

Acute coronary syndrome

When designing acute coronary syndrome services, consider the following interventions as ways to achieve specific productivity improvements whilst maintaining the quality and safety of clinical care. This approach is being trialled as a beta product alongside the Map of Medicine Acute coronary syndrome pathway, which covers all areas of a patient's care.

Pharmacological interventions

Fondaparinux

Offer fondaparinux to patients with unstable angina (UA) or non ST-segment elevation myocardial infarction (NSTEMI).¹

Fondaparinux has been shown to be clinically superior to enoxaparin in reducing bleeding risk and mortality in patients with UA and NSTEMI.¹

Health economic analyses have also shown fondaparinux to be dominant over enoxaparin as it requires only once daily administration with no weight adjustments unlike enoxaparin which is weight dependent and administered twice daily. Fondaparinux has been associated with a daily cost saving of £3.97 per person when compared to enoxaparin, and a mean quality-adjusted life year (QALY) increase of 0.04.²

Prasugrel

Consider prasugrel, in combination with aspirin, as first line treatment only in eligible patients with acute coronary syndrome (ACS) having percutaneous coronary intervention (PCI).³

Prasugrel, along with aspirin, should be first line treatment in patients having PCI only when the patient has diabetes; or a stent thrombosis while on clopidogrel therapy; or when immediate PCI for ST-segment elevation myocardial infarction (STEMI) is necessary.³

Prasugrel has been found to be a clinically and cost-effective option in these groups of patients only, when compared with clopidogrel.³

Non-pharmacological interventions

Early intervention

Offer coronary angiography +/- PCI within 96 hours of admission to individuals with UA or NSTEMI at intermediate to high risk of adverse cardiovascular events.¹

Coronary angiography (with follow-on PCI if indicated) should be offered within 96 hours of first admission to hospital to patients who have an intermediate or higher risk of adverse cardiovascular events (predicted 6-month mortality above 3.0%) and no contraindications to angiography (such as active bleeding or co-morbidity).¹

This strategy for patients with UA or NSTEMI is recommended when PCI can be offered at the same time as angiography and within the recommended time scale. It has been shown to significantly reduce the risk of death and non-fatal myocardial infarction, both in the short (6-12 months), and longer term (greater than 2 years).¹

This early intervention strategy is associated with a higher mean cost (£5,654 per patient) compared with a conservative strategy (£1,778 per patient). However, mean costs during the first year after the index hospitalisation were lower with early intervention (£1,106 per patient) when compared with a conservative treatment strategy (£2,735 per patient). The mean incremental cost per QALY gained by early intervention was approximately £55,000 for low risk, £22,000 for medium risk, and £12,000 for high risk patients.^{4,5}

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Cardiac rehabilitation

Ensure all patients post myocardial infarction are offered entry into a cardiac rehabilitation programme.⁷

Cardiac rehabilitation in patients post myocardial infarction reduces all-cause and cardiovascular mortality rates.⁶ Cardiac rehabilitation programmes should be tailored to patient needs, with measures put in place to support uptake and adherence.⁶

A UK based costing study reported the cost of a comprehensive cardiac rehabilitation programme to be £207 per patient. The estimated incremental cost-effectiveness ratio (ICER) was £7,860 for men and £8,360 for women per QALY gained.⁷

Key dates

The Map of Medicine systematically monitors the medical literature for the latest productivity interventions and will update this document as new evidence emerges.

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Methodology

The productivity considerations presented in this document are relevant to the UK. They were identified by systematically searching for and appraising productivity evidence from multiple sources, including NICE guidance, health economic databases and Zynx Health (a sister company of Map of Medicine).

A productivity message explicitly states interventions that can reduce the cost of care, whilst maintaining or improving patient outcomes. Actions that are believed to lead to improved productivity, but lack unequivocal clinical or economic evidence, are not included.

Some productivity considerations are informed by more recent evidence than that included in relevant national guidelines.

The document has been peer reviewed by an independent group of experts.

Feedback

This approach to productivity guidance is being trialled as a beta product alongside the Map of Medicine Acute coronary syndrome pathway. We welcome your feedback. If you know of additional resources that describe cost-effective interventions, please forward the reference information to us at productivity@mapofmedicine.com.

Other topics of interest

Productivity considerations for service design – [Cardiovascular disease risk management](#)

Productivity considerations for service design – [Heart failure](#)

Productivity considerations for service design – [Stable coronary artery disease](#)

References

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4. Hoenig M, Aroney C, Scott I et al. [Early invasive versus conservative strategies for unstable angina & non-ST-elevation myocardial infarction in the stent era](#). Cochrane Database Syst Rev 2010; CD004815.
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6. National Collaborating Centre for Primary Care (NCC-PC). [Post myocardial infarction: Secondary prevention in primary and secondary care for patients following a myocardial infarction](#). London: Royal College of General Practitioners (RCGP); 2007.
7. Taylor R, Kirby B. [Cost implications of cardiac rehabilitation in older patients](#). Coron Artery Dis 1999; 10: 53-6.

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This document is not to be substituted for a healthcare professional's diagnosis or clinical decisions.