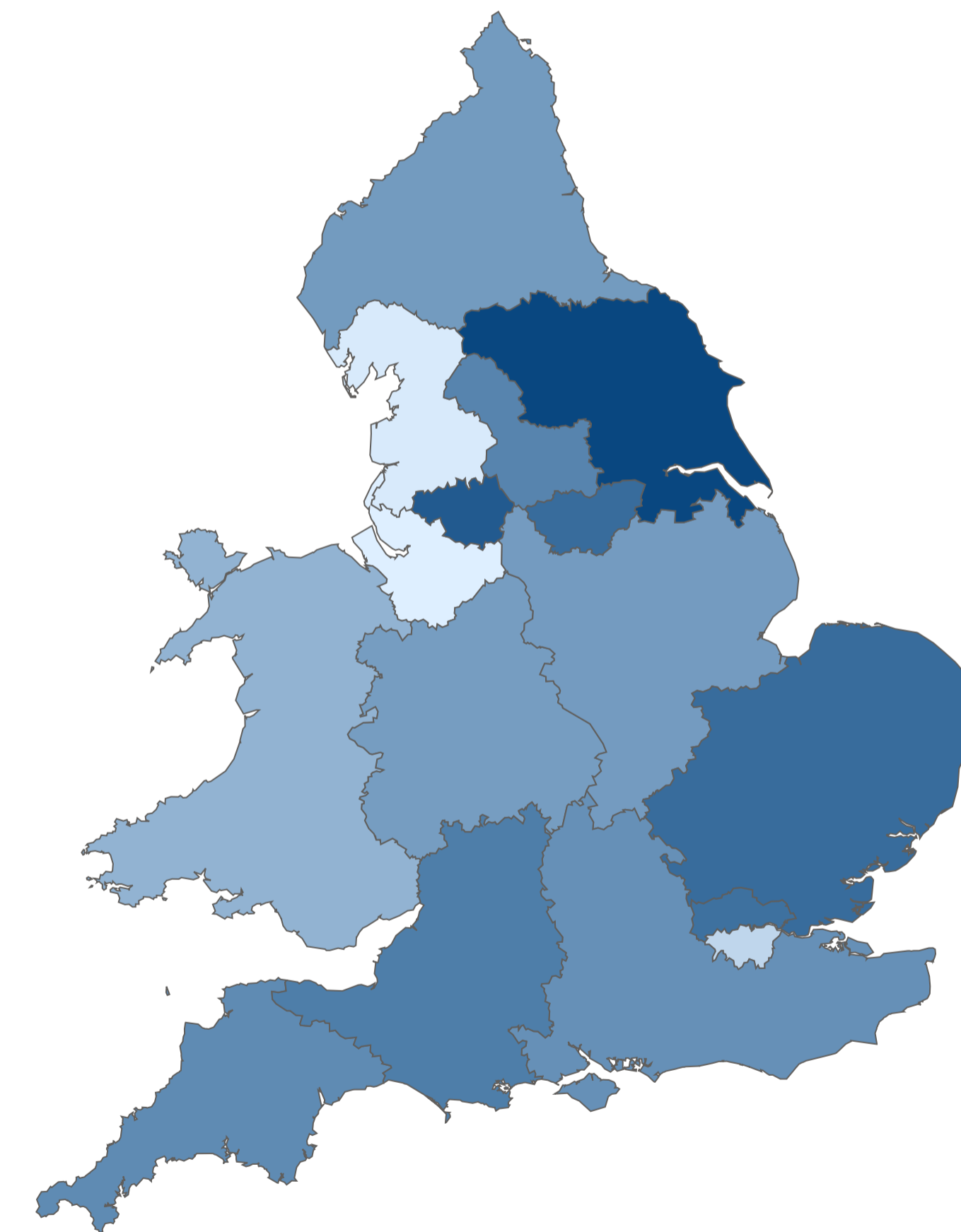
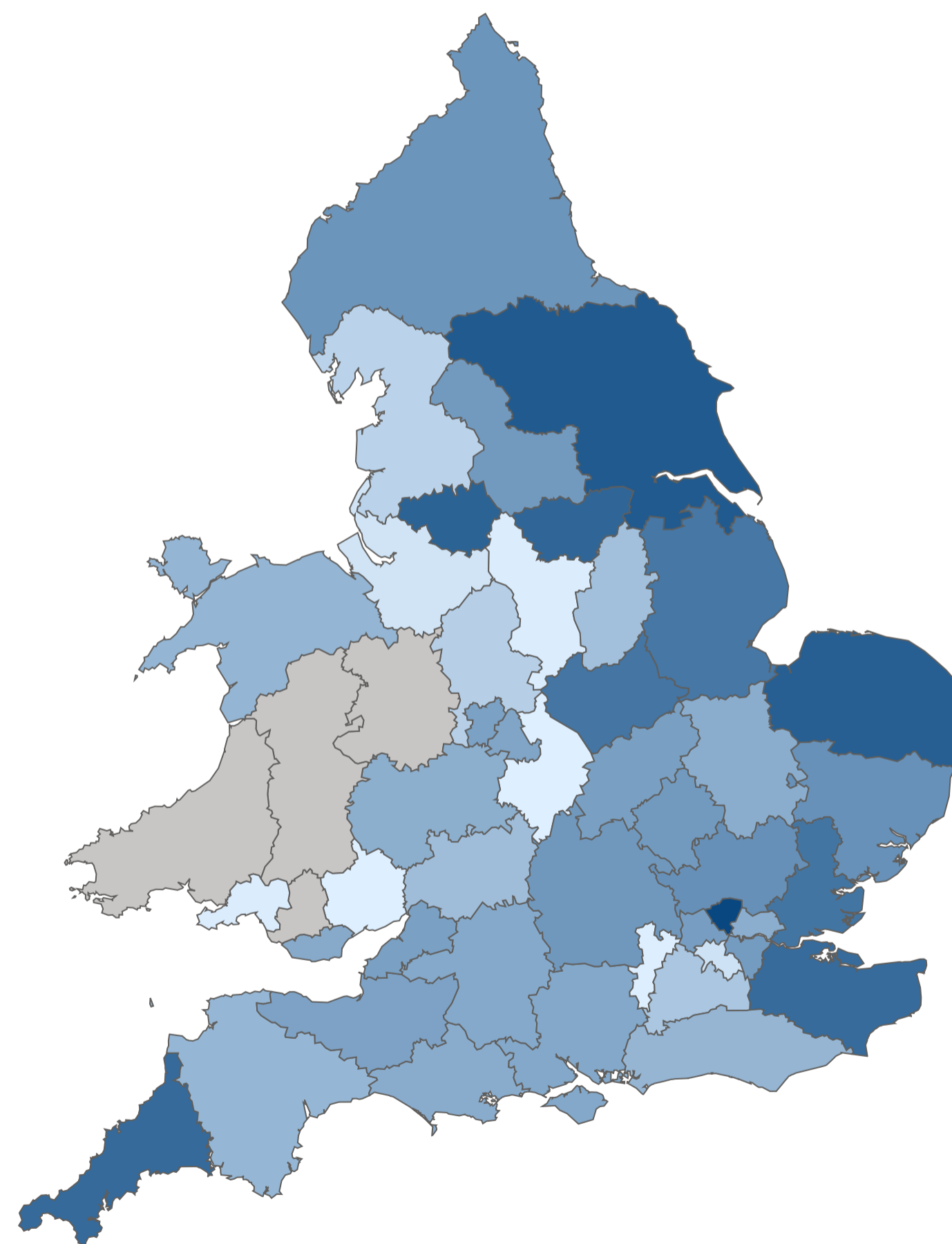
Percentage use of prasugrel or ticagrelor in acute coronary syndromes treated by PCI by Cardiac Network (2023/24)

The maps show the use of newer P2Y12 antiplatelet drugs in patients with an acute coronary syndrome (ACS) treated by percutaneous coronary intervention (PCI) for:

- the 42 Integrated Health Boards (ICBs) in England and 7 University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks in England and Wales (service delivery networks).

A darker colour represents a higher level of prescription of these drugs to ACS patients undergoing PCI.

They are used in all cases in NHS North Central London ICB but hardly any cases in NHS Frimley, NHS Coventry and Warwickshire and NHS Derby and Derbyshire ICBs.



Note: Area data are based on the location of the hospital rather than the patient home location.

The use of new P2Y12 antiplatelet drugs in PCI for an acute coronary syndrome varies significantly by hospital

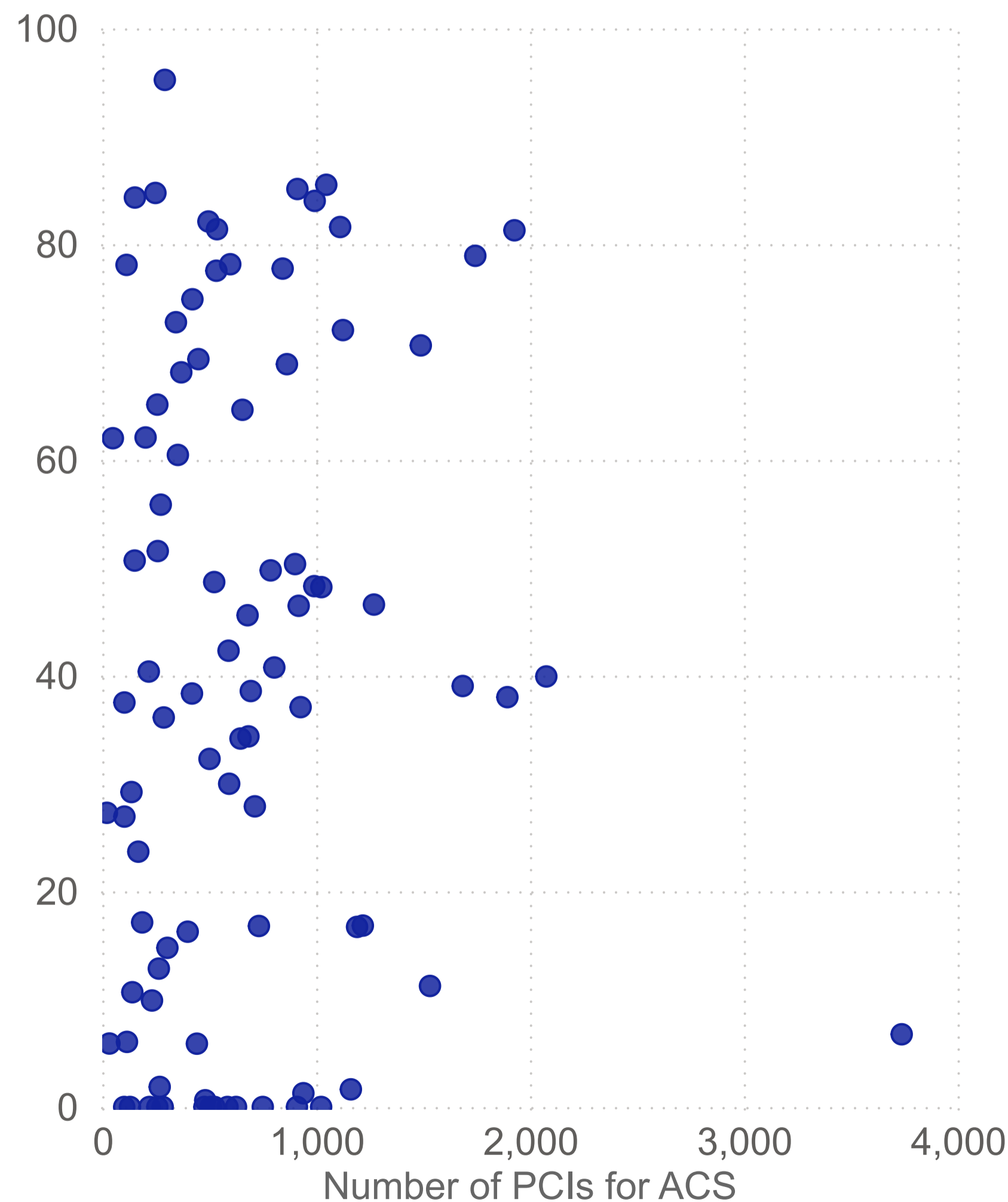


There is huge variation in the prescribing of new P2Y12 antiplatelet drugs in PCI for acute coronary syndrome (from zero to 100%).

Select a hospital below to see its data or hover over a dot in the scatter plot.

Select hospital

Percentage use of prasugrel or ticagrelor for ACS, by hospital (2023/24)



The rate of use of P2Y12 antiplatelet drugs in PCI for acute coronary syndromes varies between zero and 100% across hospitals



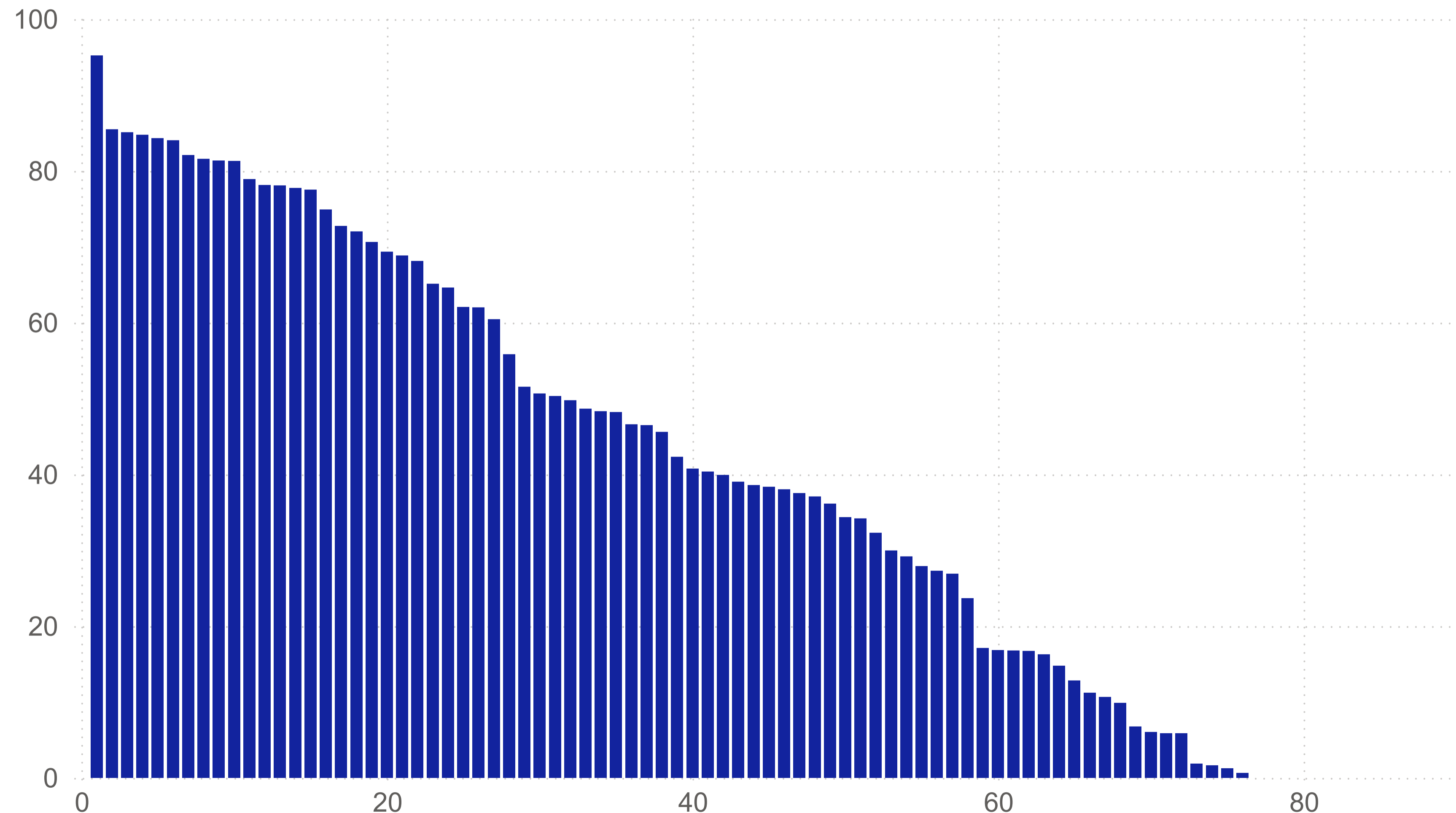
There is huge variation between hospitals in use of new P2Y12 antiplatelet drugs in PCI for acute coronary syndrome.

The rate of prescribing is between zero and 100% of cases.

Select a hospital below to see its data.

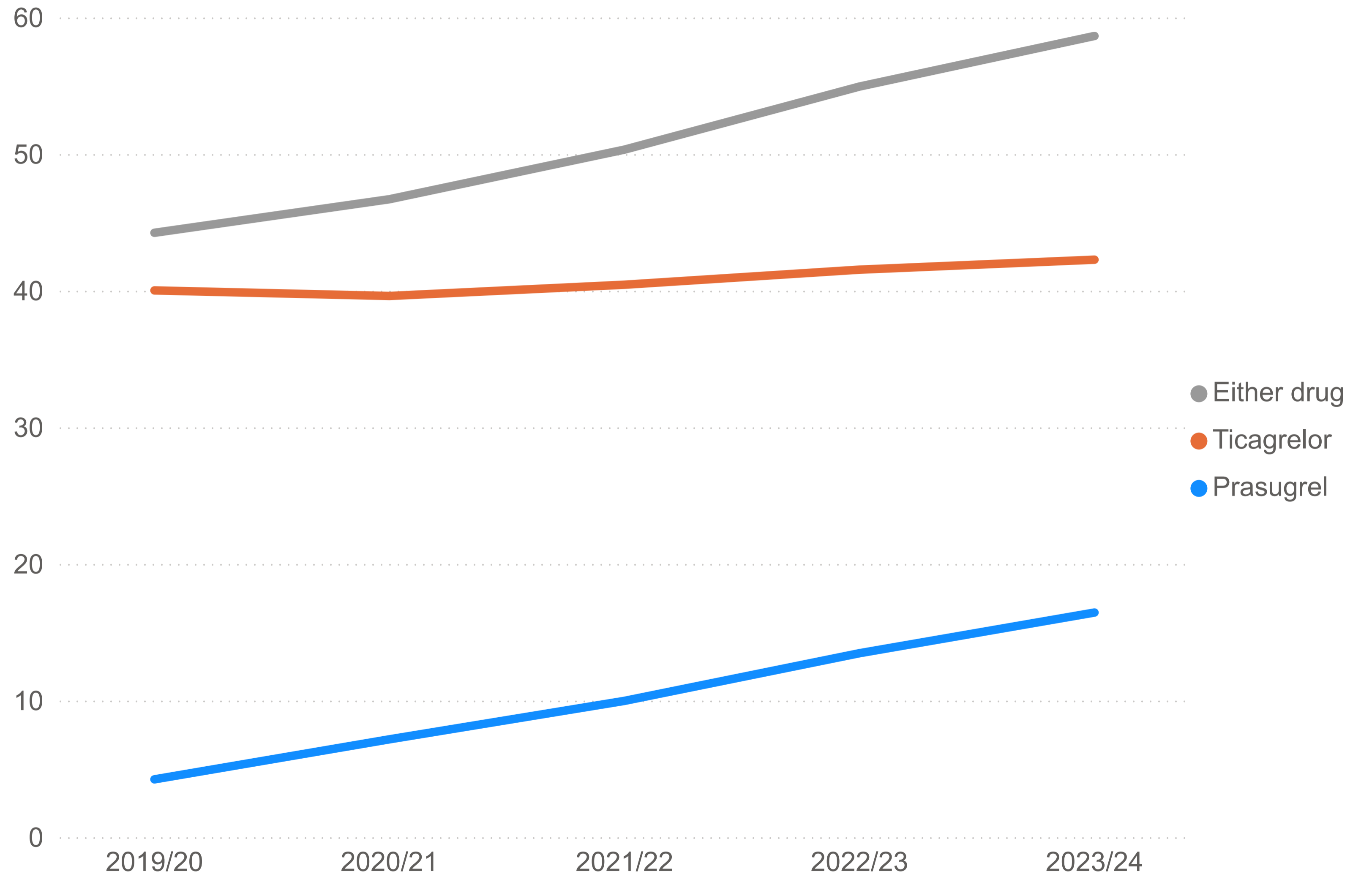
Select hospital

Percentage of patients receiving either prasugrel or ticagrelor for ACS, by hospital (2023/24)





Percentage use of prasugrel and ticagrelor in PPCI for STEMI



There is an increasing use of both prasugrel and ticagrelor in primary PCI (PPCI) for ST-elevation myocardial infarction (STEMI).

Nearly 60% of patients received one of these drugs in 2023/24.

P2Y12 antiplatelet drug usage in primary PCI for STEMI varies by ICB / HB and by Cardiac Network



The maps show the use of new P2Y12 antiplatelet drugs in patients with ST-elevation myocardial infarction (STEMI) treated by primary percutaneous coronary intervention (PPCI) for:

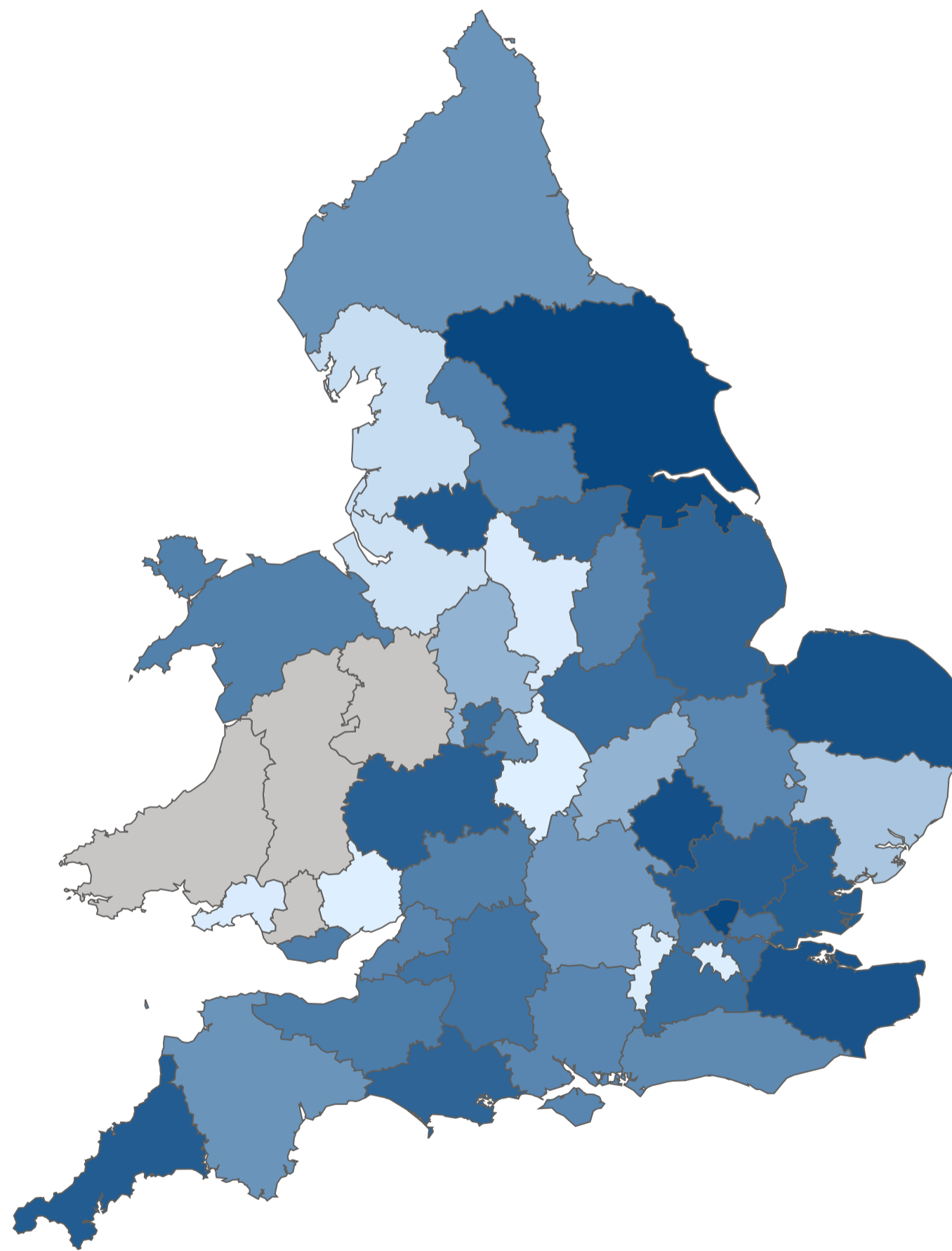
- the 42 Integrated Health Boards (ICBs) in England and 7 University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks in England and Wales (service delivery networks).

A darker colour signifies a higher rate of use. Hover over each region to see its data.

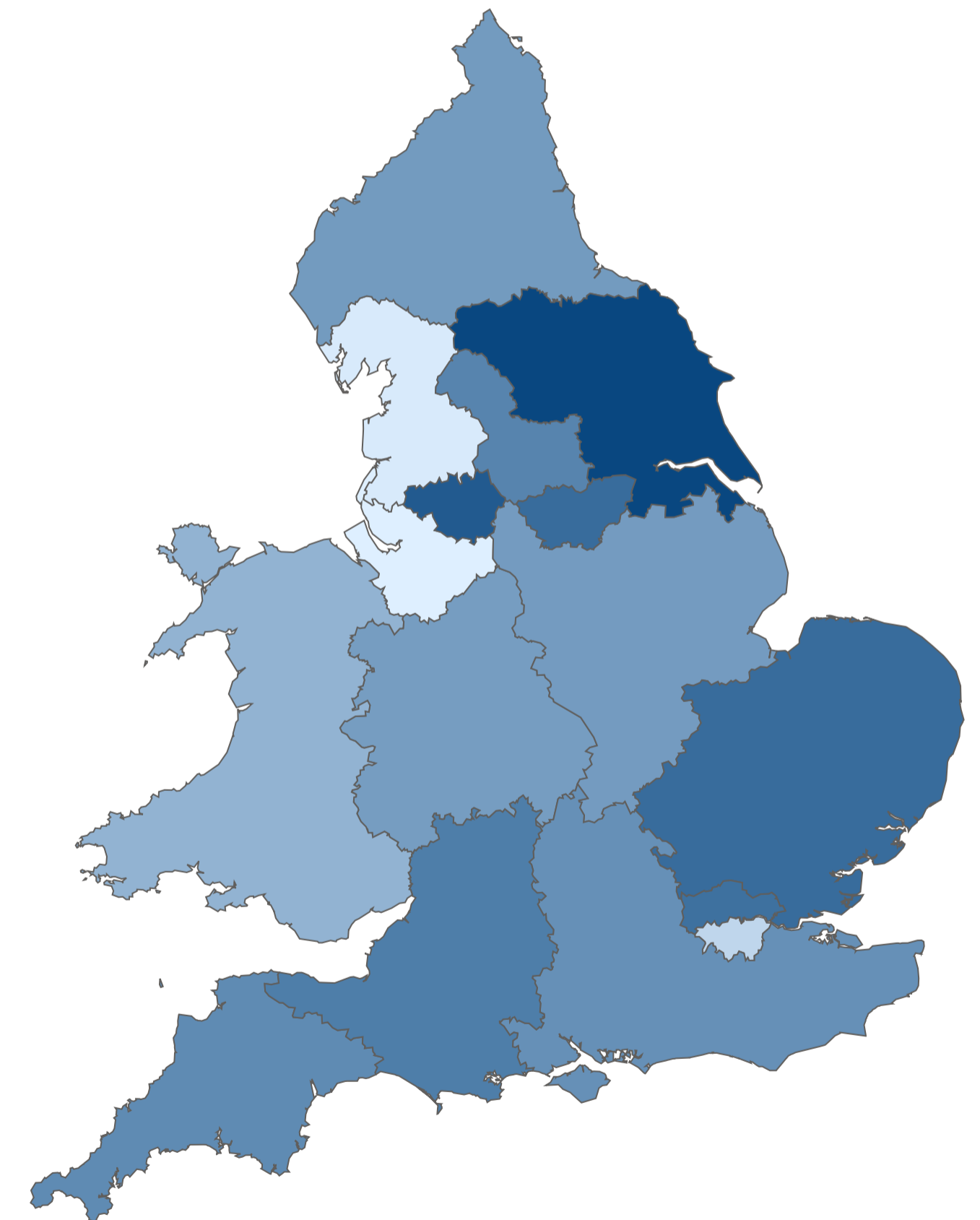
Prescribing of new P2Y12 antiplatelet drugs in STEMI patients varies from 100% in Humber and North Yorkshire Cardiac Network to 8% in Cheshire and Lancashire Cardiac Network.

Note: Area data are based on the location of the hospital rather than the patient home location.

Percentage use of prasugrel and ticagrelor in PPCI by ICB/HB (2023/24)



Percentage use of prasugrel and ticagrelor in PPCI by Cardiac Network (2023/24)



Some hospitals use newer P2Y12 antiplatelet drugs for all STEMI cases treated by PPCI, but others use them in a minority of cases



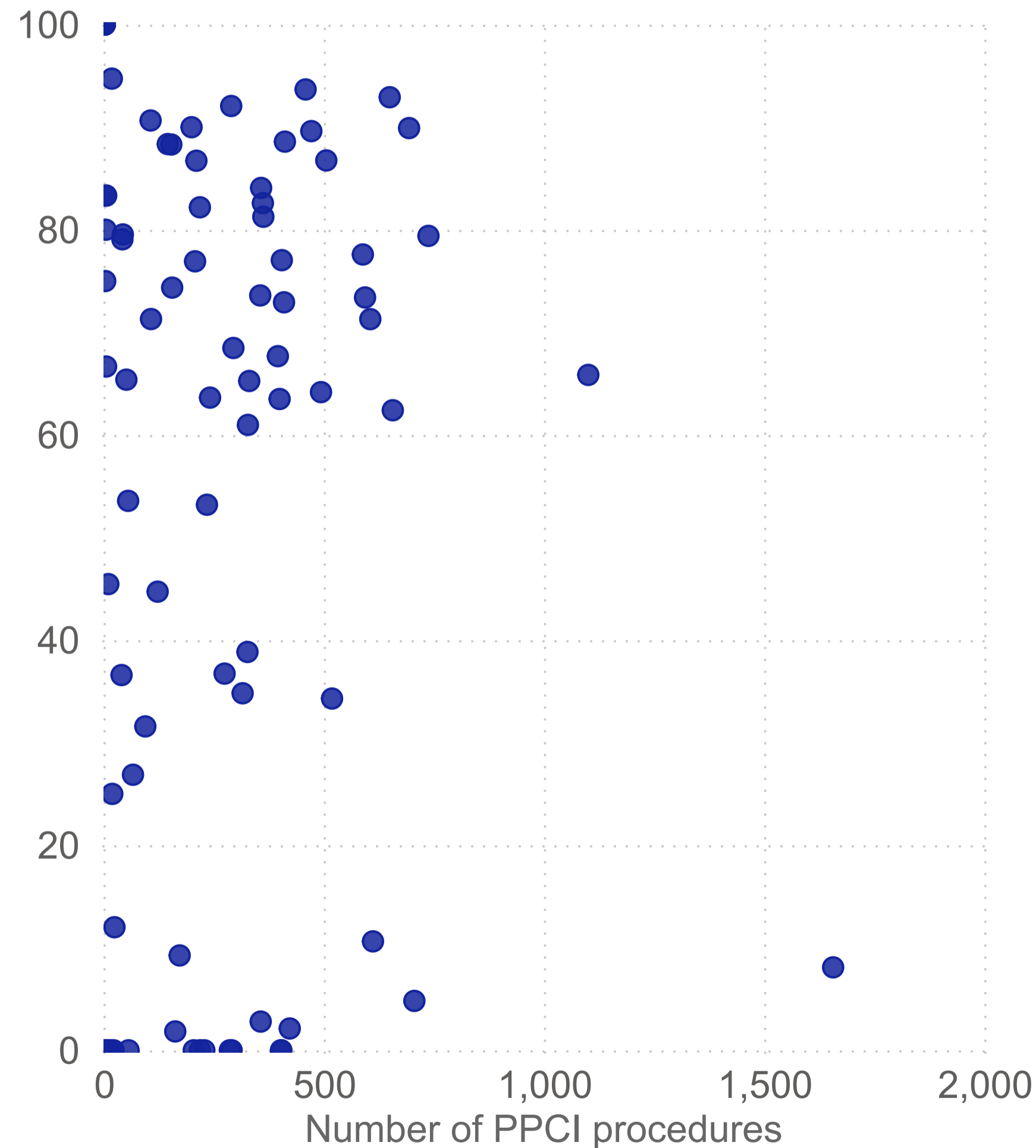
There are wide variations between hospitals in prescription patterns for the use of newer P2Y12 drugs in ST-elevation myocardial infarction (STEMI) treated by primary percutaneous coronary intracoronary (PPCI).

Some hospitals do not use these drugs (presumably preferring to use clopidogrel) but some use them in all cases.

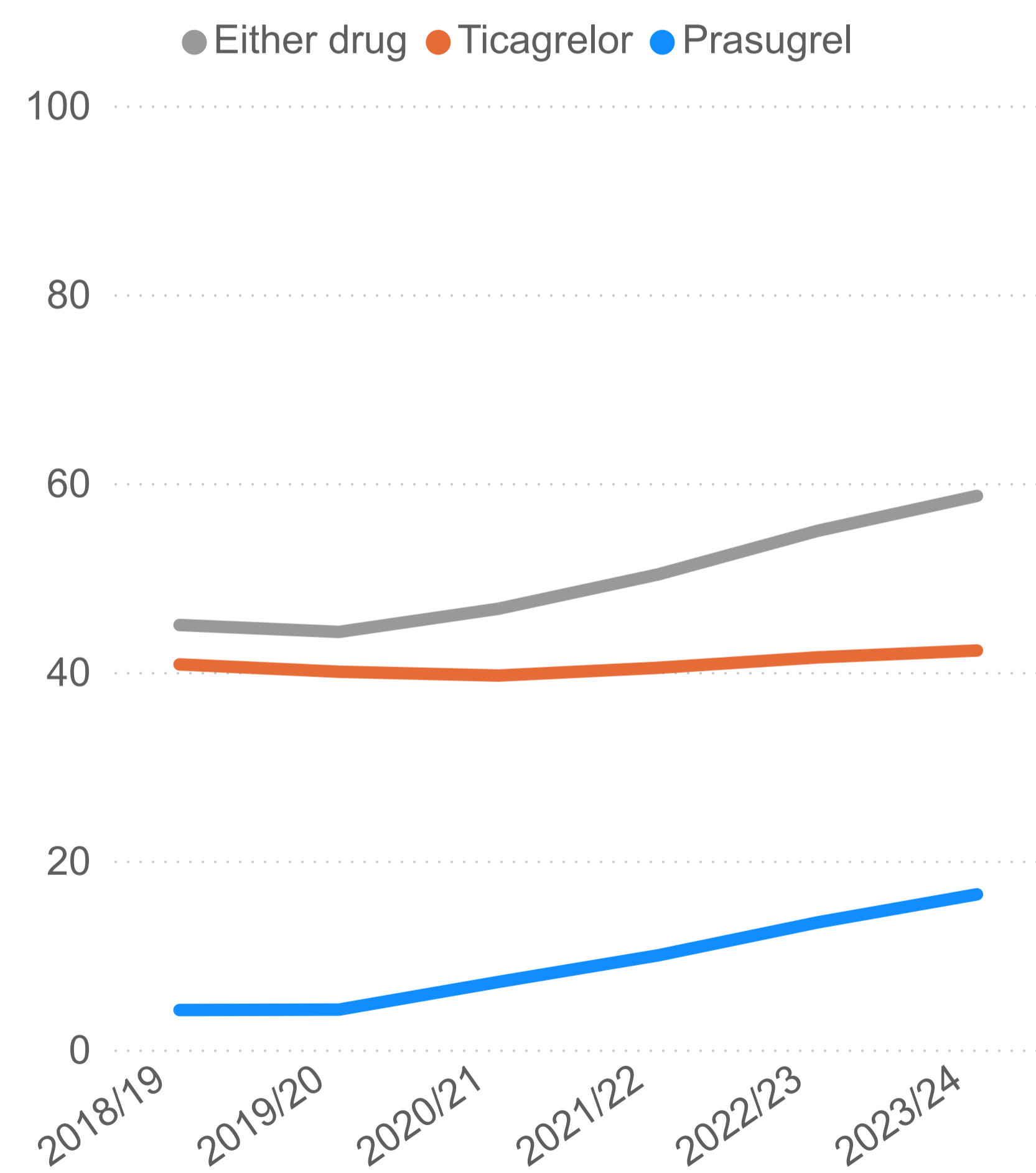
Select a hospital below to see its data or hover over a dot in the scatter plot.

Select hospital

Percentage use of prasugrel or ticagrelor for PPCI, by hospital (2023/24)



Percentage use of prasugrel and ticagrelor for PPCI



P2Y12 antiplatelet drug prescription for patients treated by PPCI for STEMI varies by hospital



Percentage of use of prasugrel or ticagrelor in STEMI patients undergoing PPCI, by hospital (2023/24)

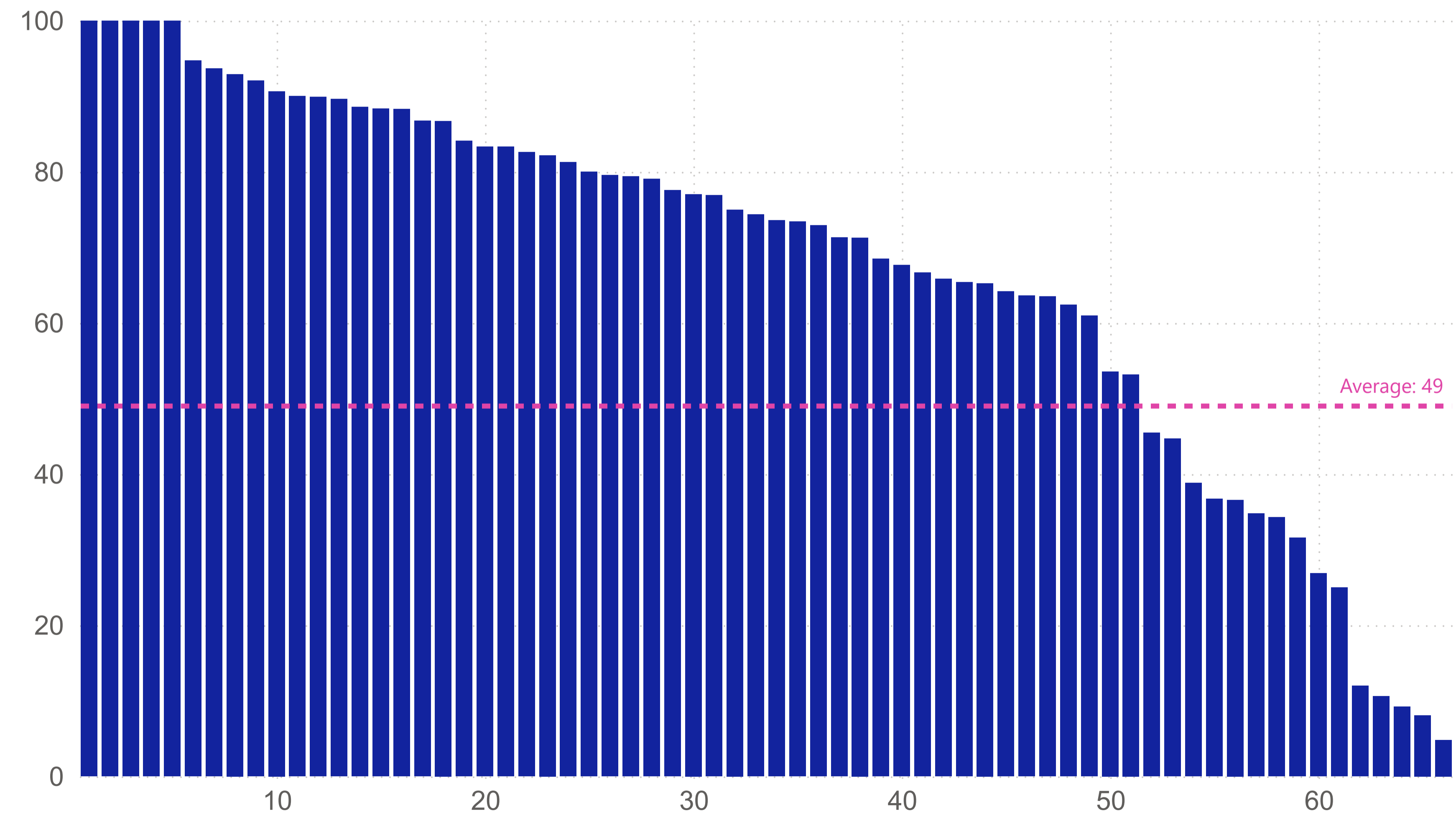
There is huge variation between hospitals in use of new P2Y12 antiplatelet drugs in ST-elevation myocardial infarction (STEMI) treated by primary percutaneous coronary intervention (PPCI).

The rate of prescribing is between 12% and 100% of cases.

Select a hospital below to see its data.

Select hospital

All ▾



P2Y12 antiplatelet drug usage for NSTEMI continues to increase, although low prasugrel use is counter to guideline recommendations

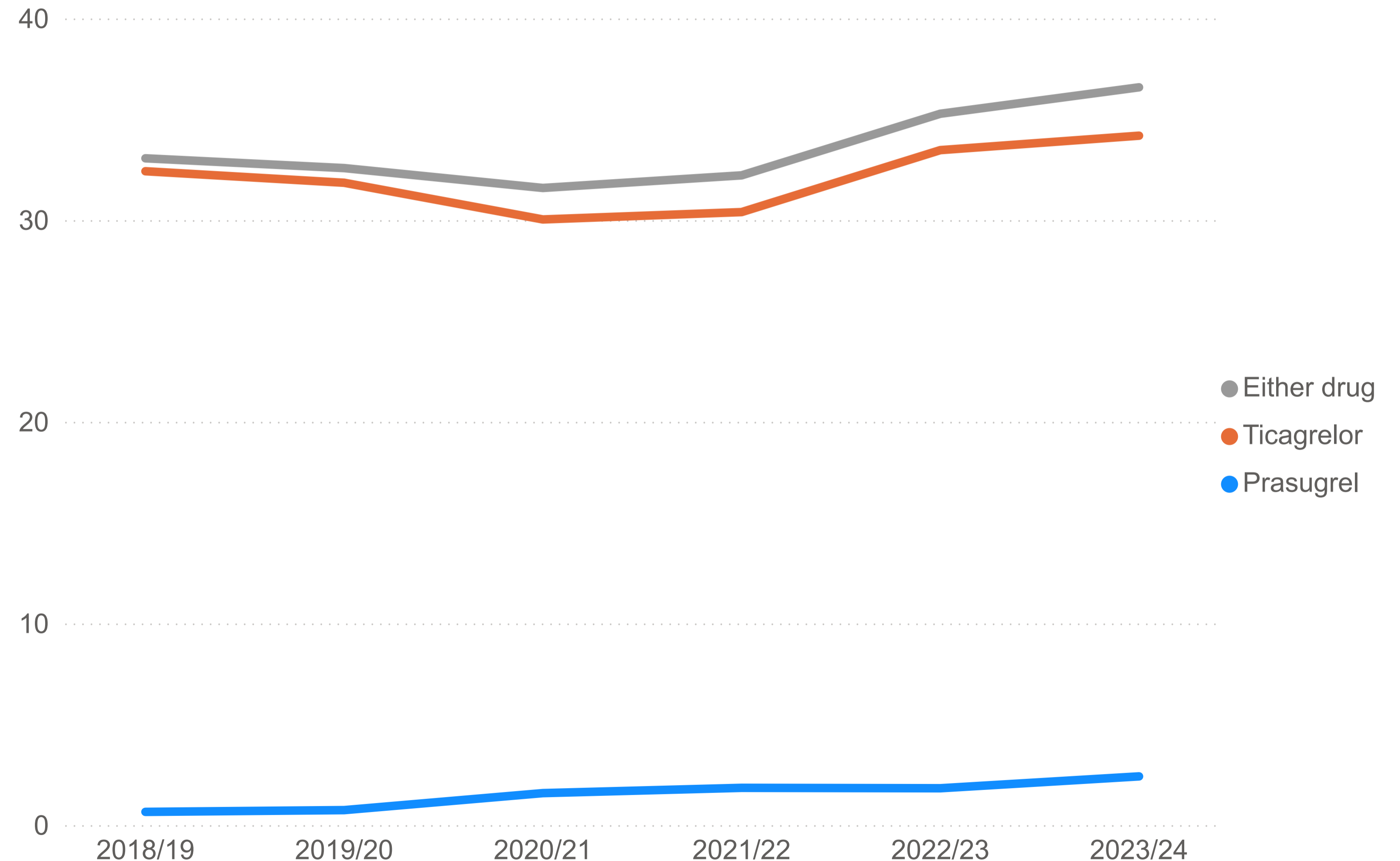


The use of newer antiplatelets such as prasugrel or ticagrelor increased slightly in PCI for non-ST-elevation myocardial infarction (NSTEMI) during 2023/24.

UK practice lags behind European Society of Cardiology guidelines which recommend the use of prasugrel over ticagrelor. In 2023/24, only 2.4% of PCI cases involving NSTEMI patients were treated with prasugrel.

This is unlikely to reflect contraindications to prasugrel and more likely reflects deviation of practice from guideline recommendations.

Percentage use of prasugrel and ticagrelor in PCI for NSTEMI patients



P2Y12 antiplatelet drug prescription after PCI for NSTEMI varies substantially between ICBs / HBs, and between Cardiac Networks



The maps show the use of newer P2Y12 antiplatelet drugs in patients with non-ST-elevation myocardial infarction (NSTEMI) treated by percutaneous coronary intervention (PCI) for:

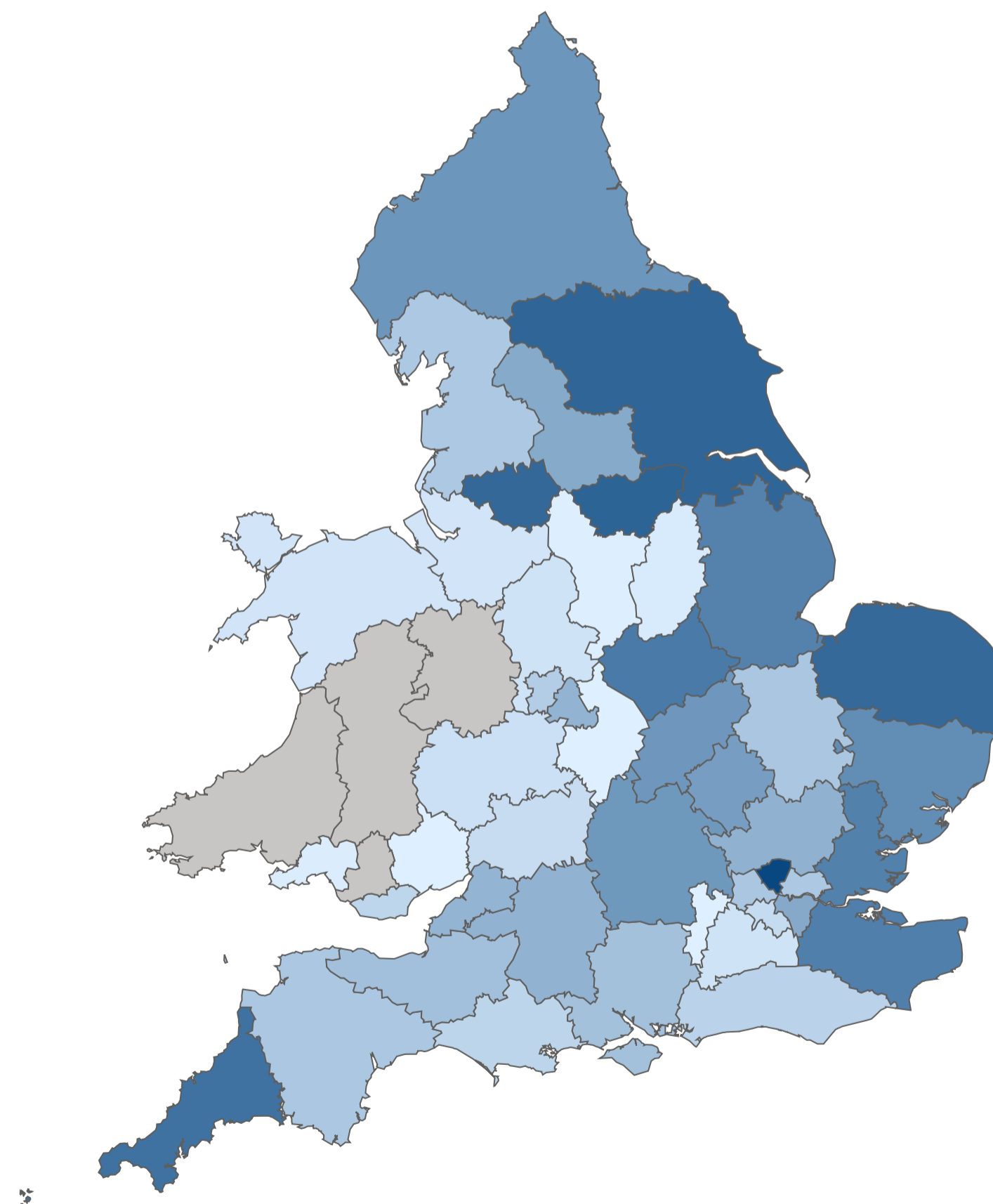
- the 42 Integrated Health Boards (ICBs) in England and 7 University Health Boards (HBs) in Wales (commissioning organisations)
- the 16 Cardiac Networks in England and Wales (service delivery networks).

A darker colour represents greater use of these drugs.

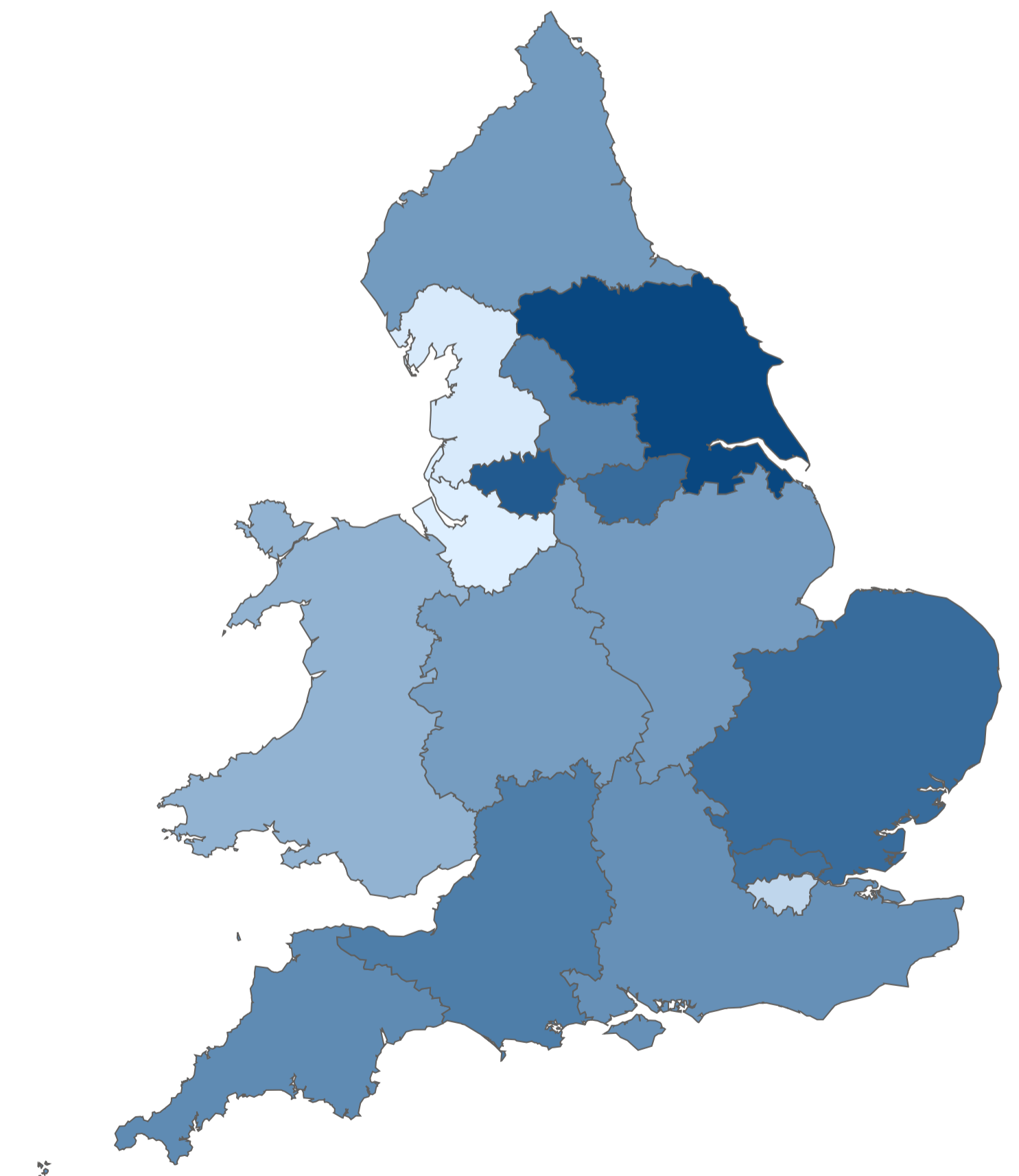
The rate varies from all patients (NHS North Central London ICB) to no patient (NHS Coventry and Warwickshire ICB).

Note: Area data are based on the location of the hospital rather than the patient home location.

Percentage use of prasugrel and ticagrelor in PCI for NSTEMI by ICB/HB (2023/24)



Percentage use of prasugrel and ticagrelor in PCI for NSTEMI by Cardiac Network (2023/24)



There is considerable variation in the use of P2Y12 antiplatelet drugs after PCI for NSTEMI between hospitals



There are huge variations between hospitals in prescribing newer P2Y12 antiplatelet drugs after percutaneous coronary intervention (PCI) in cases of non-ST-elevation myocardial infarction (NSTEMI).

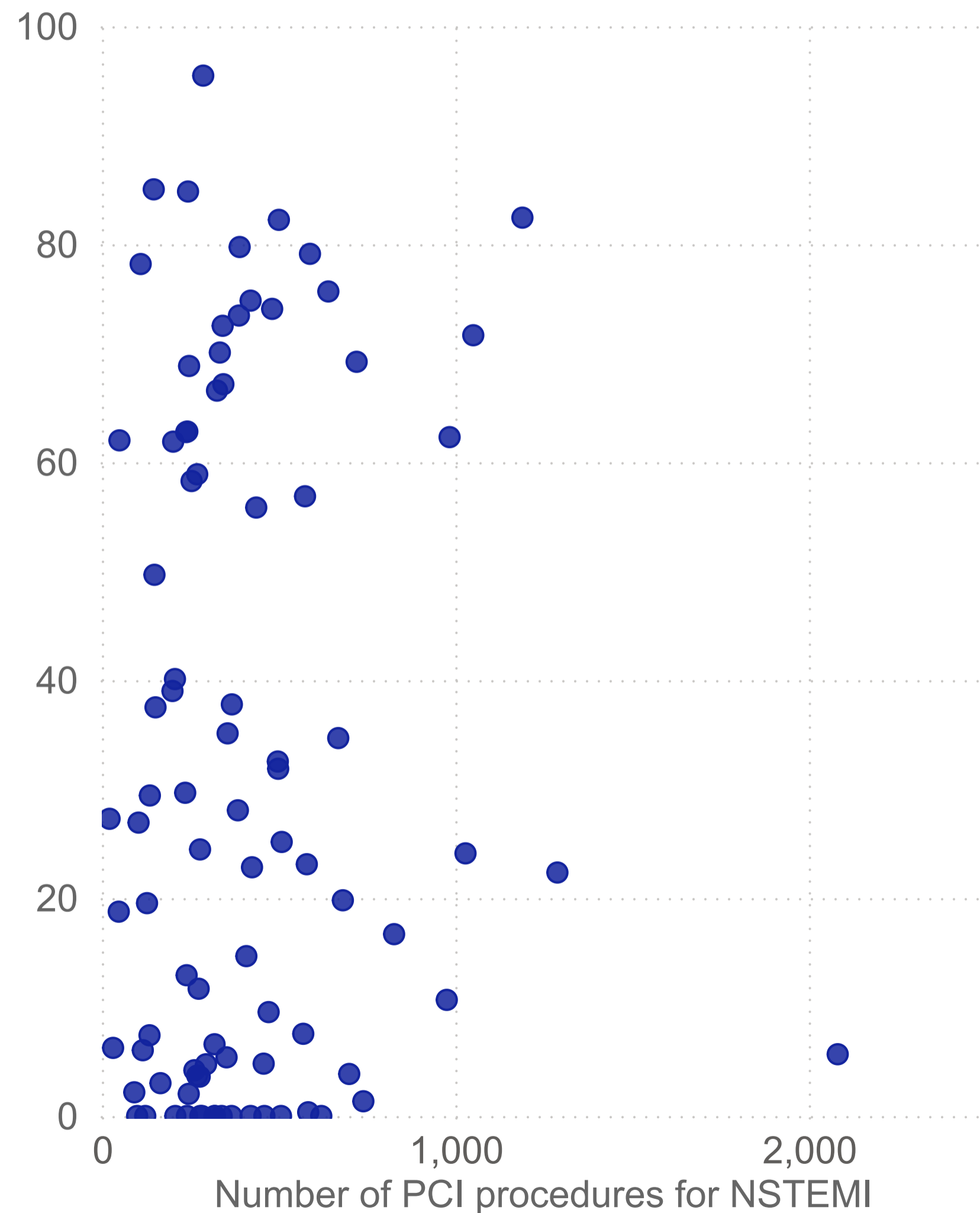
Despite the international recommendations, the use of these newer antiplatelet agents varies between zero and 100% across hospitals.

Select a hospital below to see its data or hover over a dot in the scatter plot.

Select hospital

All

Percentage use of prasugrel or ticagrelor after PCI for NSTEMI, by hospital (2023/24)



P2Y12 antiplatelet drug usage after PCI for NSTEMI varies between hospitals



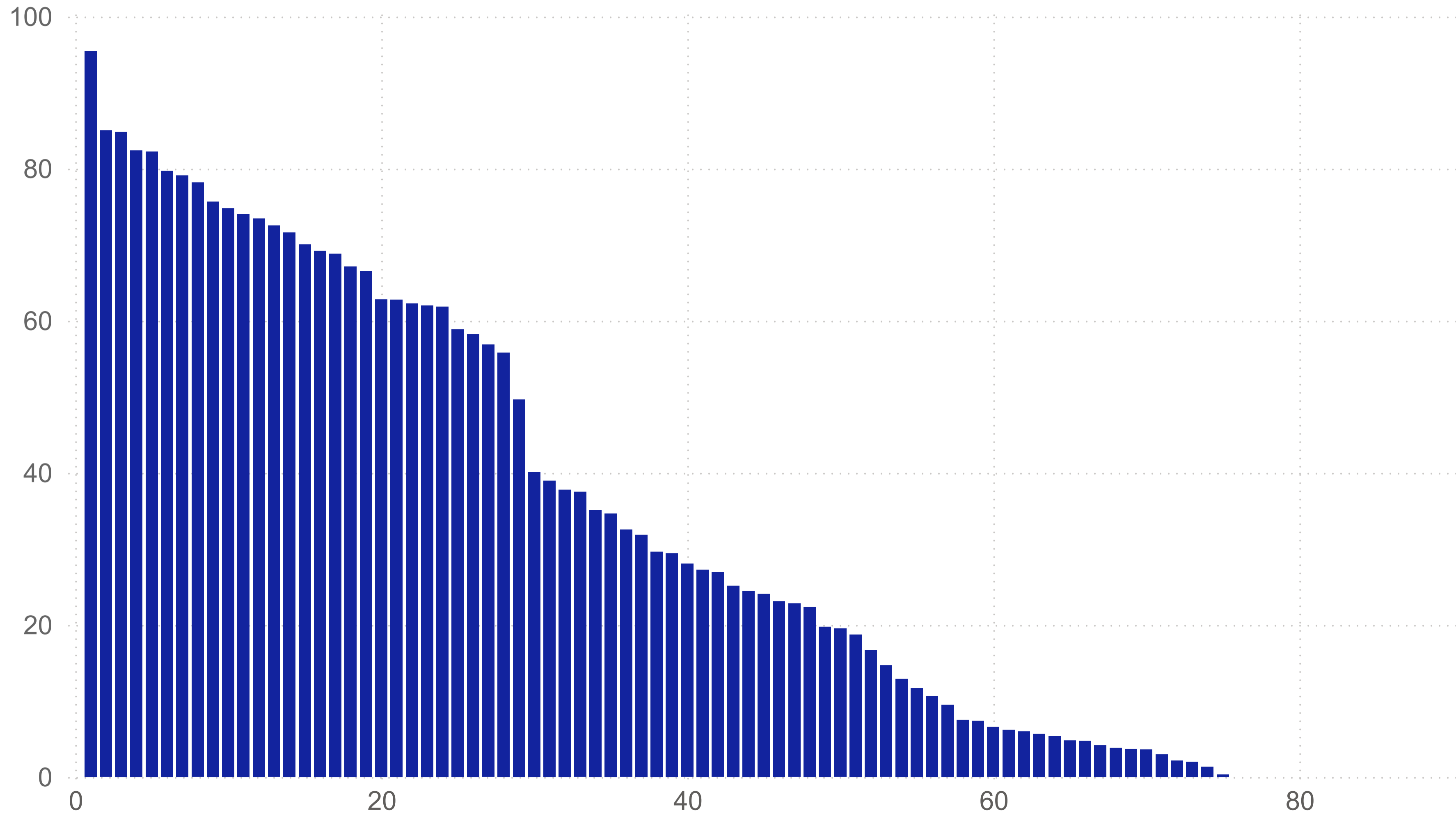
There is huge variation between hospitals in the use of new P2Y12 antiplatelet drugs in patients with non-ST-elevation myocardial infarction (NSTEMI) treated by percutaneous coronary intervention (PCI).

Some hospitals use these drugs in every case and others in none.

Select a hospital below to see its data.

Select hospital

Percentage of patients receiving either prasugrel or ticagrelor after PCI for NSTEMI by hospital (2023/24)



The use of drug-eluting balloons has increased to 12% of all PCI cases



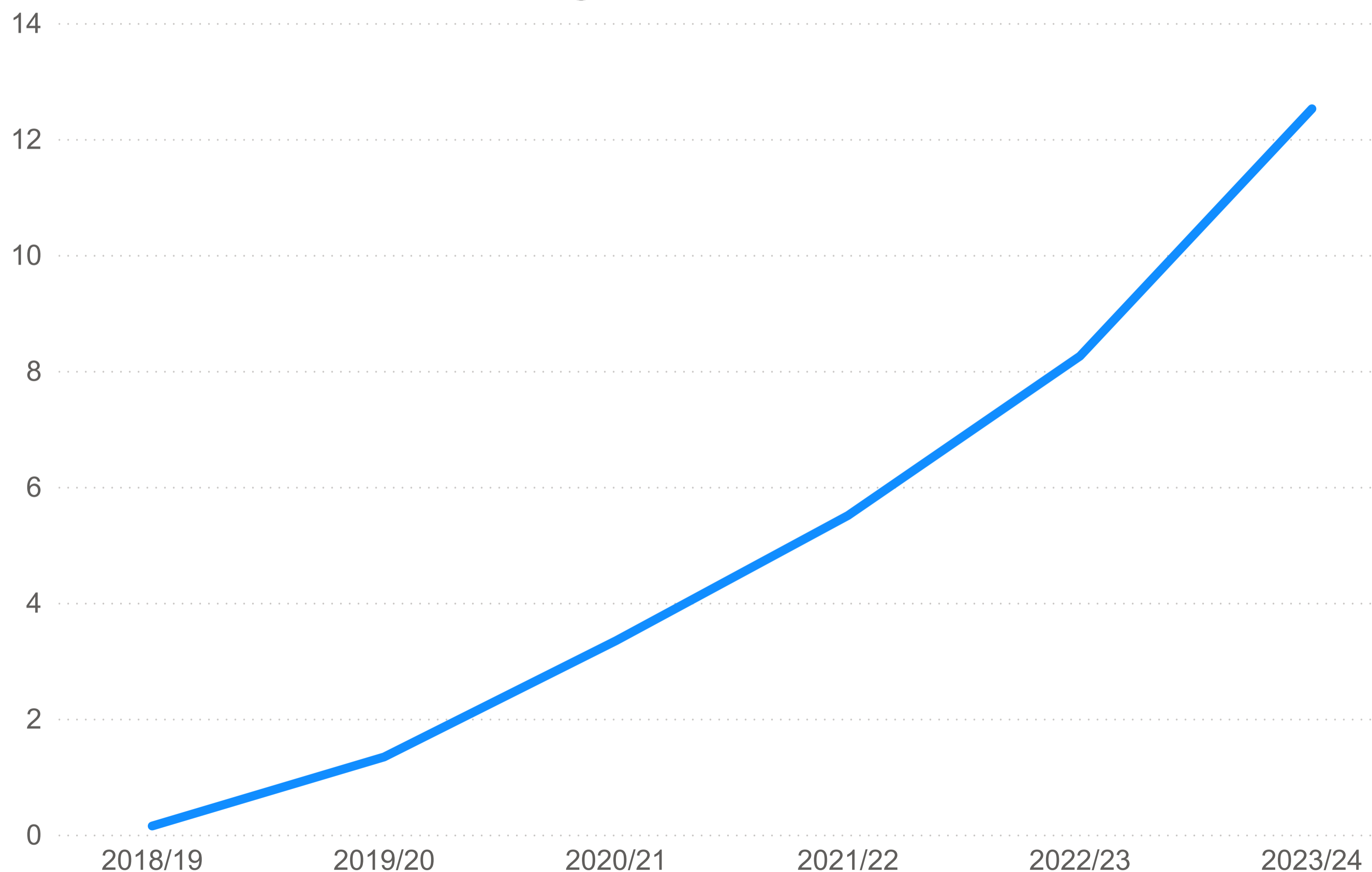
Drug-eluting balloons (DEB) are conventional angioplasty balloons covered with an anti-proliferative drug which is released into the vessel wall during inflation of the balloon, and are increasingly used instead of stents for a number of indications including restenosis where a stent has already been used, small vessels, side branch disease and increasingly in new lesions where a stent may have been used in the past.

In 2023/24, a drug-eluting balloon (DEB) was used in 12% of all PCI procedures, up from 8% the year before.

However, that figure is significantly different to that reported in the BCIS annual survey, highlighting that the NAPCI audit data are not accurately capturing drug-eluting balloon use during PCI (e.g. some centres may be recording drug-eluting balloons as regular balloons).

The data in the following slides are from the NAPCI audit and may therefore underestimate drug-eluting balloon use.

Percentage use of drug-eluting balloons during PCI procedures in England and Wales



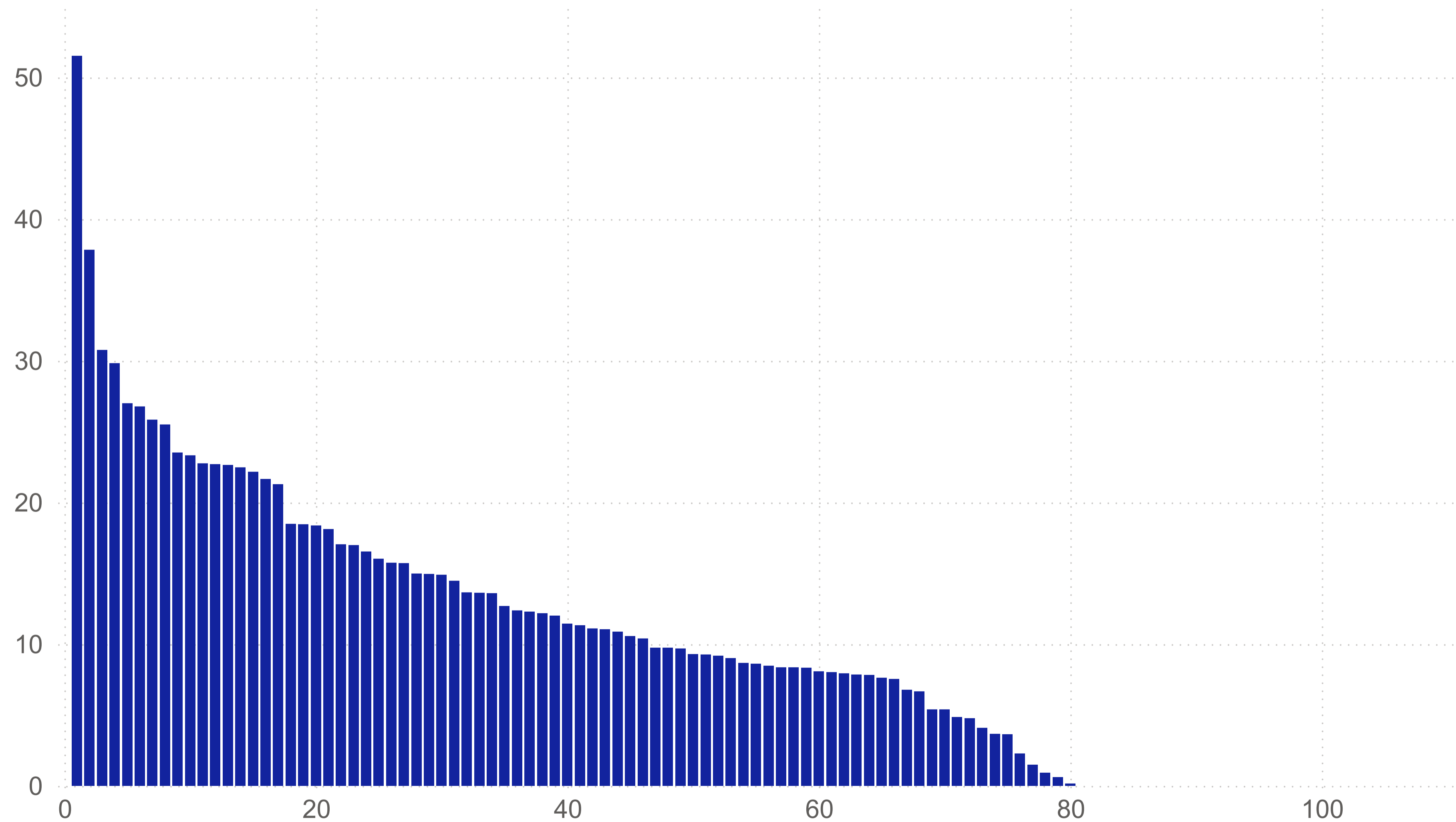


Percentage use of drug-eluting balloons during PCI by hospital (2023/24)

The rate of drug-eluting balloon use by hospital varies from zero to over 50% of cases.

Select a hospital below to see its data or hover the bars in the graph.

Select hospital



Drug-eluting balloon use in PCI cases where no stent is used varies between hospitals



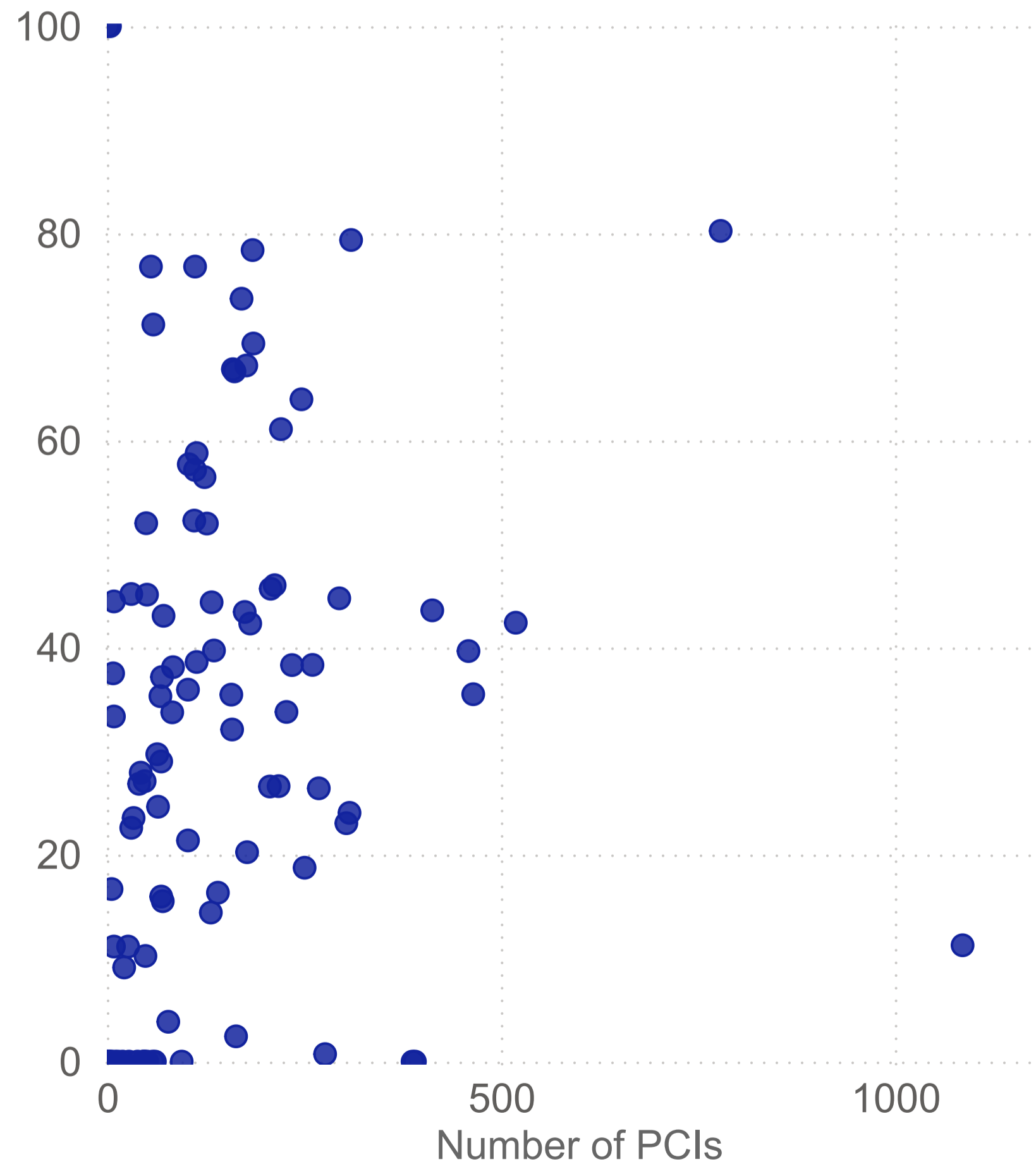
Drug-eluting balloons can be used in conjunction with a stent, or can be used by themselves to treat a lesion.

Use of a drug-eluting balloon (DEB) in PCI without a stent varied between hospitals from zero to 100% in 2023/24.

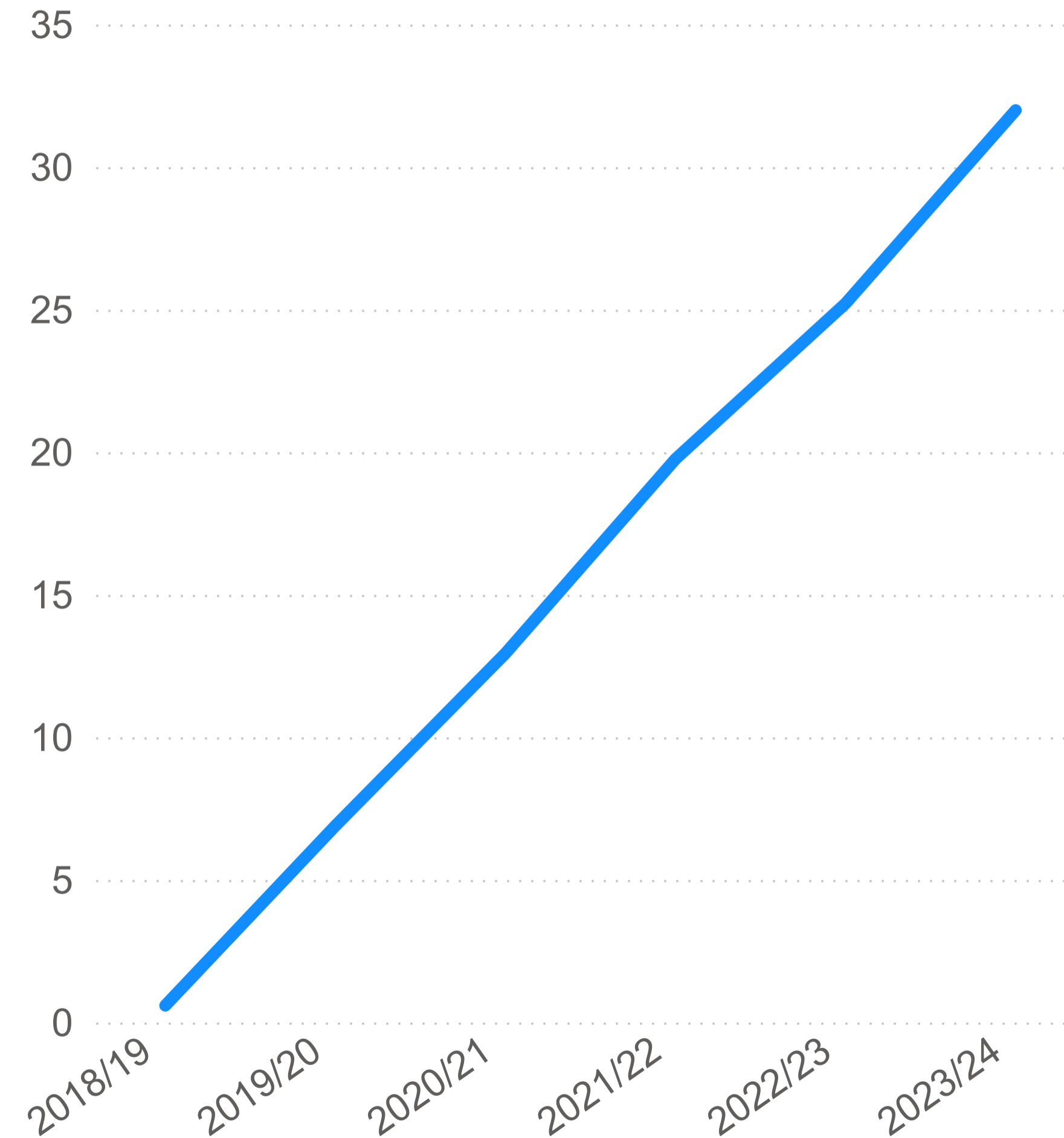
Select a hospital below to see its data or hover over a dot on the scatter plot.

Select hospital

Percentage use of drug-eluting balloons during PCI without stent use by hospital (2023/24)



Percentage use of drug-eluting balloons during PCI without stent use



Drug-eluting balloon use in PCI when no stent is used varies between hospitals



Drug-eluting balloons can be used in conjunction with a stent, or can be used by themselves to treat a lesion.

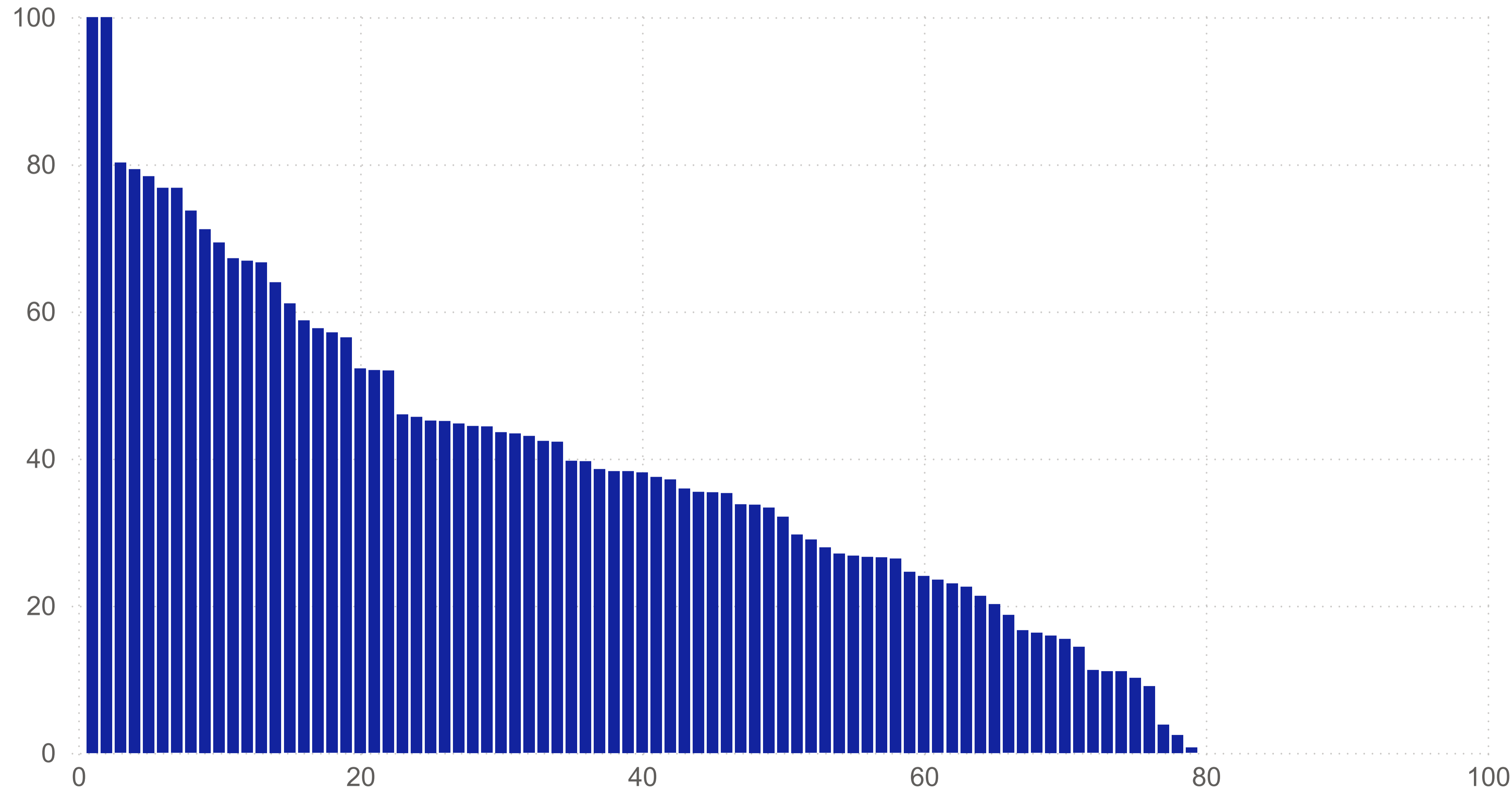
Use of a drug-eluting balloon (DEB) in PCI without a stent varied between hospitals from zero to 46% in 2023/24.

Select a hospital below to see its data or hover the bars in the graph.

Select hospital

All 

Percentage use of drug-eluting balloons during PCI without stent use by hospital (2023/24)



There is considerable variation in the use of a drug-eluting balloon in PCI cases when a stent is also used

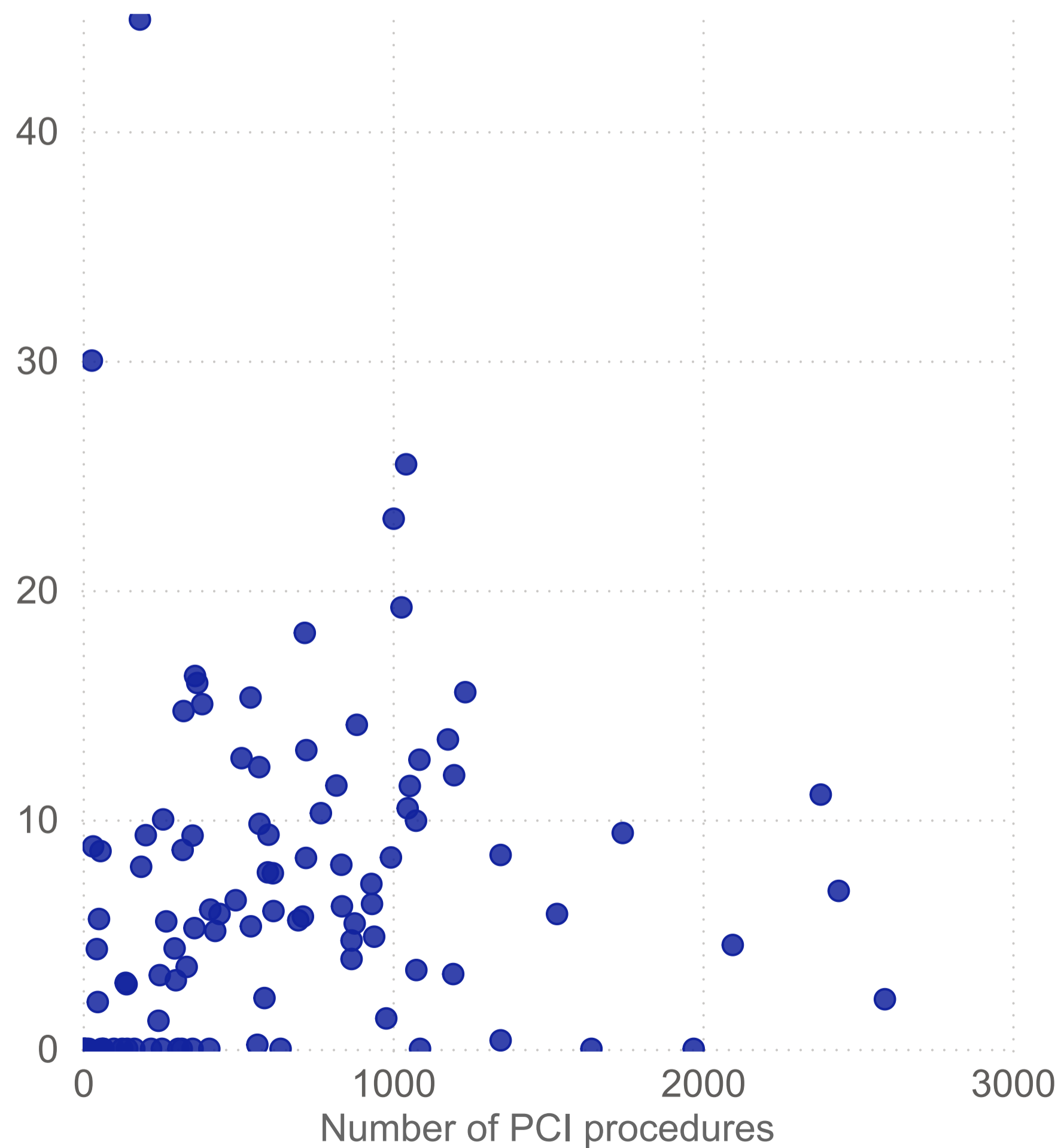


A drug-eluting balloon (DEB) is sometimes used alongside a stent, especially for complex cases like branched arteries, long blockages, or when blood flow is affected after balloon treatment.

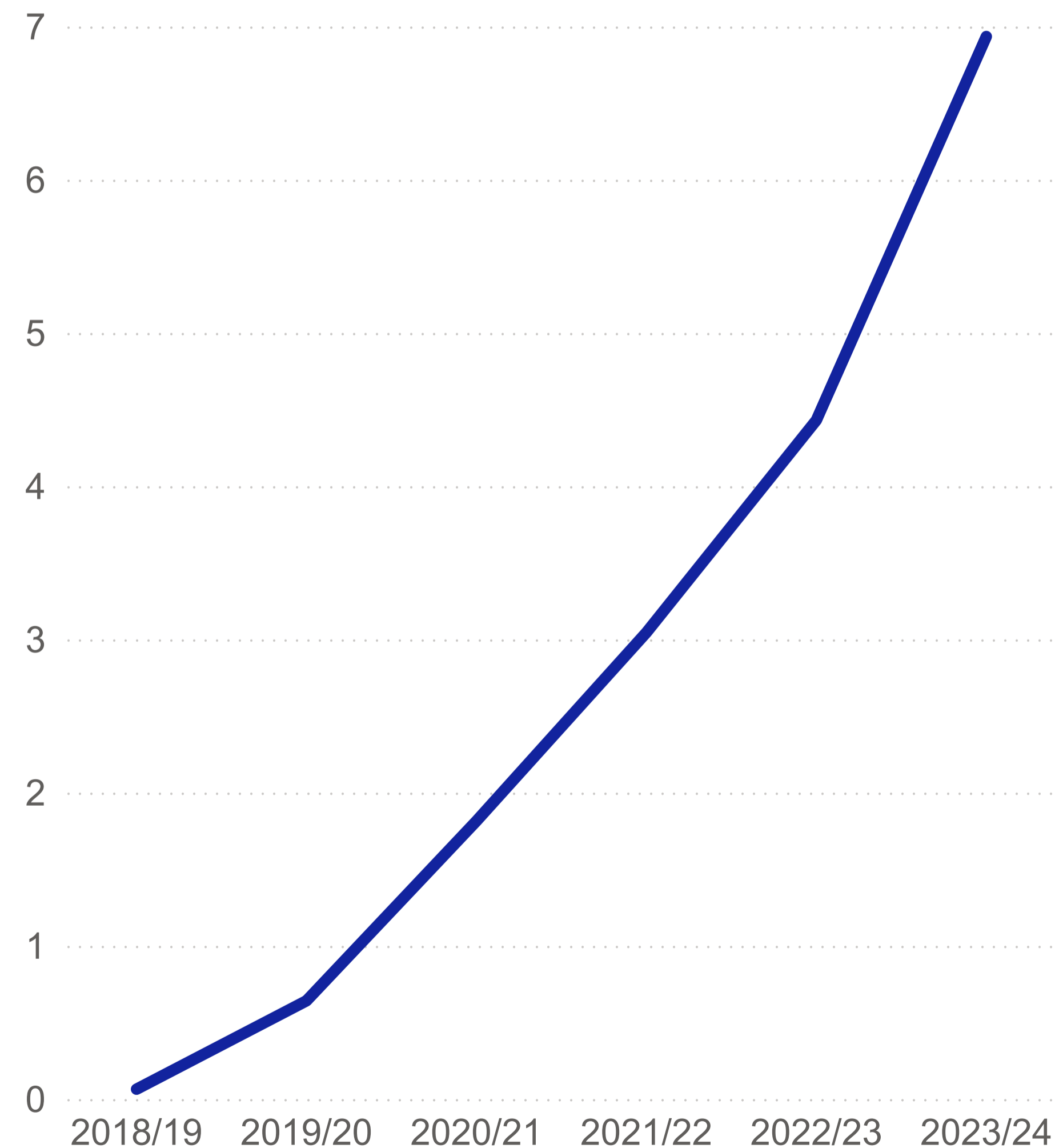
The overall use of a DEB alongside a stent increased to 5.4% in 2023/24 from virtually no use in 2018/19.

Select a hospital below to see its data or hover over a dot on the scatter plot.

Percentage use of drug-eluting balloons during PCI when a stent was also used by hospital (2023/24)



Percentage use of drug-eluting balloons during PCI when a stent was also used



Select hospital

Drug-eluting balloon use in PCI when a stent is also inserted varies between hospitals

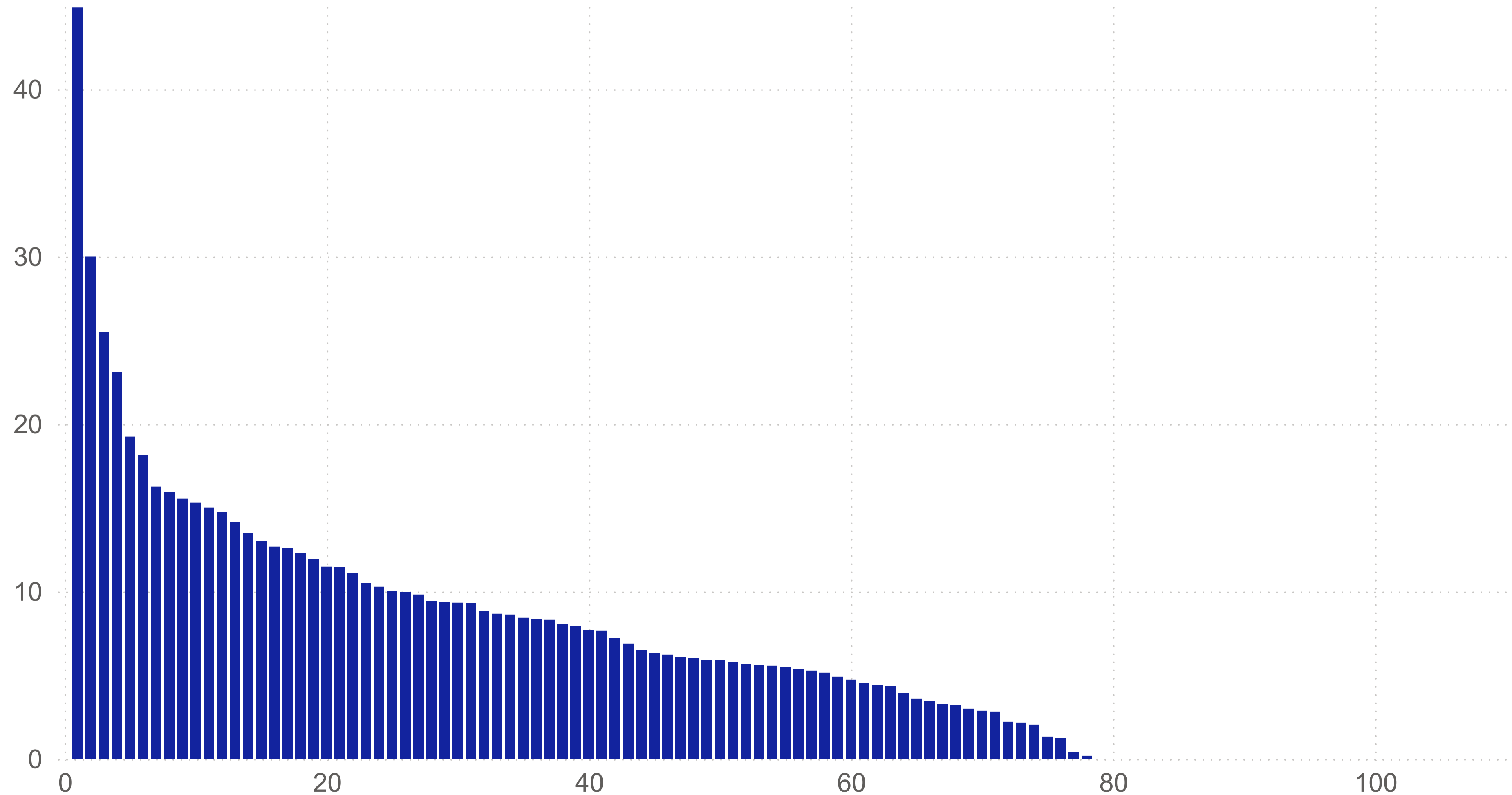


Percentage use of drug-eluting balloons during PCI when a stent was also use, by hospital (2023/24)

Between hospitals, the use of a DEB alongside a stent varies between zero and 23%.

Select a hospital below to see its data or hover over a bar on the graph.

Select hospital



The use of a drug-eluting balloon in the treatment of in-stent restenosis continues to increase but many hospitals do not use this method



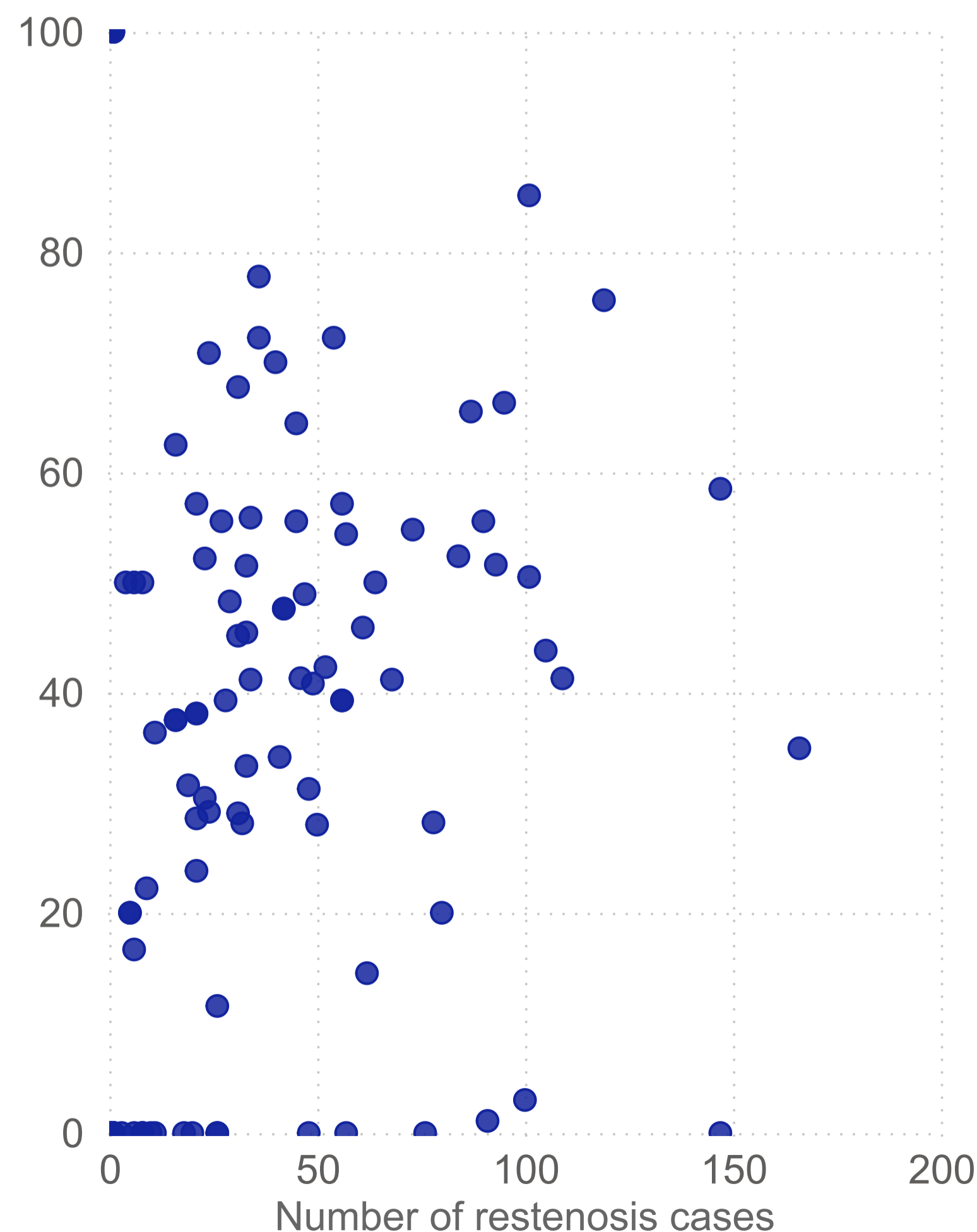
A longer-term complication of PCI is in-stent restenosis (re-narrowing of the artery after treatment). Traditionally this was treated with further stents, but this method slightly increased the risk of future complications such as stent thrombosis and further restenosis due to multiple layers of stents deployed in a vessel.

Drug-eluting balloons (DEB) to treat in-stent restenosis were used for 35% of all PCI cases for in-stent restenosis in 2023/24, up from 1% in 2018/19 and 27% in 2022/23.

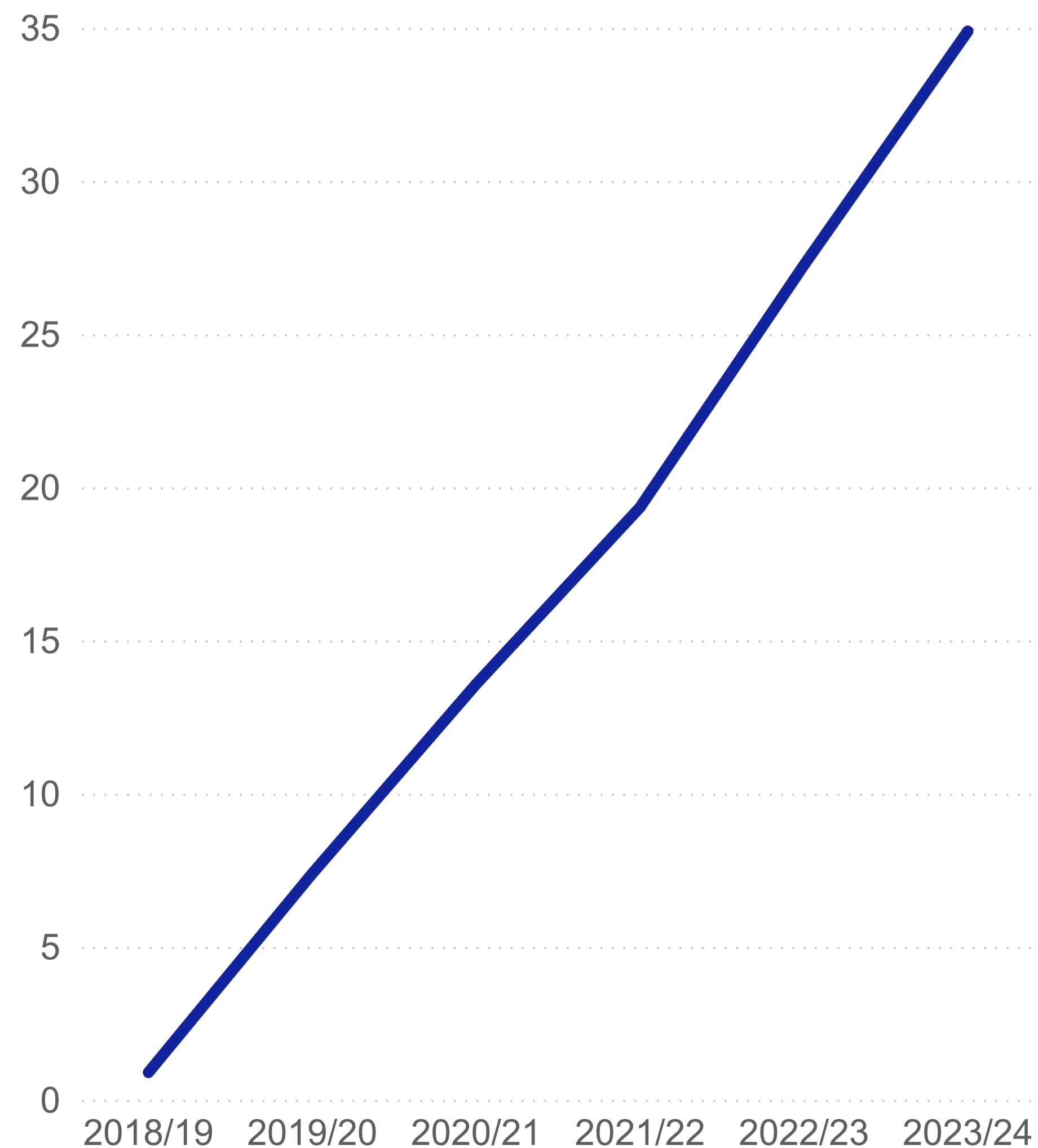
Select a hospital below to see its data or hover over a dot on the scatter plot.

Select hospital

Percentage use of drug eluting balloons in restenosis cases by hospital (2023/24)



Percentage use of drug eluting balloons in restenosis cases



The use of drug-eluting balloons in the treatment of in-stent restenosis varies by hospital

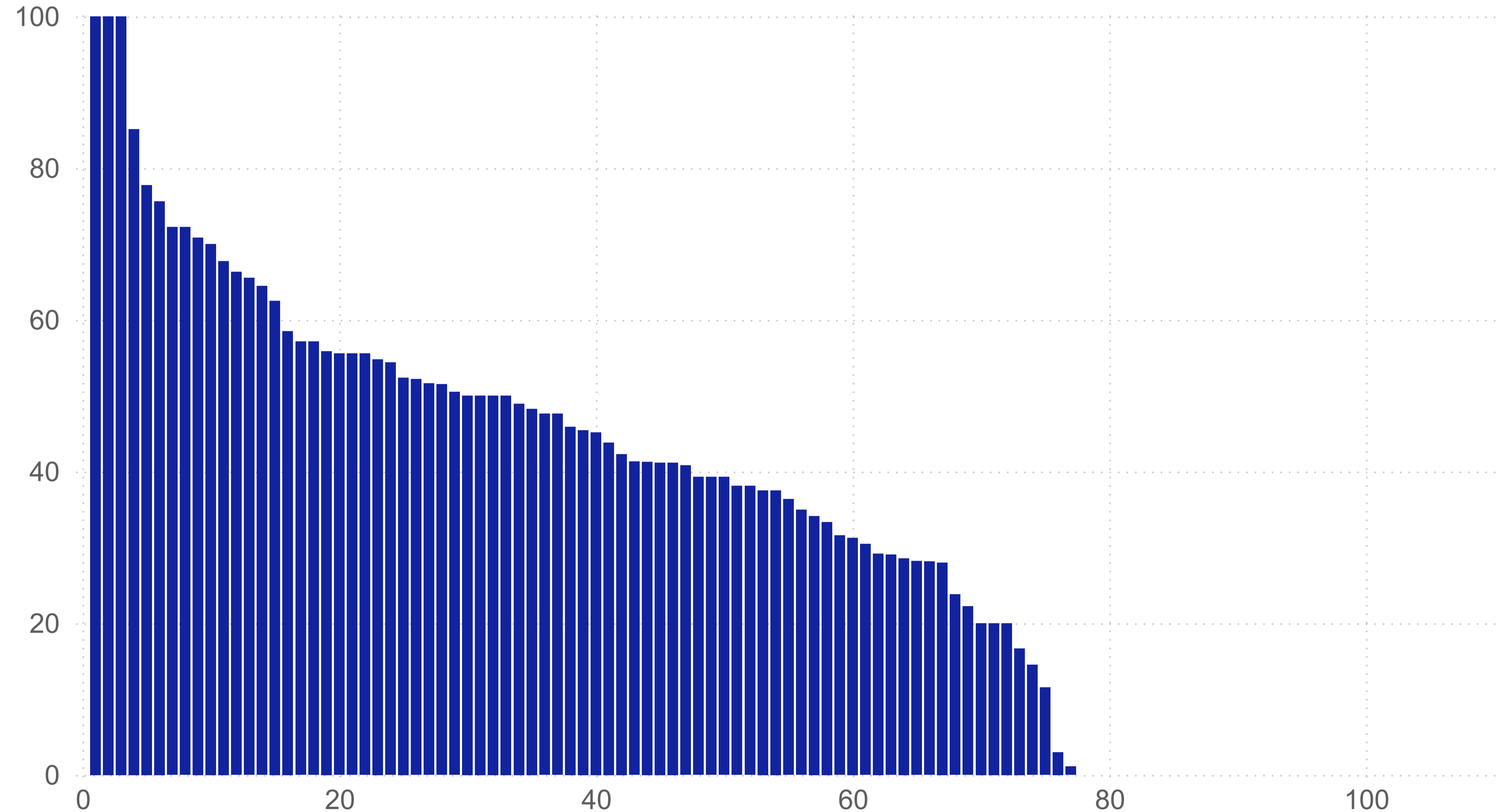


Percentage use of drug-eluting balloons in restenosis cases by hospital (2023/24)

The use of drug-eluting balloons (DEB) to treat in-stent restenosis varies hugely between hospitals, with rates between zero and 100%.

Select a hospital below to see its data or hover over a bar on the graph.

Select hospital



References

Introduction

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³ Räber L, Mintz GS, Koskinas KC, Johnson TW, Holm NR, Onuma Y, Radu MD, Joner M, Yu B, Jia H, et al. Clinical use of intracoronary imaging. Part 1: guidance and optimization of coronary interventions. An expert consensus document of the European Association of Percutaneous Cardiovascular Interventions. *Eur Heart J.* 2018; 39:3281–3300.

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⁵ Kinnaird T, Johnson T, Anderson R, Gallagher S, Sirker A, Ludman P, de Belder M, Copt S, Oldroyd K, Banning A, Mamas M, Curzen N. Intravascular imaging and 12-month mortality after unprotected left main stem PCI: an analysis from the British Cardiovascular Intervention Society Database. *JACC Cardio Interv* 2020;13:346-357

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