Service Notification in response to DHSSPS endorsed NICE Technology Appraisal

NICE TA 261 - Rivaroxaban for the treatment of deep vein thrombosis and prevention of recurrent deep vein thrombosis and pulmonary embolism.

1	**Summary of NICE TA 261** NICE have recommended rivaroxaban as an option for treating deep vein thrombosis and preventing recurrent deep vein thrombosis and pulmonary embolism after a diagnosis of acute deep vein thrombosis in adults. Current management of venous thromboembolism is initiated with a Low Molecular Weight Heparin (LMWH), such as enoxaparin, which is the most commonly used LMWH in the UK, for rapid anticoagulation, and overlapped with warfarin until an effective response is achieved. Treatment duration is based on the benefit of anticoagulation compared with the risk of bleeding. The main concerns with long-term anticoagulation with warfarin are the impact on people's lifestyle, and resource use associated with regular INR monitoring. Current UK practice indicates that the average treatment duration is 6 months; the range is from 3 months for people with below knee DVT to long-term treatment for patients at high risk of recurrence. People find taking warfarin stressful because of the need for constant monitoring with blood tests, dosing adjustments and because of interactions with certain foods and drugs. NICE acknowledged limitations of warfarin therapy, and recognised the advantages of rivaroxaban include its oral formulation and lack of need for INR monitoring, which could reduce the need for support services. The NICE Committee concluded that rivaroxaban was as effective as enoxaparin followed by a vitamin K antagonist for preventing venous thromboembolism recurrences and that it had comparable rates of clinically relevant bleeding when compared with enoxaparin and a vitamin K antagonist.
2	**Number of people in Northern Ireland expected to take up service/therapy (new cases per year)** NICE provide age-adjusted incidence rates for DVT in a population. Using these it is estimated that 1,249 people have a DVT in NI each year. A range of assumptions have been used to derive an estimate that approximately 980 of these will be treated with rivaroxaban.
3	**Costs** Using the NICE assumptions, the total drug costs for use of rivaroxaban for this indication in NI will cost £397,000 per annum. A proportion of patients will remain on current regimes bringing the combined drug cost to £458,613. The NI Pricing Book (July 2012) gives a price of £58.80 for 28 x 15mg or 20mg rivaroxaban. NICE estimated the cost of treatment to be £235.86, £427.61 and £811.13 for 3, 6

and 12 months of treatment respectively. However, NI has a proposed rebate scheme whereby rivaroxaban 15mg or 20mg once daily would cost £1.70 / day / patient on the once daily dose and £3.40 on the twice daily dose and this may reduce the financial implications of implementing this TA.

3.1 **Cost per patient per annum**

If the NI rebate scheme proceeds, costs would be:

3 months treatment:
15mg bd for 21 days then 15mg or 20mg od thereafter
First 21 days= £71.40
Last 69 days (based on 90 days treatment) = £117.30
Total for 3 months (90 days) treatment = £188.70

6 months treatment
15mg bd for 21 days then 15mg or 20mg od thereafter
First 21 days= £71.40
Last 159 days (based on 180 days treatment) = £270.30
Total for 6 months (180 days) treatment = £341.70

12 months treatment
15mg bd for 21 days then 15mg or 20mg od thereafter
First 21 days= £71.40
Last 344 days (based on 365 days treatment) = £584.80
Total for 12 months (365 days) treatment = £656.20

Drug	Dose	Cost per month	Cost of a 12 month treatment regime
rivaroxaban	20mg daily or 15mg daily. (15mg bd for first 21 days – see above for breakdown)	£63 (30 days) Rebate Scheme £51 (based on once daily dosage)	£766.50 With rebate scheme: £620.50 (up to £656.20 when add in increased dose for first 21 days)
enoxaparin	**Treatment of VTE, presenting as DVT, pulmonary embolism or both**: 1.5mg/kg once daily sc for at least 5 days until adequate oral anticoagulation established i.e. INR in the therapeutic range for a minimum of 2 days. In selected	Enoxaparin sodium 120mg/0.8ml solution for injection pre-filled syringes 10 pre-filled disposable injection (DT) £97.70 (one syringe needed for 70kg to give dose of 105mg sc once daily)	£3,566 (but although possible, most patients will not be on this for a year)

	patients long term LMWH is used.		
warfarin	As per INR	£0.93-£1.98	£23.76

3.2 In year cost per patient per annum (for new and prevalent cases)

As in section 3.1

3.3 Cost savings and how these will be secured

	Summary of changes to costs	**Current care**	**Future care***	**Change**
(a)	Drug costs in people who have active cancer	£199,249	£91,028	-£108,221
(b)	Drug costs in people who do not have active cancer	£108,771	£367,585	£258,814
(c)	***Total***	***£308,020***	***£458,613***	***£150,593***
(d)	Drug administration and monitoring costs	£236,453	£47,291	-£189,162
(e)	Potential savings from VTE events avoided	n/a	-£15,084	-£15,084
(f)	Incremental cost for people receiving ongoing treatment for up to 2 years	£30,209	£55,467	£25,258
(g)	***Total***	***£574,682***	***£546,287***	***-£28,395***

The NICE costing template predicts that total drug costs will rise, but administration and monitoring costs should fall. Most drug costs are already within the primary care budget, but there may also be some reduction in LMWH use in secondary care.

*(estimated annual recurring cost from year 2 onwards)

NICE assumes savings from reduced monitoring will be available to fund the additional drug cost. GP practices receive payments via a RES for Anti-coagulation Monitoring. This includes all patients on anticoagulants, including those with Atrial Fibrillation (AF) as well as those with DVT. Only the latter group are covered by this NICE TA. The total payment made to GP practices during 2011/12 for the RES was just over £2million. The monitoring payments needed for the subgroup of DVT patients should therefore reduce prorata to the numbers on rivaroxaban. Test strips for CoaguCheck machines in primary care are stock prescription items and therefore there may also be a small reduction in use.

It will be more difficult to extract savings from secondary care in relation to reduced hospital-based monitoring. The fixed element of secondary care monitoring costs may need to remain in place as a proportion of DVT patients will remain on warfarin, and others are on warfarin for AF. This will need to be kept under review.

	Potential savings to Trusts could be calculated where appropriate pro rata according to the degree of use of rivaroxaban and offset against other Trust cost pressures.
3.4	**Recurrent overall cost** NICE predicts the net impact of drug cost changes to be £150,595 (See 3.3 Table (c)). Any cost pressure will appear in the primary care prescribing budget. There is no contingency for this. However, there should be savings from the RES payments for anticoagulation monitoring. For the system as a whole NICE estimated recurrent savings of £28,395 pa.(See 3.3 Table (g)). NICE did not include any costs for monitoring patients on rivaroxaban, yet • lab testing may be needed for haemoglobin/haematocrit to detect occult bleeding, as appropriate. • Monitoring of sub-groups at increased risk of bleeding for signs/ symptoms of bleeding complications and anaemia after initiation of treatment may be needed • it may be useful to monitor renal function as dose needs adjusted if renal function declines. NICE did not include any estimates of the costs of treating bleeding events for patients on rivaroxaban. There is no specific antidote to rivaroxaban (unlike warfarin) so there could be potentially serious consequences should a patient present with life threatening haemorrhage or require emergency surgery. There is a lack of national consensus on treating haemorrhage. There could be unknown costs involved in reversal and treatment of bleeding caused by rivaroxaban.
4	**Expected implementation period** There will need to be a managed process to communicate the risks and benefits of rivaroxaban to GPs and secondary care. Current practice is that diagnosis of DVT is usually done in secondary care so hospital clinicians initiate treatment, with maintenance treatment overseen by primary care for many cases. Common protocols need to be developed between primary and secondary care at Trust level. Medicines Management advisers undertake routine visits to practices & will encourage practices to use these common protocols where appropriate.
5	**Commissioning arrangements** Trusts should produce implementation plans within 3 months. This will require Trusts to work together with the HSCB and PHA to put in place agreed clinical pathways.
6	**Monitoring arrangements** The drug will be initiated in secondary care and continued in primary care. Primary care expenditure will be monitored through monthly prescribing data. This can be

	monitored at GP practice, LCG and NI level. Introduction of this drug should be monitored carefully in view of the limited long term safety data available. The Medicines Management Commissioning team will track trends in the use of this drug.
7	**Legislative / policy caveats** This advice does not override or replace the individual responsibility of health professionals to make appropriate decisions in the circumstances of their individual patients, in consultation with the patient and/or guardian or carer. This would, for example, include situations where individual patients have other conditions or complications that need to be taken into account in determining whether the NICE guidance is fully appropriate in their case.