NICE National Institute for Health and Care Excellence

Putting NICE guidance into practice

Resource impact report:
Rivaroxaban for preventing atherothrombotic events in people with coronary or peripheral artery disease (TA607)

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Summary

NICE has recommended rivaroxaban for preventing atherothrombotic events in people with coronary artery disease or symptomatic peripheral artery disease who are at high risk of ischaemic events.

We estimate that:

- 1.4 million people with coronary artery disease or symptomatic peripheral arterial disease who are at high risk of ischaemic events are eligible for treatment with rivaroxaban.
- 41,500 people may choose rivaroxaban from year 2 onwards once uptake has reached 2.9%.

The estimated annual cost of implementing this guidance for the population of England based on the uptake in the resource impact assumptions is shown in table 1.

Table 1 Estimated annual cost of implementing the guidance

	2019/20	2020/21	2021/22	2022/23	2023/24
Population having rivaroxaban each year	6,100	41,500	41,500	41,500	41,500
Total resource impact (£'000)	**3,992**	**27,239**	**27,239**	**27,239**	**27,239**

A reduction in the number of people who have ischaemic events would result in a reduction in costs from unplanned admissions and interventions.

This report is supported by a resource impact template which may be used to calculate the resource impact of implementing the guidance by amending the variables.

This technology is commissioned by clinical commissioning groups (CCGs). Providers are primary care.

1 Rivaroxaban

1.1 NICE has recommended rivaroxaban plus aspirin within its marketing authorisation, as an option for preventing atherothrombotic events in adults with coronary artery disease or symptomatic peripheral artery disease who are at high risk of ischaemic events.

1.2 For people with coronary artery disease, high risk of ischaemic events is defined as:

- aged 65 or over, or
- atherosclerosis in at least 2 vascular territories (such as coronary, cerebrovascular, or peripheral arteries), or
- 2 or more of the following risk factors:
  - current smoking
  - diabetes
  - kidney dysfunction with an estimated glomerular filtration rate (eGFR) of less than 60 ml/min (note that rivaroxaban is contraindicated if the eGFR is less than 15 ml/min)
  - heart failure
  - previous non-lacunar ischaemic stroke.

Assess the person's risk of bleeding before considering rivaroxaban. Treatment should only be started after an informed discussion with them about the risks and benefits of rivaroxaban, weighing up the risk of atherothrombotic events against the risk of bleeding. The risks and benefits of continuing treatment with rivaroxaban should be regularly reviewed.

1.3 Current practice for this population is daily aspirin.

1.4 Implementing this guidance may reduce the number of people who have an ischaemic event.

2 Resource impact of the guidance

2.1 We estimate that:

- 1.4 million people in England with coronary artery disease or symptomatic peripheral artery disease are eligible for treatment with rivaroxaban.
- 41,500 people may choose rivaroxaban from year 2 onwards once uptake has reached 2.9%.

2.2 The current treatment and future uptake figure assumptions are based on company information, discussions with NHS England and expert clinical opinion and are shown in the resource impact template.

2.3 The future uptake of rivaroxaban is expected to be relatively low. The increased risk of bleeding may cause clinicians and patients to favour aspirin alone. Uptake is assumed to follow a similar trajectory to the uptake of ticagrelor for preventing atherothrombotic events after myocardial infarction (TA420), identified in the company submission for rivaroxaban for preventing atherothrombotic events in people with coronary or peripheral artery disease.

2.4 A reduction in the number of people who have ischaemic events would result in a reduction in costs from unplanned admissions and interventions.

2.5 The resource model assumes prescribing in primary care which is therefore not subject to value-added tax (VAT). It also assumes no additional anticoagulation clinics will be required as a result of the guidance.

2.6 The estimated annual cost of implementing this guidance for the population of England based on the uptake in the resource impact assumptions is shown in table 2.

Table 2 Resource impact of implementing the guidance using NICE assumptions

	2019/20	2020/21	2021/22	2022/23	2023/24
Population having rivaroxaban each year	6,100	41,500	41,500	41,500	41,500
Total resource impact (£'000)	**3,992**	**27,239**	**27,239**	**27,239**	**27,239**

2.7 This report is supported by a resource impact template which may be used to calculate the resource impact of implementing the guidance by amending the variables.

3 Implications for commissioners

3.1 This technology is commissioned by clinical commissioning groups. Providers are primary care.

3.2 Rivaroxaban falls within the programme budgeting category 10A, problems of circulation, coronary heart disease.

4 How we estimated the resource impact

The population

4.1 There are around 1.7 million people with coronary artery disease in England. Of this population, around 1.2 million people are at high risk of ischaemic events, there are also around 339,000 people with peripheral artery disease, of whom 121,000 would have coronary artery disease.

Table 3 Number of people eligible for treatment in England

	Population	Calculation (%)	Number of people
a	Total population		55,619,430
b	Adult population		43,752,473
c	Prevalence of cardiovascular disease[1]	3.98 of b	1,741,000
d	Proportion of people with coronary artery disease who are at high risk of ischaemic events[2].	69.59 of c	1,212,000
e	Prevalence of peripheral arterial disease[1]	0.77 of b	339,000
f	Less: people with peripheral arterial disease who also have coronary artery disease	35.59 of e	121,000
g	People with peripheral arterial disease not already counted as part of the population with coronary artery disease	e-f	218,000
h	Total eligible population	d+g	1,430,000
i	Total number of people estimated to have rivaroxaban each year from year 2[3]	2.9 of h	41,500
	[1] Source: Quality and Outcomes Framework, Achievement, prevalence and exceptions data - 2017-18 [PAS]. Codes for coronary heart disease. Does not include codes for atrial fibrillation which are subject to a separate set of QOF indicators. [2] Source: Heart & Circulatory Disease Statistics (2019), British Heart Foundation [3] See paragraph 5.3, below		

5 Other considerations

5.1 The committee considered that there was a risk of bleeding and doctors should assess the person's risk of bleeding before considering rivaroxaban. Treatment should only be started after an informed discussion with them about the risks and benefits of rivaroxaban, weighing up the risk of atherothrombotic events against the risk of bleeding. The risks and benefits of continuing treatment with rivaroxaban should be regularly reviewed.

5.2 Further details of the committee discussions about the increased risk of bleeding with rivaroxaban can be found in the guidance.

5.3 Treatment should only be started after an informed discussion with patients about the risks and benefits. It is anticipated that only the people with high risk of cardiovascular events will choose the technology. It is estimated that this could be 2.9% people by year 2. This estimate will vary locally. The uptake should be amended in blue cells in the costing template to reflect local circumstances.

About this resource impact report

This resource impact report accompanies the NICE guidance on Rivaroxaban for preventing atherothrombotic events in people with coronary or peripheral artery disease and should be read with it.