NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

NICE indicator validity assessment

Indicator IND75

The proportion of patients with acute myocardial infarction with measurement of left ventricular ejection fraction before discharge.

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 54.5% of AMI patients have left ventricular (LV) function recorded in their notes. Hospital variation showed a median achievement of 54.7% (interquartile range [IQR] 32.7 – 73.2%). Analysis of MINAP data shows that recording LV function in patient notes is inversely associated with 30-day mortality: odds ratio (95% CI) 0.56 (0.53, 0.58) p<0.001.	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 clinical outcomes following AMI are highly variable due to differing baseline clinical risk levels. Risk assessment is a key step in management of AMI patients, including the assessment of left ventricular function to identify those who would benefit from additional treatments. Left ventricular systolic dysfunction is a predictor of heart failure and ventricular arrhythmia and those identified with reduced left ventricular ejection fraction (LVEF) require specific medical treatment, tailored clinical investigations and review. 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 1.1.27 and 1.2.26. European Society of Cardiology. ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation (2017). (Class I Level C). European Society of Cardiology. ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation (2020) (class I C).	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 LVEF measured before discharge. Denominator: The number of patients discharged from hospital following an admission with acute myocardial infarction. Exclusions: Patients who died in hospital.	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 104,004 eligible patients and this indicates an average number of 770 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). Data fields collected include: • Measurement of left ventricular ejection fraction and category (2.31) • Mode of discharge (4.16)	The indicator is measuring what it is designed to measure. The indicator uses existing data fields although record of LVEF is not included in the minimum data standard. MINAP records LVEF as good, moderate or poor dependent on measurement. It also records if not assessed.

Acceptability

Considerations	Assessment
MINAP records category of LVEF only although this is based on a numerical value (good: 50% or greater, moderate: 30 % to 49%, poor: less than 30%). The dataset allows for measurement by echo, angio, radionuclide or MR study.	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.	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. They noted that the ESC ACCA QI required a numerical value to be recorded and the limitation of using the MINAP dataset that records category only.