

OUTCOMES AND COSTS OF THROMBOPROPHYLAXIS WITH LOW-MOLECULAR WEIGHT HEPARIN IN ACUTELY-ILL MEDICAL INPATIENTS

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OBJECTIVE: Prophylactic administration of low-molecular weight heparin (LMWH) has been shown to reduce the occurrence of venous thromboembolism (VTE) among acutely-ill medical patients in the clinical trial setting. The purpose of this study was to examine outcomes and costs of LMWH thromboprophylaxis among medical inpatients in real-world clinical practice. **METHODS:** Using a large, geographically-diverse, multi-hospital U.S. database, we identified persons aged ≥ 40 years who were hospitalized for ≥ 6 days with an acute medical condition (including circulatory disorders, respiratory disorders, infectious diseases, or neoplasms) during calendar year 2000. From these patients we identified those who received either thromboprophylaxis with the LMWH enoxaparin or no thromboprophylaxis. Surgical patients, patients with conditions requiring anticoagulant therapy, and those medically ineligible for anticoagulation were excluded. We compared the incidence of VTE (defined as deep-vein thrombosis [DVT] or pulmonary embolism [PE]) and death during the hospital stay, as well as length of inpatient stay and total costs, in the two cohorts. **RESULTS:** We identified 215 patients receiving enoxaparin prophylaxis and 3595 receiving no prophylaxis. The risk of VTE over the course of the hospitalization was 58% lower with enoxaparin prophylaxis than with no prophylaxis (3.3% versus 7.9%; $p < 0.001$); there was no difference in the risk of death (7.4% versus 7.3%; $p = 0.96$). Length of stay in hospital and costs of inpatient stay were nominally higher in the group receiving enoxaparin prophylaxis versus no prophylaxis (10.4 days versus 10.1 days; US\$10,497 versus US\$9,904), although the magnitude of these differences was not significant ($p = 0.40$ for length of stay; $p = 0.29$ for costs). **CONCLUSIONS:** Prophylaxis with LMWH was found to be effective in reducing the risk of thromboembolism in medical inpatients in real-world clinical practice; however, no corresponding reductions in length of hospital stay and inpatient costs were observed.

PCV9

to estimate cost of cardiovascular (CV) hospitalisations at current prevalence of hypertension to the Canadian health care system, and the level of these costs if hypertension was successfully treated to target levels. Two populations were examined: hypertensives in the general population; and a subpopulation with both hypertension and Non-Insulin Dependent Diabetes Mellitus (NIDDM). Population data were sourced from the 2001 census. Prevalence of hypertension in the general population was taken from the Canadian Heart Health Survey and in NIDDM was calculated from Diabetes in Canada and Canadian Diabetes Association data. The HOT trial and Framingham Risk Profile equation were used to examine the relationship between achieved blood pressure and 3 major CV events—stroke, congestive heart failure (CHF), and symptomatic acute myocardial infarction (AMI). Cost of CV events were taken from the Ontario Case Costing Project (AMI and CHF) and the Canadian Economic Burden of Illness Study (stroke). Stochastic simulation was used to construct confidence intervals. **RESULTS:** The model estimated that 5.3 million Canadians over age 18 have hypertension. Uncontrolled hypertension was associated with 17,000 excess CV events and costs of C\$306 million (95%CI: C\$154–632m) annually. Among 309,000 hypertensives with NIDDM, uncontrolled hypertension was associated with 4,000 excess CV events annually and costs of C\$68 million (95%CI: C\$37–103m). **CONCLUSIONS:** Uncontrolled hypertension contributes substantially to the overall cost of cardiovascular disease in Canada. Diabetic hypertensives represented 22% of the avoidable cost of hypertension and 6% of the hypertensives population.

PCV11

RESOURCE UTILIZATION DURING THE FOUR MONTHS FOLLOWING A DIAGNOSIS OF DEEP VENOUS THROMBOSIS

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OBJECTIVES: Deep venous thrombosis (DVT) is a common cardiovascular condition occurring in 2 per 1000 persons/year. Despite its frequency, the economic impact of DVT has not been quantified. During a prospective Canadian multicenter study of longterm outcomes after DVT, we quantified DVT-related resource utilization during the four months following diagnosis. **METHODS:** The study population consisted of 153 patients diagnosed with acute DVT at 1 of 7 participating hospitals. Data on DVT-related hospitalisations, physician visits, diagnostic tests, medical devices, paramedical services and indirect costs were collected for the 4-month period following diagnosis. Data sources included weekly patient-completed diaries, nurse-completed case report forms (baseline, 1, 4 months, and

PCV10

COST OF UNCONTROLLED HYPERTENSION IN CANADA

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OBJECTIVES: To estimate the avoidable health care costs of uncontrolled hypertension in Canada. **METHODS:** We used an established cost of illness model

at any potential DVT-related clinical event [DRCE]), and archivist-coded hospitalisation summaries. Utilization was grouped by resource-type and summed. Stratified analyses were performed by age, gender, DVT site (proximal/distal), and patient location (in-patient/out-patient). **RESULTS:** At diagnosis, mean age was 57 years, 48% were male, 1/3 were in-patients and 55% had proximal DVT. By 4 months, 17% of patients had ≥ 1 new hospitalisation, 24% had been investigated for a DRCE and there were a mean of 0.9 emergency department visits, 3.4 family physician visits, 5.2 specialist physician visits and 13.4 episodes of use of paramedical services. Half of patients had purchased elastic stockings, and 69% were still taking warfarin. By 1 month, 31% and 17% of patients reported cutting down on household and work activities, respectively; at 4 months, these figures were 15% and 7%. There was an average loss of 7.3 work-days during the 4-month period. **CONCLUSIONS:** Although usually considered an acute condition, DVT is associated with significant utilization of resources and loss of productivity for at least 4 months after diagnosis. The longterm economic impact of DVT should be further quantified and factored into cost-effectiveness studies of strategies to prevent or treat DVT.

PCV12

COST-EFFECTIVENESS OF ENOXAPARIN AS THROMBOPROPHYLAXIS IN ACUTELY ILL MEDICAL PATIENTS IN BRAZIL

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OBJECTIVE: To generate estimates of the cost-effectiveness of thromboprophylaxis with enoxaparin versus no thromboprophylaxis (usual care) in patients with acute medical illness in the health care setting of Brazil from the perspective of the public Brazilian health care system. **METHODS:** Markov process analysis techniques were used to model the health economic outcomes. Data on probabilities of clinical events were derived from clinical trial data from the MEDENOX trial, other published literature and OECD (Organisation for Economic Co-Operation and Development) country-specific population mortality data; units of health care utilization were derived from the Delphi panels; prices and tariffs were derived from official lists. **RESULTS:** Analysis over a 1-year period showed that the cost per VTE event avoided was REAL 2349 (US\$870; €906) and the cost per life saved was REAL 8296 (US\$3073; €3201), when assuming no higher risk for morbidity and mortality for asymptomatic patients. The lifetime model (again, assuming no higher risk for recurrence of VTE for asymptomatic patients), showed that the use of enoxaparin leads to a cost per VTE event avoided of REAL 2194 (US\$813; €846) and cost per life year gained of REAL 574 (US\$213; €221). The lifetime model, which assumes a

higher risk of VTE recurrence in asymptomatic patients, leads to a cost of REAL 317 (US\$117; €122) per VTE event avoided and REAL 90 (US\$33; €35) per life year gained. **CONCLUSION:** The results showed that the favourable clinical benefit of enoxaparin results in positive short and long-term health economic benefits.

PCV13

COST OF MANAGING UNSTABLE ANGINA PATIENTS OVER A NINE-MONTH PERIOD: A EUROPEAN APPROACH

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OBJECTIVES: While the cost of managing patients with myocardial infarction has been extensively studied, few data are available on the cost of managing unstable angina (UA) patients. The aim of the study was to assess the cost of UA patients in six European countries (France, Belgium, Italy, Spain, Sweden, UK). **METHODS:** A cohort simulation model was used. Patients entered the model when hospitalised for UA. Resources use during initial hospitalisation (length of stay, invasive procedures) was extracted from a prospective database. The frequency and type of following rehospitalisations for cardiovascular events were derived from a recent clinical trial. The time horizon was nine months and the perspective was that of the health care system. The hospital costs used for each country were based on the local DRG system. Official costs of outpatient medications were used. All costs are expressed for year 2001. **RESULTS:** The global cost of managing UA patients over a nine-month period was divided in three parts: cost of initial hospitalisation, cost of subsequent hospitalisations and cost of medications. Total length of stay of initial hospitalisation ranges from 7.2 days in Sweden to 10.8 days in Spain. The number of days in intensive care unit ranges from 1.6 in UK to 3.8 in Italy. In France, the global cost was estimated at €7471 per patient, breakdown of cost was as follows: initial hospitalisation (57%), subsequent hospitalisations (33%), medications (10%). For other countries, the global cost per patient was as follows: Belgium €6987, UK £3083, Italy €6908, Spain €6633, Sweden SEK 57608, with a consistent breakdown across countries. **CONCLUSION:** First hospitalisation is the main cost driver. Nevertheless the cost of subsequent hospitalisations accounts for about one third of the total cost highlighting the need for preventive treatment of subsequent cardiovascular events in UA patients.