fused together using bone (autograft) from patient's hip, which requires additional surgery and leads to increased co-morbidity, blood loss, infection rate, and pelvic instability. We assessed the cost-effectiveness of rhBMP-2 compared with autograft in spine fusion surgery over two years from both a health care payer's and societal perspectives in The Netherlands. **METHODS:** An economic model was developed to evaluate differences in results between spine-fusion surgery with rhBMP-2 and fusion with bone autograft. The cost and health-related quality-of-life associated with both treatment options were estimated for two years after surgery. Data were obtained from a previously published analysis of pooled data, in which patients in the rhBMP-2 arm showed significant clinical improvements after surgery compared to standard therapy. Costs were obtained according to the Dutch costing manual, and are reported in 2007 values. **RESULTS:** In The Netherlands, from the health care payer's perspective, using rhBMP-2 lead to extra cost of €1,520 per case, and incremental cost-effectiveness ratio (ICER) of €27,260/QALY. Significant reduction in secondary interventions, and better fusion rates associated with rhBMP-2 treatment resulted in faster return to work and reduced productivity loss. **CONCLUSIONS:** The standard use of rhBMP-2 in ALIF surgery is a cost-effective treatment option in The Netherlands from the payer's perspective, and a cost-saving option from the societal perspective.

PHC6

COST-EFFECTIVENESS OF RIVAROXABAN VERSUS ENOXAPARIN FOR THROMBOPROPHYLAXIS AFTER TOTAL HIP REPLACEMENT IN SPAIN

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OBJECTIVES: Assess cost-effectiveness of 35 days rivaroxaban, an oral direct Factor Xa inhibitor, versus subcutaneous enoxaparin regimens for prevention of venous thromboembolism (VTE) following total hip replacement (THR). **METHODS:** Rivaroxaban regimens were compared with enoxaparin regimens following THR in two large randomized controlled trials. In RECORD1, patients received 35 days prophylaxis with rivaroxaban or enoxaparin. In RECORD2, patients received 35 days rivaroxaban or 12 days enoxaparin. In RECORD1, rivaroxaban reduced total VTE (composite: any DVT, non-fatal PE, all-cause mortality) by 70% versus enoxaparin after 35 days prophylaxis, although the reduction in symptomatic VTE was not statistically significant. In RECORD2, 35 days rivaroxaban reduced total VTE by 79% and symptomatic VTE by 80% versus 12 days enoxaparin. A cost–utility model (health care perspective), populated by the RECORD1-2 trials, assessed cost-effectiveness of rivaroxaban versus both durations of enoxaparin over five years. Risks of VTE and post-thrombotic syndrome beyond the trial period were estimated from published data. Costs, in euros (€), were derived from published Spanish sources. Utilities were derived from published literature. Enoxaparin prophylaxis after THR in Spain lasts approximately 27 days. Hence, in addition to separate analyses based on RECORD1 and 2, RECORD1-2 data were pooled to allow the cost-effectiveness of 35 days rivaroxaban versus the Spanish enoxaparin duration to be estimated. **RESULTS:** Thirty-five days rivaroxaban dominated 35 days enoxaparin, with a small QALY gain and cost savings of €48.10 per patient. Rivaroxaban,was also cost-effective versus 12 days enoxaparin (incremental cost per QALY, €3156). Rivaroxaban remained dominant over enoxaparin when RECORD1-2 data were combined (QALY gain, 0.011; cost savings per patient, €12.24). Probabilistic sensitivity analyses showed rivaroxaban dominating in 60% of cases and cost-effective in 100% (cost per QALY; ≤€20,000) **CONCLUSIONS:** Rivaroxaban is cost-effective versus both 12 days and 35 days enoxaparin, for preventing VTE following THR in Spain.

PHC7

COST-EFFECTIVENESS OF RIVAROXABAN VERSUS ENOXAPARIN FOR THROMBOPROPHYLAXIS AFTER TOTAL HIP REPLACEMENT IN CANADA

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OBJECTIVES: Assess cost-effectiveness of 35 days rivaroxaban, an oral direct Factor Xa inhibitor, versus 12 days and 35 days subcutaneous enoxaparin for prevention of venous thromboembolism (VTE) following total hip replacement (THR). **METHODS:** Rivaroxaban regimens were compared with enoxaparin regimens following THR in two large randomized controlled trials. In RECORD1, patients received 35 days prophylaxis with rivaroxaban or enoxaparin. In RECORD2, patients received 35 days rivaroxaban or 12 days enoxaparin. The duration of enoxaparin in RECORD1 represents the ACCP-recommended duration of prophylaxis following THR, but in Canada a shorter duration is often applied. In RECORD1, rivaroxaban reduced total VTE (composite: any DVT, non-fatal PE, all-cause mortality) by 70% versus enoxaparin after 35 days prophylaxis. The reduction in symptomatic VTE with rivaroxaban was not statistically significant and not included in the model. In RECORD2, rivaroxaban reduced total VTE by 79% and symptomatic VTE by 80% versus 12 days enoxaparin. A cost–utility model (Ministry of Health perspective) assessed cost-effectiveness of rivaroxaban versus both durations of enoxaparin over five years. The model is populated by RECORD1-2 trials, while published epidemiological and clinical data estimated the risk of further VTE events and post-thrombotic syndrome beyond the trial period. Costs were derived from published Canadian sources and expressed in 2008 Canadian Dollars (C$). Utilities were derived from published literature. Potential savings from oral administration were also included. **RESULTS:** Thirty-five days rivaroxaban dominated 35 days enoxaparin, with a small QALY gain and savings of C$282.58 per patient. Cost savings are driven mainly by reduced outpatient administration costs. Probabilistic sensitivity analyses showed this dominance in 98% of cases. Rivaroxaban was also cost-effective versus 12 days enoxaparin, with an incremental cost per QALY of C$33,323. **CONCLUSIONS:** Rivaroxaban is cost-effective versus both 12 days and 35 days enoxaparin, for the prevention of VTE following THA in Canada.

PHC8

COST-EFFECTIVENESS OF RIVAROXABAN VERSUS ENOXAPARIN FOR THROMBOPROPHYLAXIS AFTER TOTAL KNEE REPLACEMENT IN THE UK AND SPAIN

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OBJECTIVES: Assess cost-effectiveness of rivaroxaban, an oral direct Factor Xa inhibitor, versus subcutaneous enoxaparin for prevention of venous thromboembolism (VTE) following total knee replacement (TKR) in the UK and Spain. **METHODS:** RECORD3, a large randomized controlled trial, compared VTE prophylaxis for 12 days with rivaroxaban versus 12 days enoxaparin following TKR. Rivaroxaban reduced total VTE

(composite: any DVT, non-fatal PE, all-cause mortality) by 49% and symptomatic VTE by 66% versus enoxaparin. A cost–utility model (health care perspective) assessed the cost-effectiveness over five years following TKR of rivaroxaban versus enoxaparin in the UK and Spain, two large European countries with different approaches to post-surgical prophylaxis and patient management. The model was populated using RECORD3 data. Published epidemiological and clinical data estimated risks of VTE and post-thrombotic syndrome beyond the trial period. Costs were derived from published local sources and expressed in pounds (£) for the UK and euros (€) for Spain. Utilities were taken from a systematic literature review. Potential savings from oral administration were included in the UK analysis only, as in Spain, drug administration costs are included in hospitalisation charges. **RESULTS:** The model showed rivaroxaban produced improved health outcomes and cost savings versus enoxaparin in the UK and Spain (dominance). Improved health outcomes were similar across both countries, while rivaroxaban produced cost savings of £89.15 per patient in the UK and €144.93 in Spain. Savings were driven by reduced costs of treating symptomatic VTE and associated long term complications, as well as oral outpatient administration in the UK. In both countries, probabilistic sensitivity analyses showed rivaroxaban maintained dominance versus enoxaparin in more than 99% of cases. **CONCLUSIONS:** Rivaroxaban is cost-effective following TKR within the different health care systems of both these two major European countries.

PHC9

COST-EFFECTIVENESS OF RIVAROXABAN VERSUS ENOXAPARIN FOR THROMBOPROPHYLAXIS AFTER TOTAL HIP REPLACEMENT IN THE UK

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OBJECTIVES: Assess cost-effectiveness of 35 days rivaroxaban, an oral direct Factor Xa inhibitor, versus 12 days and 35 days subcutaneous enoxaparin for prevention of venous thromboembolism (VTE) following total hip replacement (THR). **METHODS:** Rivaroxaban regimens were compared with different enoxaparin regimens following THR in two large randomized controlled trials. RECORD1 compared 35 days prophylaxis with rivaroxaban or enoxaparin, while RECORD2 compared 35 days rivaroxaban with 12 days enoxaparin. While the ACCP and NICE recommend up to 35 days prophylaxis in higher-risk patients after THR, a shorter duration is often used in the UK and elsewhere. In RECORD1, rivaroxaban reduced total VTE (composite: any DVT, non-fatal PE, all-cause mortality) by 70% versus enoxaparin after 35 days prophylaxis, although the reduction in symptomatic VTE with rivaroxaban was not statistically significant. In RECORD2, rivaroxaban reduced total VTE by 79% and symptomatic VTE by 80% versus 12 days enoxaparin. A cost–utility model (health care perspective) assessed cost-effectiveness of rivaroxaban versus both durations of enoxaparin over the five years following surgery. The model was populated by RECORD1-2 data while published epidemiological and clinical data estimated risks of VTE and post-thrombotic syndrome beyond the trial period. Costs (2008 pounds [£]) were derived from published sources. Utilities were taken from a systematic literature review. Potential savings associated with administration and monitoring were also included. **RESULTS:** Thirty-five days rivaroxaban dominated 35 days enoxaparin, yielding improved health outcomes (QALYs) and savings of £67.82 per patient. Savings were driven mainly by reduced outpatient administration costs. Rivaroxaban also dominated 12 days enoxaparin, with a QALY gain of 0.022 and savings of £22.38. Probabilistic sensitivity analyses showed dominance in 98% of cases versus 35 days enoxaparin and 55% versus 12 days enoxaparin. **CONCLUSIONS:** Rivaroxaban is cost-effective versus both 12 and 35 days enoxaparin, for prevention of VTE following THR in the UK.

PHC10

PROPHYLAXIS WITH RIVAROXABAN AGAINST VENOUS THROMBOEMBOLISM (VTE): A COST-CONSEQUENCE ANALYSIS FROM THE PERSPECTIVE OF THE ITALIAN HEALTH CARE SERVICE

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OBJECTIVES: Assess economic impact of rivaroxaban, an oral direct Factor Xa inhibitor, in VTE prevention following total hip and total knee replacement (THR/TKR). **METHODS:** Rivaroxaban regimens were compared with enoxaparin regimens for VTE prevention in three large randomized controlled trials. For THR, 35 days rivaroxaban was compared with 35 days enoxaparin (RECORD1), or 12 days enoxaparin (RECORD2). RECORD3 compared rivaroxaban and enoxaparin for 12 days following TKR. Rivaroxaban reduced total VTE (composite: any DVT, non-fatal PE, all-cause mortality) following THR by 70% versus 35 days enoxaparin and 79% versus 12 days enoxaparin. Following TKR, rivaroxaban reduced total VTE by 49% versus enoxaparin. Bleeding was similar with both agents. An economic model (health care perspective) assessed clinical and economic consequences of rivaroxaban versus enoxaparin for five years following surgery. The model was populated using RECORD 1–3 data and calculated outcomes for total VTE and symptomatic VTE. Cost results for the latter are presented here. Incidences for VTE and post-thrombotic syndrome after the trials were estimated from published data. Costs, (2008 euros [€]), were derived from published Italian sources. As the Italian rivaroxaban price is not published, rivaroxaban and enoxaparin costs were excluded. RECORD 1–3 data were combined to estimate costs and consequences of rivaroxaban versus enoxaparin for THR/TKR. **RESULTS:** Overall improvement in outcomes with rivaroxaban following THR and TKR was 0.021 symptomatic VTE events per patient undergoing surgery; non-drug costs were reduced by €81.32. These were consistent with individual THR and TKR results when the RECORD trials were analysed separately. In 2004, 96,000 THR and TKR were performed in Italy. Rivaroxaban could yield total annual non-drug cost savings of approximately €7.6 million. **CONCLUSIONS:** Rivaroxaban thromboprophylaxis following THR or TKR may improve health outcomes and reduce non-drug costs versus existing approaches. Hence rivaroxaban may represent a more efficient approach to VTE prophylaxis in Italy.

PHC11

THE BURDEN OF ADHESIOLYSIS DURING LAPAROSCOPIC GYNECOLOGICAL SURGERY

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OBJECTIVES: Previous European research has shown that laparoscopic surgery is frequently complicated by the need for adhesiolysis due to adhesions caused by previous surgery. In Europe