Provider line of sight table on report recommendations for submission to the funders	
Please can the provider complete the following details to allow for ease of access and rapid review	
Project and Title of report	**AUDIT:** Myocardial Ischaemia National Audit Project (MINAP) **TITLE:** "Management of Heart Attack: analyses from the Myocardial Ischaemia National Audit Project (MINAP) and the National Audit of Percutaneous Coronary Intervention (NAPCI) 2023 Summary Report (2021/22 data)"
1. What is the report looking at/what is the project measuring?	Care provided to patients admitted to hospital with acute coronary syndrome (heart attack) – both ST-segment elevation myocardial infarction (STEMI) and non-ST-segment myocardial infarction (NSTEMI)
2. What countries are covered?	England, Northern Ireland, Wales.
3. The number of previous projects (e.g. whether it is the 4th project or if it is a continuous project)	Continuous project (since 2001)
4. The date the data is related to (please include the start and end points – e.g. from 1 January 2016 to 1 October 2016)	1 April 2021 to 31 March 2022
5. Any links to NHS England/NHS Improvement objectives or professional work-plans (only if you are aware of any)	

Please can the provider complete the below for each recommendation in the report

No.	Recommendation	Evidence in the report which underpins the recommendation	Current national audit benchmarking standard if there is one	Associated NHS payment levers or incentives'	Guidance available (for example, NICE guideline)	% project result if the question previously asked by the project (date asked and result). If not asked before please denote N/A. This is so that

						there is an indication of whether the result has increased or decreased and over what period of time
Rec 1	Where CTB time standards are not being met in STEMI cases, emergency departments, PCI centres, neighbouring non-interventional hospitals and ambulance trusts should work together to reduce delays in the provision of primary PCI. This may include improving the hospital response to patient arrivals as well as pre-hospital Call-To-Door (CTD) times. Hospitals not able to offer primary PCI to patients with STEMI who self-present, especially if geographically remote from such services, should consider re-introducing care pathways that include immediate administration of intravenous thrombolytic drugs.	MINAP report, Sections 2.2 and 3.2. Progressive lengthening of CTB over last 8 years. Smaller proportion of patients receiving timely primary PCI - 30% within 120 minutes, 55% within 150 minutes [Fig 3.4]. There is a widening interquartile range (73 minutes in 2021/22) [Figures 2.5-2.8, Figures 3.3 and 3.4].	Call-To-Balloon interval expressed as the proportion of patients receiving primary PCI: a) Within 120 mins b) Within 150 mins		NICE quality standard (QS 68) 'Adults with acute ST-segment-elevation myocardial infarction (STEMI) who present within 12 hours of onset of symptoms have primary percutaneous coronary intervention (PCI), as the preferred coronary reperfusion strategy, as soon as possible but within 120 minutes of the time when fibrinolysis could have been given.' [Given that pre-hospital fibrinolytic therapy may take 30 minutes to start – this leads to a standard of 'within 150 minutes'].	Evidence of worsening national performance over ten years with the greatest annual increase in median CTB between 2020/21 and 2021/22.
Rec 2	Hospitals with lower rates of echocardiogram provision, for	MINAP report, Sections 2.7 and 3.4.	No national standard has been published		ESC guideline for management of STEMI	Evidence of improving national

	STEMI and NSTEMI, should ensure that their data are being collected accurately and, if needed, should identify opportunities for echocardiography during the index admission. Use of limited 'bedside' echocardiograms should be considered if there are difficulties obtaining timely detailed tests. Patients discharged to another hospital before an echocardiogram is performed must be accompanied by a clear request for the test at the receiving hospital.	Increase in proportion undergoing echocardiography prior to discharge, continuing trend for 'year-on-year' improvement - now 82% compared with 63% in 2012/13 [Figure 3.6]. However, there is significant variation between hospitals. 52 hospitals managing STEMI arranged echocardiography in at least 90% of patients treated; in 8 hospitals fewer than 50% of patients treated underwent an echocardiogram [Figures 3.6-3.8].	for the expected performance of an echocardiogram following admission with heart attack. Discussion with MINAP 'Domain Expert Group' led to an aim for 90% achievement.		recommends 'routine echocardiography to assess resting LV and RV function, detect early post-MI mechanical complications, and exclude LV thrombus…in all patients'.	performance over ten years with the proportion of patients receiving an echocardiogram before discharge from hospital being the highest recorded.
Rec 3	Hospitals not sufficiently admitting heart attack patients to a cardiac ward should review their systems and bed allocations to maximise access to cardiac care. This may	MINAP report, Section 3.5. There has been a gradual increase in the proportion of patients	No national standard has been published for the proportion of patients with heart attack admitted to a cardiac ward.		Patients with NSTEMI admitted to a cardiac ward on admission are more likely to receive guideline directed	Small increase in the proportion of patients with NSTEMI who are admitted to a cardiac ward.

	require novel use of dedicated multi-specialty 'high care' beds and provision of cardiac outreach services to those cared for elsewhere.	with NSTEMI who are admitted to a cardiac ward, increasing by about 10% in absolute terms over 10 years – to 63.9% [Figure 3.9]. However, there is significant variation between hospitals. At least 80% of patients with NSTEMI were admitted to a cardiac ward in 69 of hospitals; in 19 hospitals fewer than 30% of NSTEMI patients were admitted to a cardiac ward [Figure 3.10].	Discussion with MINAP 'Domain Expert Group' led to an aim for 80% achievement.		management and have better clinical outcomes. European Society of Cardiology Guidelines advise that patients with NSTEMI should be admitted to a monitored unit – coronary care, intensive care or intermediate care depending on risk – and managed by personnel adequately trained to manage life-threatening arrhythmias.	
Rec 4	Hospitals reporting low rates of cardiology involvement in heart attack patient care should ensure their data are accurately reflecting practice. If they do, provision of cardiac care during admissions should be improved (eg by increased staffing or more flexible use of members of the cardiology team, such as	MINAP report, Section 3.6. The proportion of patients seen by a cardiology specialist team during the index admission has been greater than 90% over the last 10 years, and is at its highest level this	No national standard has been published for the proportion of patients with NSTEMI being seen by a member of the specialist cardiology team during their admission.		Patients with NSTEMI admitted under a cardiologist within 24 hours of hospital admission are more likely to receive guideline directed management and have better clinical outcomes.	The proportion of patients with NSTEMI who are seen by cardiologists during admission remains high.

	nurse specialists and physician associates).	year – 97.3% [Figure 3.9]. Little variation - at least 90% of patients with NSTEMI are seen by a member of the specialist cardiology team in all but 10 hospitals [Figure 3.11].	Discussion with MINAP 'Domain Expert Group' led to an aim for 100% achievement.			
Rec 5	Low rates of angiography in eligible NSTEMI patients require hospitals to review their systems for managing acute coronary syndromes (ACS).	MINAP report, Section 3.7. Improvements in rate of angiography seen. There was a small increase in the proportion of patients who underwent angiography (83%) compared with the previous year, a rate that remains similar to those observed per-pandemic [Figure 3.12]. At least 90% of patients with NSTEMI who are eligible for angiography undergo angiography before discharge in 97	No national standard has been published, but aim for 100% given that those judged to be ineligible for angiography are excluded from the analysis.		NICE quality standard (QS 68): 'Coronary angiography is important to define the extent and severity of coronary disease'. European Society of Cardiology Guidelines: '[Coronary angiography] allows confirmation of the diagnosis, identification of the culprit lesion in a coronary artery, establishment of suitability for PCI or CABG, and stratification of short term and long term risk'.	Small improvement in the rate of angiography in eligible patients with NSTEMI, compared with previous year, rate remains high.

		hospitals; fewer than 70% of such patients undergo angiography in 19 hospitals [Figure 3.13].				
Rec 6	Where angiography for NSTEMI takes more than 72-hours, hospitals and commissioners should review pathways, referral networks and service commissioning to make quality improvements. Any lessons regarding more timely care that were learned during the pandemic should be incorporated within existing pathways. There should be an emphasis on early and reliable identification of suitable patients, streamlined referrals, and adequate capacity for transferring patients into (and out of) interventional hospitals. This will involve weekend angiography lists for such patients.	MINAP report, Sections 2.3 and 3.8 The improvement seen in this metric in 2020/21 when 66% of PCI was provided within 72 hours of admission has fallen back to 56%, in keeping with previous years [Figures 2.8, 2.9 and 3.12]. There is significant variation between hospitals. In 7 hospitals, at least 80% of patients undergoing angiography for NSTEMI receive the angiogram within 72 hours; 47 hospitals provide angiography for at least 60% of such	Angiography within 72 hours of admission to hospital in all cases unless angiography is deemed inappropriate.	NHS England Best Practice Tariff	NICE quality standard (QS 68): 'Adults with non-ST-segment elevation myocardial infarction (NSTEMI) or unstable angina who have an intermediate or higher risk of future adverse cardiovascular events are offered coronary angiography (with follow-on percutaneous coronary intervention [PCI] if indicated) within 72 hours of first admission to hospital.'	There has been a significant reduction in the proportion of patients with NSTEMI who receive angiography within 72 hours of admission compared with the previous year.

		patients within 72 hours; in 20 hospitals fewer than 40% of patients receive angiography within 72 hours [Figure 3.13].				
Rec 7	Hospitals not meeting the prescribing standard for all secondary prevention medication prior to discharge of both STEMI and NSTEMI patients should assess the quality of their data and, if sub-optimal performance is confirmed, pursue quality improvement. These might include the use of discharge pro-forma or checklists, direct involvement of specialist cardiac pharmacists or ACS nurse specialists.	MINAP report, Section 3.9. A very small decline in the proportion of patients (89%) discharged on all secondary prevention drugs for which they were eligible [Figure 3.15]. In 115 hospitals at least 90% of patients were discharged on all secondary prevention drugs for which they were eligible; in 20 hospitals fewer than 60% of patients were discharged on all secondary prevention drugs for which they were eligible [Figure 3.16]	There is no specified standard. Discussion with MINAP 'Domain Expert Group' led to an aim that 90% of relevant patients should receive all secondary prevention drugs for which they are eligible at time of discharge from hospital following STEMI and NSTEMI.		NICE Guideline (CG 172): Offer all people who have had an acute MI treatment with the following drugs: ACE (angiotensin converting enzyme) inhibitor; dual antiplatelet therapy (aspirin plus a second antiplatelet agent); beta-blocker; statin.	Despite a slight reduction there remains a high performance.

Rec 8	Hospitals with lower rates of prescribing aldosterone antagonists for patients with impaired LV function identified by echocardiography (or some other reliable assessment method) should act to ensure appropriate treatment. This could involve discharge pro-forma/checklists and the direct involvement of specialist cardiac pharmacists, ACS nurses and sonographers.	MINAP report, Section 3.10. Progressive increase, to 76%, in the proportion of eligible patients receiving this class of drug – a 50% increase over 9 years [Figure 3.17]. In 21 hospitals at least 90% of patients with STEMI and poor ventricular function are discharged on an aldosterone antagonist; in 8 hospitals fewer than 70% of such patients are discharged on an aldosterone antagonist [Figure 3.18].	No specified national standard. Discussion with MINAP 'Domain Expert Group' led to an aim that 90% of eligible patients should receive MRA at time of discharge from hospital following STEMI.		European Society of Cardiology Guideline: 'MRAs are recommended in patients with a LVEF (Left Ventricular Ejection Fraction) ≤40% and heart failure or diabetes, who are already receiving an ACE inhibitor and a beta-blocker, provided there is no renal failure or hyperkalaemia.	Improvement in proportion of eligible patients receiving MRA have over last nine years.
Rec 9	Hospitals not meeting the standards for referral of patients to cardiac rehabilitation following either STEMI or NSTEMI heart attacks should ensure early identification of patients who might benefit (eg through routine distribution of	MINAP report, Sections 2.6 and 3.11. A continuing improvement from a nadir in performance 2017/18 to reach the aspiration that more	NHS Long Term Plan aspires to '85% of those eligible accessing cardiac rehabilitation'.		NICE quality standard (QS 99) 'Adults admitted to hospital with a myocardial infarction are referred for cardiac rehabilitation before discharge.'	Continuing improvement over last 4 years – achieving NHS Long Term Plan aspirational 'target'.

	cardiac rehabilitation information/invitation in discharge checklists and in leaflets given to all patients). All hospitals should ensure equitable access to cardiac rehabilitation. Rehabilitation staff who were redeployed to ward-based duties during the pandemic should return to their original practices.	than 85% of eligible patients are referred for cardiac rehabilitation [Figure 2.12]. 132 hospitals report referring at least 85% of eligible patients to cardiac rehabilitation programmes; 10 hospitals report referring fewer than 50% of patients [Figure 3.19].				