NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

NICE indicator validity assessment

Indicator IND72

The proportion of patients with ST-segment elevation myocardial infarction (STEMI) who had coronary reperfusion therapy.

Importance

Considerations	Assessment
The NHS Long Term Plan identifies cardiovascular disease as a clinical priority, and the single biggest condition where lives can be saved by the NHS over the next 10 years.	The indicator reflects a specific priority area identified by NHS England.
Analysis of MINAP data by Bebb, Hall et al. (2017) found that nationally 89.3% of patients with STEMI receive reperfusion less than 12 hours from onset of symptoms. Hospital variation showed a median achievement of 76.7% with an interquartile range of (33.3% - 91.4%). Analysis also showed an inverse association with 30-day mortality (OR 0.36 [0.32-0.41] p<=0.001). The MINAP summary report 2020 reports that 18% of STEMI patients did not receive reperfusion therapy and no reason for this was given for 16% of cases.	The indicator relates to an area where there is known variation in practice. The indicator addresses under-treatment.
The Acute Cardiovascular Care Association's (ACCA) position paper on quality indicators for myocardial infarction (2017) writes that in patients with STEMI admitted during the first few hours after symptom onset, the choice of reperfusion strategy and the speed with which it is implemented have an impact on preserving myocardial function and improving long-term survival. ACCA considers this quality indicator an essential element for assessment.	The indicator will lead to a meaningful improvement in patient outcomes.

Evidence base

Considerations	Assessment
[Acute coronary syndromes. NICE guideline NG185](#) (2020), recommendation 1.1.3. Deliver coronary reperfusion therapy (either primary PCI or fibrinolysis) as quickly as possible for eligible people with acute STEMI. [European Society of Cardiology. ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation](#) (2017) Reperfusion is indicated in all patients with symptoms of ischaemia of less than or equal to 12 hours duration and persistent ST-segment elevation. (Class I Level A).	The indicator is derived from a high-quality evidence base. The indicator aligns with the evidence base.

Specification

Considerations	Assessment
Numerator: The number of patients in the denominator who had reperfusion therapy. Denominator: The number of patients with STEMI. Exclusions: Patients with contraindication to reperfusion treatment. Patients presenting too late after onset of symptoms. Patients who refuse treatment.	The indicator has defined components necessary to construct the indicator, including numerator, denominator and exclusions. The construction proposed by the ESC ACCA has been adapted for publication on the NICE menu of indicators.
Audit data is presented at hospital trust level. This is proposed to be a CCG level NICE menu indicator. NICE CCG level indicators are intended for use where there is an average of 50 patients or more per CCG. Data presented as part of the study by Bebb et al (2017) based on the MINAP database for the period 2012 to 2013 shows 33,151 eligible patients and this indicates an average number of 245 patients per CCG (135 CCGs April 2020).	The indicator does outline minimum numbers of patients needed to be confident in the assessment of variation.

Feasibility

Considerations	Assessment
Data is collected annually as part of the [Myocardial Ischaemia National Audit Project.](#)	The indicator is repeatable.
Details of the MINAP dataset, including definitions of the variables and guidance on applying options are also published by [National Institute for Cardiovascular Outcomes Research (NICOR).](#)	The indicator is measuring what it is designed to measure.

Data fields collected include:	The indicator uses existing data fields.
• ECG determining treatment (2.03) • Initial reperfusion treatment (3.39) • Date and time of reperfusion treatment or balloon inflation (3.09). • Reason reperfusion not given (3.08)	

Acceptability

Considerations	Assessment
Patients presenting late to healthcare services would affect the effectiveness of reperfusion and so patients diagnosed greater than 12h after the onset of symptoms are excluded from the denominator. There are contraindications to reperfusion therapy, and these should be detailed in the exclusions. The MINAP summary report 2020 detailed several reasons why reperfusion is not provided including elective decision, ineligible ECG, patient refused, risk of haemorrhage, uncontrolled hypertension.	The indicator assesses performance that is attributable to or within the control of the audience.
Data tables are published on the NICOR website in order to compare practice and assist in quality improvement cycles.	The results of the indicator can be used to improve practice

Risk

Considerations	Assessment
MINAP was established in 1999 and is a domain with the National Cardiac Audit Programme and under the governance of the Healthcare Quality Improvement Partnership (HQIP). Robust governance structures are in place to ensure data quality and monitor appropriateness of audit measures. There is a minimum dataset against which each participating hospital is assessed for data completeness. There are reasons why a patient may not be eligible for reperfusion if they present within 12 hours of onset of symptoms. These exclusions from the denominator could impact the effectiveness of this indicator.	The indicator has an acceptable risk of unintended consequences.

NICE indicator advisory committee recommendation

The NICE indicator advisory committee approved this indicator for publication on the menu.