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NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

QUALITY AND OUTCOMES FRAMEWORK (QOF) INDICATOR DEVELOPMENT PROGRAMME

Briefing paper

QOF indicator area: CHD: Dual antiplatelet therapy

Potential output: Recommendation for indicator development

Date of Primary Care QOF Indicator Advisory Committee meeting: 11 & 12 June 2014

Contents

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Introduction

As part of the NICE process for ensuring current QOF indicators remain up to date with the evidence base the NICE indicator team reviewed the updated NICE clinical guideline 172 on myocardial infarction: secondary prevention which was published in November 2013.

This guideline updates and replaces 'MI – secondary prevention' (NICE clinical guideline 48) and updates and replaces a recommendation from NICE technology appraisal guidance 80.

The updated NICE guideline was reviewed to assess the potential impact on the current QOF secondary prevention of coronary heart disease (CHD) indicator set. In light of this review current QOF indicator CHD006[1] requires consideration by the Advisory Committee (AC). This briefing paper presents an assessment of NICE clinical guideline recommendations relevant to this indicator.

Topic suggestion

The recommendations and underlying evidence are taken from the following NICE clinical guideline available from www.nice.org.uk/guidance/CG172:

'Myocardial infarction: Secondary prevention in primary and secondary care for patients following a myocardial infarction' NICE clinical guideline 172 (2013).

Dual antiplatelet therapy

The updated NICE guideline recommends that people with acute myocardial infarction (MI) are offered dual antiplatelet therapy (aspirin plus a second antiplatelet agent) (see recommendation 1.3.1, appendix B). Previously CG48

[1] 2014/15 QOF indicator CHD006: The percentage of patients with a history of myocardial infarction (on or after 1 April 2011) currently treated with an ACE-I (or ARB if ACE-I intolerant), aspirin or an alternative anti-platelet therapy, beta-blocker and statin

recommended treatment with aspirin alone as incentivised in the current QOF indicator CHD006:

> *CHD006. The percentage of patients with a history of myocardial infarction (on or after 1 April 2011) currently treated with an ACE-I (or ARB if ACE-I intolerant), aspirin or an alternative anti-platelet therapy, beta-blocker and statin*

Continuation of beta blockers for people with/without LVSD

The updated NICE guideline also recommends that beta-blockers are only continued indefinitely, 12 months after MI, in people with left ventricular systolic dysfunction (LVSD) (recommendation 1.3.33) and continued for at least 12 months in people without left ventricular systolic dysfunction or heart failure.

Treatment with aspirin, an ACE inhibitor and a statin continue to be recommended indefinitely in people who have had an MI more than 12 months ago.

Since CHD006 does not exclude people with LVSD from the indicator 12 months after an MI, but includes all people with a first or new episode of MI on or after 1st April 2011, there may be people included in this indicator who are not recommended for longer term treatment with beta-blockers.

In light of these changes – i) dual antiplatelet therapy and ii) continuation of beta blockers in people with/without LVSD, there is a need for the AC to review current QOF indicator CHD006 against the updated NICE guidance.

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Overview of myocardial infarction

Epidemiological summary

Definition

MI is a complication of CHD and remains one of the most dramatic presentations of coronary artery disease. It is usually caused by blockage of a coronary artery producing tissue death and consequently the typical features of a heart attack: severe chest pain, changes on the electrocardiogram, and raised concentrations of proteins released from the dying heart tissue into the blood. MIs are divided into 2 types according to the changes they produce on the ECG:

- ST-segment elevation myocardial infarction (STEMI), which is generally caused by complete and persisting blockage of the artery
- Non-ST-segment elevation myocardial infarction (NSTEMI), reflecting partial or intermittent blockage of the artery.

Incidence, prevalence and evidence of variation by age, sex and ethnicity

There are currently around 1 million men and nearly 500,000 women who have had an MI in the UK. The annual incidence of MI for men aged 30-69 is about 600 per 100,000 and for women about 200 per 100,000. The British Heart Foundation has estimated that there are about 147,000 MIs per year in men of all ages in the UK and 121,000 in women, giving a total of 268,000 cases. Data from the Myocardial Ischaemia National Audit Project (MINAP) shows that the age for a first MI in men was 65 years, and in women 73 years.

CHD death rates vary with age, gender, socio-economic status, ethnicity and UK geographic location. Death rates in men aged less than 75 years are three times as high as those in women, and death rates in affluent areas in the UK

are half of those in deprived areas. People of South Asian origin have almost a 50% higher death rate compared with the general population.

Morbidity and mortality

Mortality rates for MI have fallen rapidly in England and Wales since the late 1990s as a result of changes in acute treatment of MI and the application of secondary prevention measures. Although 30-day mortality was almost 13% for STEMI in 2003/04, it fell to 8% in 2011/12, with similar falls for NSTEMI.

Despite dramatic advances in treatment and prevention, particularly secondary prevention, MI remains a common and important cause of death and morbidity. UK mortality rates for CHD (of which MI is a preventable complication) are amongst the highest in Western Europe with more than 103,000 deaths per year. CHD makes a significant impact on every aspect of a person's life including their quality of life, future employment and personal relationships, as well as increasing the risk of their dying early.

Impact on health services

Primary care

Patients with CHD form a significant part of general practice workload. The 2012/13 QOF prevalence from the CHD register was 3.3% for England. The denominator for CHD006 which are people with a history of MI who are indicated for drug therapy was 74,267.

Secondary care

More than 79,000 hospital admissions were caused by MI in England and Wales in 2011/12 according to MINAP, of which 41% were STEMIs and 59% were NSTEMIs.

Current management in primary care

Primary care plays a significant role in the management of people with CHD including MI. GPs are involved in secondary prevention management,

including optimisation of combined drug therapy, blood pressure and cholesterol control to reduce the risk of further MI or other manifestations of vascular disease.

GPs may also refer suitable patients to cardiac rehabilitation programmes although uptake remains low.

NHS priorities and timeliness of guidance

The following national clinical guidelines, policy documents and national strategies were thought to relevant to MI to provide an assessment of the timeliness of indicators for the secondary prevention of CHD.

- National Institute for Health and Care Excellence (in progress) Lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease. NICE Care Guideline. Due: July 2014.
- National Institute for Health and Care Excellence (in progress) Prasugrel with percutaneous coronary intervention for treating acute coronary syndrome (review of TA182). NICE Technology Appraisal. Due: August 2014.
- National Institute for Health and Care Excellence (2013) MI - secondary prevention: secondary prevention in primary and secondary care for patients following a myocardial infarction. NICE clinical guideline 172
- National Institute for Health and Care Excellence (2013) Myocardial infarction with ST-segment elevation: the acute management of myocardial infarction with ST-segment elevation. NICE clinical guideline 167
- Department of Health (2013) Improving cardiovascular disease outcomes: strategy
- Department of Health (2013) Living Well for Longer: a Call to Action to Reduce Avoidable Premature Mortality.

- Welsh Government (2013) Together for health – a heart disease delivery plan
- National Institute for Health and Care Excellence (2011) Ticagrelor for the treatment of acute coronary syndromes NICE TA236
- National Institute for Health and Care Excellence (2011) Bivalirudin for the treatment of ST-segment elevation myocardial infarction (STEMI) NICE Technology appraisal 230
- NHS Scotland (2011) Summary of Scottish National Advanced Heart Failure Strategy
- NHS Scotland (2011) Heart Disease Improvement Programme. National Overview - Take Heart
- National Institute for Health and Care Excellence (2010) Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events TA210
- National Institute for Health and Care Excellence (2010) Chronic heart failure: management of chronic heart failure in adults in primary and secondary care. NICE Clinical guideline 108.
- National Institute for Health and Care Excellence (2010) Unstable angina and NSTEMI: the early management of unstable angina and non-ST-segment-elevation myocardial infarction. NICE Clinical guideline 94
- NHS Quality Improvement Scotland (2010) Clinical Standards for Heart Disease
- NHS Quality Improvement Scotland (2010) National Audit Programme for Coronary Heart Disease (includes heart failure)

Review of recommendations

Summary of NICE guideline recommendations

Five recommendations from NICE clinical guideline 172 have been identified as being relevant to QOF indicator CHD006 and which may potentially inform any subsequent indicator development.

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Drug therapy

NICE recommendation 1.3.1 (Key Priority for Implementation)

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 **[2007, amended 2013]**

NICE recommendation 1.3.32

Continue a beta-blocker for at least 12 months after an MI in people without left ventricular systolic dysfunction or heart failure **[new 2013]**.

NICE recommendation 1.3.33

Continue a beta-blocker indefinitely in people with left ventricular systolic dysfunction **[new 2013]**.

NICE recommendation 1.3.34

Offer all people who have had an MI more than 12 months ago, who have left ventricular systolic dysfunction, a beta-blocker whether or not they have symptoms. For people with heart failure plus left ventricular dysfunction, manage the condition in line with Chronic heart failure (NICE clinical guideline 108) **[new 2013]**.

NICE recommendation 1.3.35

Do not offer people without left ventricular systolic dysfunction or heart failure, who have had an MI more than 12 months ago, treatment with a beta-blocker unless there is an additional clinical indication for a beta-blocker **[new 2013]**.

To provide further context to the recommendations presented, selected recommendations from the NICE clinical guideline 172 relating to drug

therapy for MI and potentially relevant to primary care are provided in appendix B.

Evidence summary

This is a summary of the evidence supporting the recommendations presented above. This section relates to the evidence summary table in appendix A of this briefing paper.

Clinical effectiveness

Dual antiplatelet therapy

Since the publication of the original NICE guideline (CG48) new evidence on drug therapy for MI has been published. Given the availability of new antiplatelet agents (including prasugrel and ticagrelor) and changes in acute management the GDG considered it appropriate to recommend dual antiplatelet therapy as part of the 2013 update (CG173). The previous recommendation from CG48 recommended aspirin alone for all people who had an MI, therefore the recommendation has been amended to reflect that all people who had an MI should receive dual antiplatelet therapy, unless contraindicated.

Continuation of beta blockers for people with/without LVSD

The previous NICE CG48 did not differentiate in the duration of treatment of beta-blockers for people after an acute MI with or without LVSD.The updated NICE guideline also differentiates between longer term management with beta-blockers in people with and without left ventricular systolic dysfunction (LVSD). The NICE Guideline Development Group (GDG) considered evidence from from meta-analyses and/or randomised controlled trials for a range of relevant health outcomes on the effectiveness of drug therapy for MI to support recommendation 1.3.1.

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ACE (angiotensin-converting enzyme) inhibitor

The GDG noted from the studies reviewed that short-term treatment with an ACE inhibitor in unselected patients immediately after an MI is associated with a small reduction in mortality. Long-term treatment with an ACE inhibitor in patients with signs of heart failure and/or LVSD who have recently experienced an MI was associated with a substantial reduction in all-cause mortality, recurrent MI and readmission for heart failure.

Antiplatelet therapy

The GDG noted that evidence shows clopidogrel and aspirin are more effective than aspirin alone at reducing all-cause mortality in people with acute MI, irrespective of follow-up. There was also some evidence that clopidogrel and aspirin may be more effective than aspirin alone at reducing all-cause mortality within 1 year of treatment, but there the GDG noted there was considerable uncertainty. The GDG noted that although it is clear that early dual antiplatelet therapy is important, there is less clarity about the question of how long dual therapy should be continued after myocardial infarction. The previous guideline, CG48, recommended that aspirin is continued indefinitely and that the duration of clopidogrel treatment should depend on the type of MI. The updated guideline recommends offering clopidogrel for up to 12 months (in people who have had an NSTEMI regardless of treatment and in people who have had a STEMI and received a stent - see recommendation 1.3.18).

Beta-blockers

The GDG of the updated CG172 felt that after 12 months after the MI there was only limited evidence to suggest further benefit of indefinite treatment with beta blockers in people without LVSD. NICE CG172 represents a change in the advice to give people who had an MI a beta-blocker indefinitely.

The GDG highlighted evidence that people without LVSD have a lower baseline risk, therefore, indefinite use of beta-blockers may not be necessary.

The majority of the evidence was from studies that treated people up to 12 months, only 2 small studies continued treatment for 22-24 months.

The GDG agreed to update the guidance and recommend treatment for at least 12 months in people without LVSD who had an MI (recommendation 1.3.32). This new recommendation represents a change in the advice.

They noted that after 12 months, the clinician should consider the risks and benefits of continuing treatment for the individual, taking into account the extent of coronary disease or evidence of ischaemia, concurrent conditions, and any adverse effects when discussing this balance with the person who has had an MI.

This is in contrast to the new recommendation for those **with** LVSD which states that beta-blockers should be continued indefinitely (recommendation 1.3.33).

The GDG acknowledged that there was no evidence to support routine withdrawal of treatment in those people currently being treated with beta-blockers for longer than 12 months following an MI.

Statin therapy

The previous guideline, CG48 recommended treatment with statins reporting good evidence from meta-analyses and/or randomised controlled trials for relevant health outcomes (risk of fatal and non-fatal cardiovascular events including MI). Recommendations about statins and other lipid lowering agents have been removed from the update of the guideline and refer to the NICE clinical guideline for lipid modification. The GDG of the soon to be published updated clinical guideline for lipid modification concluded that high intensity statins are the most clinically effective option for secondary prevention of CVD.

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Cost effectiveness

Health economic modelling conducted from a UK NHS perspective and presented as part of one of the systematic reviews included in the evidence review was also considered by the GDG.

ACE (angiotensin-converting enzyme) inhibitor

No relevant economic evaluations comparing an ACE inhibitor with different durations of the same ACE inhibitor in people with or without an MI in the past was identified.

Antiplatelet therapy

In conclusion, clopidogrel used as an adjunct to aspirin is cost effective in patients with non-ST segment elevation acute coronary syndrome; although the evidence derives largely from a single trial. Current evidence suggests that clopidogrel cannot be recommended beyond 12 months. The guideline developers concluded that long term treatment with aspirin is more cost effective compared to clopidogrel in the management of occlusive vascular events.

Beta-blockers

No economic evidence was about people without LVSD who had an MI. The GDG considered the unit costs of beta-blockers together with the results of the clinical review and concluded that the low cost of these drugs would be offset by even a small increase in health benefits in this population.

Statin therapy

The GDG for the previous guideline on MI (CG48) noted evidence to suggest the use of statins is cost effective. Recommendations about statins and other lipid lowering agents have been removed from the update of the guideline and refer to the NICE clinical guideline for lipid modification. The GDG of the soon to be published updated clinical guideline for lipid modification concluded that high intensity statins are cost effective compared to all other options and so should be recommended for the secondary prevention of CVD.

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Assessment of recommendations against current practice

Current practice

The MINAP 2013 report states when considering secondary prevention drugs after acute MI, the proportions prescribed to eligible patients were: aspirin, 99%; beta-blockers, 97%; ACE inhibitors/ARB, 95%; statins, 98%; clopidogrel/other thienopyridine inhibitor, 96%.Considering the drugs in combination, the proportion of patients who survived to be discharged and who received all the drugs for which they were eligible was 90% in England, 81% in Wales and 97% in Belfast.

The updated NICE guideline notes that most individuals receive dual antiplatelet therapy (that is aspirin and clopidogrel) during the acute stage of treatment.

Health inequalities

Evidence shows that twice as many men have MIs compared to women. Mortality from CHD (of which MI is a preventable complication) varies with age, gender, socio-economic status, ethnicity and UK geographic location. Death rates in men aged less than 75 years are three times as high as those in women, and death rates in affluent areas in the UK are half of those in deprived areas. People of South Asian origin have almost a 50% higher death rate compared with the general population. There is no evidence that these recommendations can directly impact health inequalities. [Relevance to health inequalities: high].

Will implementation of these recommendations lead to cost-effective improvements in the delivery of primary care?

These recommendations based on up to date evidence of clinical and cost effectiveness and are likely to represent a minor-moderate shift in current

practice. The NICE team consider that implementation of these recommendations would lead to cost-effective improvements in primary care.

Initial feasibility assessment

It is noted that currently the denominator for CHD006 includes all people with a first or new episode of MI on or after 1 April 2011. This indicator does not therefore differentiate between acute and long term treatment. Since dual antiplatelet therapy is recommended for up to 12 months in the updated NICE guideline and beta-blockers are recommended for up to 12 months in both people with and without LVSD, an indicator incentivising treatment during the acute phase of MI would need to reset annually.

An indicator incentivising longer term management (i.e. in people who have had an MI more than 12 months ago) would require further consideration and potentially identification of subgroups to ensure treatment is in line with NICE guidance. Consideration as to whether this would warrant indicator development and piloting would need to be given.

Key considerations

The following key considerations summarise the main points made in the briefing paper and should be used by the Committee in their discussions.

- Current OQF indicator CHD006 includes all people with a first or new episode of MI on or after 1 April 2011. This indicator does not therefore differentiate between acute and long term treatment.
- The updated NICE clinical guideline on myocardial infarction: secondary prevention recommends that people with acute MI are offered dual antiplatelet therapy (aspirin plus a second antiplatelet agent). Current QOF indicator CHD006 incentivises treatment with aspirin alone.
- The updated NICE guideline also recommends that beta-blockers are only continued indefinitely, 12 months after MI, in people with LVSD. In people without LVSD the recommendation is to give a beta-blocker for at least 12

months. Currently CHD006 does not exclude people with LVSD from the indicator 12 months after an MI.

- Treatment with aspirin monotherapy, ACE inhibitors and statins continue to be recommended indefinitely in people who have had an MI more than 12 months ago.
- The development of indicators for longer term management in certain sub-sets of people with MI could be considered e.g. in people with LVSD and those without LVSD; however overlap with current QOF heart failure indicators may need to be considered.

References

National Institute for Cardiovascular Outcomes Research. Myocardial Ischaemia National Audit Project: How the NHS cares for patients with heart attack. Annual Public Report April 2012 - March 2013 (2013)

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Appendix A: Evidence summary

Selected recommendations from NICE clinical guideline 172

	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
Drug therapy					
NICE clinical guideline 172, recommendation 1.3.1	Offer all people who have had an acute MI treatment with the following drugs:				
	i. ACE (angiotensin-converting enzyme) inhibitor	Based on meta-analyses and randomised controlled trials	Mortality All-cause mortality Recurrent MI Readmission for heart failure	For people who had an MI with LVSD, all papers from CG48 were included in this review, except for 1 that was not published in English and 1 which was a long-term follow-up of people who were no longer on ACE inhibitors. Three new papers on people with LVSD were included in this review. The GDG noted that thirty-three studies were included in the review. In the studies reviewed, short-term treatment with an ACE inhibitor in unselected patients immediately after an MI is associated with a small reduction in mortality.	A review of five relevant published economic evaluations was undertaken. Long-term treatment with an ACE inhibitor in patients after MI with heart failure or left ventricular systolic dysfunction, with or without heart failure, was found to be cost effective when compared with placebo. No studies were found comparing different time points of initiation for ACE inhibitors. No relevant economic

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				Long-term treatment with an ACE inhibitor in patients with signs of heart failure and/or left ventricular systolic dysfunction who have recently experienced an MI was associated with a substantial reduction in all-cause mortality, recurrent MI and readmission for heart failure. No evidence was identified on cardiac mortality, sudden death, rehospitalisation or quality of life.	evaluations comparing ACE inhibitor with the same ACE inhibitor initiated at different time points, or comparing ACE inhibitor with placebo that allowed for an indirect comparison of optimal time of initiation of ACE inhibitors were identified.
	ii. dual antiplatelet therapy (aspirin plus a second antiplatelet agent)	Based on meta-analyses and randomised controlled trials	Risk of: – all-cause mortality – cardiac morality – re-infarction – sudden death – stroke – revascularisation – rehospitalisation – adverse events – quality of life	**The previous recommendation from CG48 recommended aspirin alone for all people who had an MI, therefore the recommendation has been amended to reflect that all people who had an MI should receive dual antiplatelet therapy, unless contraindicated. In the studies reviewed, treatment with aspirin after an	In published health economic data, long-term treatment with aspirin was more cost effective than clopidogrel in the management of occlusive vascular events. Duration of clopidogrel treatment affects the cost effectiveness, with more favourable ICERs obtained in the first

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				MI reduced the risk of death and cardiovascular events. In a subgroup of patients with recent MI, aspirin and clopidogrel have similar cardiovascular benefits. As part of the review protocol the GDG asked whether in people with an MI in the past who were not initiated on dual antiplatelet therapy (clopidogrel, prasugrel or ticagrelor in combination with aspirin), should this be initiated. One subgroup analysis from an RCT (the CHARISMA trial) was identified and showed that that clopidogrel and aspirin had no effect on the risk of, all-cause mortality, cardiac morality, re-infarction and major bleeding compared with aspirin alone in people who had CHD who were not treated acutely. However it was more effective at reducing the risk of stroke and rehospitalisation, but increased the risk of	three months. Current evidence suggests that clopidogrel cannot be recommended beyond 12 months. .

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				moderate bleeding.	
	iii. beta-blocker	Based on meta-analyses and randomised controlled trials	Mortality	Evidence in people who had an MI without LVSD was limited, of the data available on those who had treatment initiated within 72 hours of the MI, the effects of betablockers (up to 24 months) on all-cause mortality, cardiac mortality, and reinfarction was unclear but they reduce the risk of sudden death. Beta-blockers were, however, associated with an increased risk of adverse events in people without LVSD. Data in people without LVSD but whose treatment was initiated in the sub-acute period (greater than72 hours to 12 months following an MI) showed a clear benefit of beta-blocker treatment (up to 22 months) on all-cause mortality, sudden death, cardiac mortality and reinfarction. It was also associated with an increased risk of adverse events, including a decrease in	In published health economic data, treatment with beta-blockers compared with placebo in patients early after MI was found to be cost effective. The use of beta-blockers in patients with left ventricular systolic dysfunction was cost effective. No economic studies were identified which compared different durations of treatment with beta-blockers in people with left ventricular dysfunction. However the original economic model conducted in the previous guideline, CG48, showed that a lifetime treatment with beta-blockers was cost-effective compared to placebo in 65-year-old

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				sexual function. No evidence was found on stroke, rehospitalisation or quality of life. The GDG felt that the side-effects of beta-blockers were generally not severe and were manageable; therefore they felt the potential benefits of providing treatment with a beta-blocker treatment for at least 12 months outweighed the generally accepted risks. The majority of the evidence was from studies that treated people up to 12 months, only 2 small studies continued treatment for 22-24 months. Although the previous guideline, CG48, recommended indefinite treatment with beta-blockers, following an MI, there was no evidence identified in the current review to suggest a further benefit of indefinite treatment with betablockers.	men and women post MI with left ventricular dysfunction. The estimated ICER was around £1,100 per QALY gained. Although there was some concern over the applicability of this model to the current practice as the baseline risk of further events is lower compared to the past due to better care, the GDG thought this decrease in cost-effectiveness of beta-blockers could be offset by a decrease in their costs as they are now available as generics

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				The GDG therefore agreed to recommend treatment for at least 12 months in people without LVSD who had an MI. This is in contrast to the recommendation for those who have LVSD which states that beta-blockers should be continued indefinitely. The GDG agreed that people without LVSD have a lower baseline risk, therefore, indefinite use of beta-blockers may not be necessary. Furthermore, the data were mostly on those who were treated medically not with primary PCI, therefore, given the better outcomes in people who receive current treatment and because this is a lower risk population, the GDG were less confident recommending the indefinite use of beta-blockers. The GDG acknowledged that there was no evidence to support routine withdrawal of treatment in those people	

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	Recommendation	Level of evidence	Key outcomes considered (for interventions)	Specific considerations highlighted by guideline developers	Cost-effectiveness evidence
				currently being treated with beta-blockers for longer than 12 months following an MI.	
	iv. statin.	GDG consensus based on meta-analysis/RCT level evidence from the NICE clinical guideline for lipid modification	- All-cause mortality - CV mortality - Non-fatal MI - Quality of life - Stroke - Adverse events (Myalgia, rhabdomyolysis, new-onset diabetes, liver) - LDL-cholesterol reduction	Recommendations about statins and other lipid lowering agents have been removed from the update of the guideline. The GDG of the soon to be published clinical guideline for lipid modification concluded that high intensity statins are the most clinically effective option for secondary prevention of CVD.	The GDG for the previous guideline on MI (CG48) noted evidence to suggest the use of statins is cost effective. The GDG of the soon to be published clinical guideline for lipid modification concluded that high intensity statins are cost effective compared to all other options and so should be recommended.

Appendix B: Related guidance recommendations from NICE clinical guideline 172

N.B. Recommendations highlighted in grey have been included in the main report

Drug therapy

NICE recommendation 1.3.1

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. [2007, amended 2013]

ACE inhibitors

NICE recommendation 1.3.10

Offer an ACE inhibitor to people who have had an MI more than 12 months ago. Titrate to the maximum tolerated or target dose (over a 4–6-week period) and continue indefinitely. **[new 2013]**

NICE recommendation 1.3.11

Offer people who have had an MI more than 12 months ago and who are intolerant to ACE inhibitors an ARB instead of an ACE inhibitor. **[new 2013]**

Antiplatelet therapy

NICE recommendation 1.3.12

Offer aspirin to all people after an MI and continue it indefinitely, unless they are aspirin intolerant or have an indication for anticoagulation. **[2007, amended 2013]**

NICE recommendation 1.3.13

Offer aspirin to people who have had an MI more than 12 months ago and continue it indefinitely. **[new 2013]**

NICE recommendation 1.3.14

For patients with aspirin hypersensitivity, clopidogrel monotherapy should be considered as an alternative treatment. **[2007]**

This guidance incorporates NICE technology appraisal guidance 236 on ticagrelor for the treatment of acute coronary syndromes.

NICE recommendation 1.3.17

Ticagrelor in combination with low-dose aspirin is recommended for up to 12 months as a treatment option in adults with acute coronary syndromes (ACS) that is, people:

- with ST-segment-elevation myocardial infarction (STEMI) – defined as ST elevation or new left bundle branch block on electrocardiogram – that cardiologists intend to treat with primary percutaneous coronary intervention (PCI) **or**
- with non-ST-segment-elevation myocardial infarction (NSTEMI).

This recommendation is from Ticagrelor for the treatment of acute coronary syndromes (NICE technology appraisal guidance 236). **[new 2013]**

NICE recommendation 1.3.18

Offer clopidogrel as a treatment option for up to 12 months to:

- people who have had an NSTEMI, regardless of treatment[1]
- people who have had a STEMI and received a bare-metal or drug-eluting stent. **[new 2013]**

NICE recommendation 1.3.19

Offer clopidogrel as a treatment option for at least 1 month and consider continuing for up to 12 months to:

- people who have had a STEMI and medical management with or without reperfusion treatment with a fibrinolytic agent. **[new 2013]**

NICE recommendation 1.3.20

Continue the second antiplatelet agent for up to 12 months in people who have had a STEMI and who received coronary artery bypass graft (CABG) surgery. **[new 2013]**

NICE recommendation 1.3.21

Offer clopidogrel instead of aspirin to people who also have other clinical vascular disease, in line with Clopidogrel and modified-release dipyridamole for the prevention of occlusive vascular events (NICE technology appraisal guidance 210), and who have:

- had an MI and stopped dual antiplatelet therapy **or**
- had an MI more than 12 months ago. **[new 2013]**

Beta-blockers

NICE recommendation 1.3.32

Continue a beta-blocker for at least 12 months after an MI in people without left ventricular systolic dysfunction or heart failure. **[new 2013]**

NICE recommendation 1.3.33

Continue a beta-blocker indefinitely in people with left ventricular systolic dysfunction. **[new 2013]**

NICE recommendation 1.3.34

Offer all people who have had an MI more than 12 months ago, who have left ventricular systolic dysfunction, a beta-blocker whether or not they have symptoms. For people with heart failure plus left ventricular dysfunction, manage the condition in line with Chronic heart failure (NICE clinical guideline 108). **[new 2013]**

NICE recommendation 1.3.35

Do not offer people without left ventricular systolic dysfunction or heart failure, who have had an MI more than 12 months ago, treatment with a beta-blocker unless there is an additional clinical indication for a beta-blocker. **[new 2013]**

Statins and other lipid lowering agents

NICE recommendation 1.3.44

Statin therapy is recommended for adults with clinical evidence of cardiovascular disease in line with Statins for the prevention of cardiovascular events (NICE technology appraisal guidance 94) and Lipid modification (NICE clinical guideline 67). **[2007]**

Appendix C: Related QOF indicators

Related existing QOF indicators from 2014/15 indicator set

MI relates to an existing QOF clinical domain as defined in the 2014/15 GMS Contract guidance. The QOF indicators for secondary prevention of coronary heart disease domain are outlined below.

QOF domain 2014/15: Secondary prevention of coronary heart disease (CHD)

Indicator	Points	Achievement thresholds
Records		
CHD001. The contractor establishes and maintains a register of patients with coronary heart disease	4	
Ongoing management		
CHD002. The percentage of patients with coronary heart disease in whom the last blood pressure reading (measured in the preceding 12 months) is 150/90 mmHg or less	17	53-93%
CHD005. The percentage of patients with coronary heart disease with a record in the preceding 12 months that aspirin, an alternative anti-platelet therapy, or an anti-coagulant is being taken	7	56-96%
CHD006. The percentage of patients with a history of myocardial infarction (on or after 1 April 2011) currently treated with an ACE-I (or ARB if ACE-I intolerant), aspirin or an alternative anti-platelet therapy, beta-blocker and statin NICE 2010 menu ID: NM07	10	60-100%
CHD007. The percentage of patients with coronary heart disease who have had influenza immunisation in the preceding 1 August to 31 March	7	56-96%

Related indicators from the NICE menu of indicators

There no MI or CHD related indicators on the NICE menu of indicators, available from: http://www.nice.org.uk/aboutnice/qof/indicators.jsp

Related indicators under consideration by the Advisory Committee

There no MI or CHD related indicators under consideration by the Advisory Committe