# NICE National Institute for Health and Care Excellence

NICE

# Resource impact statement

Resource impact
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# Indicators

IND93: The practice can produce a register of people with peripheral arterial disease

IND94: The percentage of patients with peripheral arterial disease with a record of aspirin or an alternative anti-platelet therapy in the preceding 15 months (unless a contraindication or side-effects are recorded)

NM34: The percentage of patients with peripheral arterial disease in whom the last blood pressure reading (measured in the preceding 15 months) is 150/90 or less

NM35: The percentage of patients with peripheral arterial disease in whom the last measured total cholesterol (measured in preceding 15 months) is 5.0 mmol/l or less

# Introduction

This report provides a high-level cost impact assessment for four indicators relating to peripheral arterial disease piloted for the 2012/13 NICE menu of indicators for QOF. The intent of these indicators is to establish a register of people with peripheral arterial disease in the QOF, and to incentivise management in this population including treatment with aspirin or an alternative anti-platelet therapy, and active management of blood pressure and cholesterol.

# Cost implication (IND93)

## Patient numbers affected

There is limited evidence on the prevalence of peripheral arterial disease in the general population. However, about 20% of the UK population aged 55 to 75 years have evidence of lower extremity peripheral arterial disease, equating to a prevalence of 850,000 people, of whom 5% have symptoms. A practice with a list size of 10,000 registered patients would expect to see 20 people newly diagnosed with peripheral arterial disease each year (which equates to a population incidence of 0.2%).

## Current care

There is currently no peripheral arterial disease register in the QOF.

## Proposed care

According to SIGN clinical guideline 120, obtaining an ankle brachial pressure index (ABPI) will help to differentiate patients with exercise leg pain due to other causes from those with true arterial causes.

QOF pilot data collected from a representative sample of GP practices in England, Scotland, Wales and Northern Ireland suggests that the majority of practices did not perform ABPI measurement, with clinicians preferring to use their own clinical judgement. The creation of a peripheral arterial disease register for the QOF does not require diagnosis to be confirmed by a specific test and clinical judgement can be used in making a diagnosis. If current practice continues and the indicator is introduced into the QOF, the cost of creating a peripheral arterial disease register is anticipated to be minimal. Where tests are requested to confirm diagnosis, given the small number of patients for individual practices, this can be done opportunistically.

## Resource impact

Because the creation of a peripheral arterial disease register for QOF does not require a confirmed diagnosis by a test such as ABPI measurement, the cost of this indicator is anticipated to be minimal. Tests can be done opportunistically when needed to confirm diagnosis.

# Cost implication (IND94)

## Current care

QOF pilot data indicated that 78% of people with peripheral arterial disease had a record of receiving aspirin or an alternative anti-platelet therapy. A baseline level of achievement of 78% is therefore assumed.

## Proposed care

The focus of treatment for peripheral arterial disease is on the prevention of cardiovascular complications. By decreasing the risk of thrombosis formation, antiplatelet therapy can reduce the occurrence of acute cardiovascular events. It is expected that people with a diagnosis of peripheral arterial disease will therefore receive antiplatelet therapy with an estimated uptake of 90%. This indicator relates to the whole practice population; therefore the prevalent population in England has been used.

# Resource impact

Tables 1 to 3 sets out the cost of antiplatelet therapy based on 80% of patients receiving aspirin and 20% receiving other antiplatelet therapy at a 75 mg dose. This shows that the estimated cost of implementing this indicator is £2.4 million if all patients receive antiplatelet therapy; the QOF pilot data identified just over half of the prevalent population, therefore it is anticipated that this cost will occur over a 2-year period. Note that drug prices are based on the BNF 61.

**Table 1 Estimated cost of additional anti-platelet therapy: Population and prevalence**

| Population and prevalence | % | n |
|---|---|---|
| Total population of England | - | 51,220,237 |
| Total population of England aged over 55 years | - | 14,336,342 |
| Incidence of symptomatic peripheral arterial disease in people over 55 years | 5% | 716,817 |

**Table 2 Estimated cost of additional anti-platelet therapy: Indicator achievement**

| Indicator achievement | % | n |
|---|---|---|
| Expected uptake | 90% | 645,135 |
| People currently being treated with aspirin/ antiplatelet therapy | 78% | 503,206 |
| People needing aspirin/ antiplatelet therapy | 22% | 141,930 |
| People needing aspirin therapy | 80% | 113,544 |
| People needing antiplatelet therapy | 20% | 28,386 |

**Table 3 Estimated cost of additional anti-platelet therapy: Cost of increased antiplatelet therapy**

| Cost of increased antiplatelet therapy | Unit cost per year | Total cost |
|---|---|---|
| Aspirin | £11.07 | £1,256,930 |
| Other anti-platelet therapy | £41.37 | £1,174,327 |
| Total cost of implementing the indicator | - | £2,431,257 |

## Conclusion

The estimated cost of implementing indicator IND94 on antiplatelet therapy is up to £2.4 million over a 2-year period.

# Cost implication (NM34)

## Current care

QOF pilot data indicated that 65% of people with peripheral arterial disease had a blood pressure reading of 140/90 mmHg. This would be consistent with evidence suggesting that people with peripheral arterial disease also have chronic heart disease, stroke and/or diabetes and would therefore already be receiving management of blood pressure in these QOF domains.

## Proposed care

This indicator focuses on blood pressure in the management of cardiovascular risk factors. The developers of the SIGN guideline on the diagnosis and management of peripheral arterial disease considered that blood pressure is elevated above a desirable upper limit of 140/90 mmHg in around one third to one half of people with peripheral arterial disease, who would be considered hypertensive. We are assuming that a third of people with a diagnosis of peripheral arterial disease will therefore receive drug therapy for blood pressure.

# Resource impact

It is assumed that blood pressure will be measured opportunistically and a third of people with peripheral arterial disease will be hypertensive. Indicator NM34 applies to a prevalent population of symptomatic peripheral arterial disease. It is assumed that 20% of patients who receive angiotensin converting enzyme (ACE) inhibitors will be unable to tolerate them and will receive angiotensin II receptor blockers (ARBs).

**Table 4 Estimated cost of additional blood pressure readings: Population and prevalence**

| Population and prevalence | % | n |
|---|---|---|
| Total population of England | - | 51,220,237 |
| Total population of England aged over 55 years | - | 14,336,342 |
| Incidence of symptomatic peripheral arterial disease in people over 55 years | 5% | 716,817 |

**Table 5 Estimated cost of additional blood pressure readings: Indicator achievement**

| Indicator achievement | % | n |
|---|---|---|
| Expected uptake | 90% | 645,135 |
| People currently being managed for blood pressure | 65% | 419,338 |
| People requiring blood pressure management | 45% | 290,311 |
| Number of people requiring drug therapy for hypertension | 33% | 95,803 |

**Table 6 Estimated cost of additional blood pressure readings: Cost of increased antiplatelet therapy**

| Cost of increased antiplatelet therapy | Unit cost per year | Total cost |
|---|---|---|
| Cost of implementing the indicator | £47 | £4,502,723 |

Note: Drug prices are based on BNF 61.

Tables 4 to 6 show that the estimated cost of implementing this indicator is £4.5 million. During the QOF pilot period approximately half the prevalent population of people with peripheral arterial disease were identified, therefore it is anticipated this cost will occur over a 2-year period.

The updated NICE guideline on hypertension focuses on more accurate diagnosis of high blood pressure; this may reduce the numbers receiving drug therapy.

## Sensitivity analysis

Table 7 provides estimates of cost for drug therapy for varying levels of hypertension from 30% up to a maximum of 50%.

**Table 7 Estimated cost of providing drug therapy for hypertension in people with peripheral arterial disease based on varying expected levels of hypertension**

| Hypertensive cases | 30% | 40% | 50% |
|---|---|---|---|
| Cost (£) | £4,093,384 | £5,457,846 | £6,822,307 |

The sensitivity analysis shows that costs would increase to £6.8 million if a half of people with a diagnosis of peripheral arterial disease required drug therapy for hypertension.

## Conclusion

The estimated cost of implementing indicator NM34 on blood pressure is £4.5 million over a 2-year period.

# Cost implication (NM35)

## Current care

The QOF pilot data indicated that 80% of people with peripheral arterial disease were recorded as having their cholesterol measured by the end of the pilot period. This would be consistent with evidence suggesting that people with peripheral arterial disease also have chronic heart disease, stroke and/or diabetes and would therefore already be managed for cholesterol in these QOF domains.

## Proposed care

This indicator focuses on cholesterol levels in the management of cardiovascular risk factors. NICE clinical guideline 67 on lipid modification recommends that an 'audit' level for total cholesterol of 5 mmol/litre should be used to assess progress in populations or groups of people with CVD. The Technology Appraisal Committee for NICE technology appraisal guidance 94 concluded that statin therapy is cost effective for people with clinical evidence of CVD. It is expected that people with a diagnosis of peripheral arterial disease will therefore be offered statins with an estimated uptake of 90%.

## Resource impact

Indicator NM35 applies to a prevalent population of symptomatic peripheral arterial disease. Tables 8 to 10 show that the estimated cost of implementing this indicator is £1.2 million. During the QOF pilot period approximately half the prevalent population of people with peripheral arterial disease were identified, therefore it is anticipated this cost will occur over a 2-year period.

Table 8 Estimated cost of cholesterol tests and increased prescribing: Population and prevalence

| Population and prevalence | % | n |
|---|---|---|
| Total population of England | - | 51,220,237 |
| Total population of England aged over 55 years | - | 14,336,342 |

| Incidence of symptomatic peripheral arterial disease in people over 55 years | 5% | 716,817 |
|---|---|---|

**Table 9 Estimated cost of cholesterol tests and increased prescribing: Indicator achievement**

| Indicator achievement | % | n |
|---|---|---|
| Expected uptake | 90% | 645,135 |
| People currently being managed for cholesterol | 80% | 516,108 |
| People requiring management for cholesterol | 20% | 129,027 |
| Number of people requiring drug therapy for high cholesterol | 33% | 42,579 |

**Table 10 Estimated cost of cholesterol tests and increased prescribing: Cost of increased cholesterol tests and statin therapy**

| Cost of increased cholesterol tests and statin therapy | Units | Total cost |
|---|---|---|
| Cost of a cholesterol test | £3 | - |
| Increase in number of cholesterol tests | 129,027 | £387,081 |
| Annual cost of statins | £18.20 | - |
| Increase in statin prescribing | 42,579 | £774,937 |
| Cost of implementing the indicator | - | £1,162,018 |

Note: The cost of a cholesterol test is based on reference costs 2009/10 reference cost code DAP 823. The annual cost statin prescribing is based on the weighted average cost of statins in the BNF 61.

## Sensitivity analysis

If the expected uptake is varied from 60% to 100% the estimated costs range between £774,679 and £1.3 million.

**Table 11 Estimated cost of providing statin therapy in people with peripheral arterial disease based on varying uptake levels**

| Expected uptake | 60% | 70% | 80% | 90% | 100% |
|---|---|---|---|---|---|
| Cost (£) | £774,679 | £903,792 | £1,032,905 | £1,162,018 | £1,291,131 |

## Conclusion

The estimated cost of implementing indicator NM35 on cholesterol management is £1.2 million over a 2-year period.

## Potential saving

Implementation of the indicators for peripheral arterial disease is likely to reduce serious vascular events in the future. Combined peripheral arterial disease and hypertension represent a significant risk factor for the development of cardiovascular events, including heart attacks and strokes.

In a major systematic review of randomised controlled trials conducted by the Antithrombotic Trialists' Collaboration, antiplatelet drugs were found to reduce the risk of any serious vascular event by one quarter, non-fatal myocardial infarction by one third, non-fatal stroke by one quarter and vascular mortality by one sixth in a wide range of atherosclerotic cardiovascular diseases. Among patients with peripheral arterial disease a 23% reduction occurred in serious vascular events.

# Overall conclusions

The estimated cost implementing the four peripheral arterial disease indicators is summarised in table 12 below. During the QOF pilot period approximately half the prevalent population of people with peripheral arterial disease were identified, therefore it is anticipated that this cost will occur over a 2-year period. This gives an estimated cost of implementing the four peripheral arterial disease indicators in year 1 of £4.0 million.

**Table 12 Estimated cost of peripheral arterial disease QOF indicators**

| QOF indicator | Cost (£) |
| --- | --- |
| IND93 | - |
| IND94 | £2,431,257 |
| NM34 | £4,502,723 |
| NM35 | £1,162,018 |
| Total | £8,095,998 |
| Year 1 cost | £4,047,999 |

# Related QOF indicators

There are currently no peripheral arterial disease QOF indicators.

# References

NICE (2006) Hypertension: management of hypertension in adults in primary care. NICE clinical guideline 34. London: NICE.

Scottish Intercollegiate Guidelines Network (2006) Diagnosis and management of peripheral arterial disease: a national clinical guideline (89).

NICE (2008) Lipid modification: cardiovascular risk assessment and the modification of blood lipids for the primary and secondary prevention of cardiovascular disease (reissued March 2010). NICE clinical guideline 67. London: NICE.

NICE (2006) Statins for the prevention of cardiovascula events. NICE Technology Appraisal 94. London: NICE.

Antithrombotic Trialists' Collaboration. Collaborative meta-analysis of randomised trials of anti-platelet therapy for prevention of death, myocardial infarction and stroke in high risk patients. BMJ 2002;324:71-86

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