FINANCIAL IMPACT OF EPLERENONE USE IN A SPANISH REFERENCE HOSPITAL

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OBJECTIVES: Eplerenone, indicated to improve survival of stable patients with left ventricular systolic dysfunction and clinical evidence of congestive heart failure (HF) after an acute myocardial infarction (postAMI-CHF), has demonstrated to reduce all cause mortality and HF hospitalization number as well as the length of stay (LOS). The objective is to estimate total annual financial impact for an example of a tertiary Spanish hospital, based on a formulary including Eplerenone vs. without Eplerenone.

METHODS: The model represents the patterns of treatment experienced by hospitalized postAMI-CHF patients during a 1-year period under the hospital perspective (2005). We estimated the annual discharges with postAMI-CHF number (422) from the total annual discharges number (62,391) and epidemiological data obtained from the literature. Estimated Eplerenone treatment mean duration was 15 days for the initial postAMI-CHF. Rates of CHF rehospitalization for postAMI-CHF patients, and the average of postAMI-CHF hospitalization LOS were obtained from EPHEUS. Only direct costs were included: acquisition drug and CHF hospitalization. Results are detailed as hospital net cost (postAMI-CHF hospitalizations and inpatient Eplerenone treatment) and incremental budgetary impact of having Eplerenone in the formulary. A sensitivity analysis was carried out varying hospitalization costs and hospitals mean LOS.

RESULTS: Annual costs incurred due to postAMI-CHF hospitalizations were €128,373 with Eplerenone (Drug cost: €12,817) and €176,022 without Eplerenone. The hospital savings were €47,649, which represents an annual saving of 27% with regard to the total expense in these patients. The use of Eplerenone is overcompensated by the number of rehospitalization and LOS reduction. Sensitivity analysis results show an annual saving between €23,274 and €102,932.

CONCLUSIONS: Using a simulation of what would happen in an example of a Spanish tertiary hospital, the use of Eplerenone is associated with a cost saving, under the perspective of the hospital, due to less rehospitalizations and length of stay.

ANTIHYPERTENSIVE DRUG BUDGET IMPACT OF THE ANGIOTENSIN II RECEPTOR BLOCKERS (ARB) IN THE UK

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OBJECTIVES: ARBs were introduced into the UK antihypertensive drug market at a premium price and during a time of evolving evidence and changes to existing hypertension treatment guidelines. The study aimed to determine the UK antihypertensive drug budget impact since the first ARB market launch December 1994 and what proportion of the increase was directly attributable to ARBs.

METHODS: Prescriptions for oral hypertension treatment were estimated at 465,862,416 GBP in 1995 and 1,458,268,104 GBP in 2004 (2005 GBP values), reflecting a 213% real rate of increase. Use of ARBs accounted for only 5.8 to 9.3 aggregate percentage points of the average drug expenditures. ARB prescription frequency increased from 0.04% in 1995 to 6.57% in 2004. Treatment prevalence rose from 11.30% in 1995 to 16.90% in 2004, while the average annual number of antihypertensive drug prescriptions per patient increased from 9.32% to 13.46%. The average antihypertensive drug expenditures per antihypertensive drug prescription increased over time reflecting a product shift towards more expensive therapies.

CONCLUSIONS: ARBs accounted for less than 10% of the 213% increase in expenditures on antihypertensive drugs following the introduction of ARBs in the UK. A substantial portion of the indirect impact reflected increases in treatment prevalence and increases in the number of prescriptions per patient, including the use of combination therapies.

COST IMPACT OF DIAGNOSTIC IMAGING FOR LOWER EXTREMITY PERIPHERAL VASCULAR DISEASE (PVD)

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OBJECTIVES: Evaluation of peripheral vascular disease in the primary care setting is routinely performed by contrast-enhanced magnetic resonance angiography (CE-MRA) and digital subtraction angiography (DSA). However, limited data are available on the relative costs and clinical outcomes following these diagnostic procedures.

METHODS: We identified individuals who underwent an outpatient CE-MRA (3444) or DSA (16,899) procedure of the lower extremities from 1998 to 2004 in the U.S. Veterans Affairs system. Using VA costing algorithms, Cost and log-cost of interventions (e.g., revascularization, stent, angioplasty), amputations or mortality rates within 30 days and one year of DSA or CE-MRA were compared for both groups adjusted for baseline characteristics using multivariate regression. Imaging modality selection bias was evaluated with propensity score, instrumental variables and Heckman methods using retransformation and Generalized Linear Models.

RESULTS: Initial CE-MRA imaging was significantly more likely among patients with prior renal disease or bypass surgery (OR > 2; p < 0.001) and less likely among patients with prior amputation, PVD, claudication or other cardiovascular disease markers (OR < 0.7; p < 0.001). Even after adjusting for endogenous choice of initial imaging modality, 30 day treatment costs were US$3500–$4300 lower (p < 0.001) for imaging patients with initial CE-MRA. Eighty-two percent (65%) of DSA imaging patients had no additional procedures or events within 30 (90) days, and less than 3.2% (3.6%) of patients had any repeat image within 30 (90) days of their initial image.

CONCLUSIONS: Relative to DSA, CE-MRA imaging was associated with substantial treatment episode savings, beyond the US$950 lower imaging cost per procedure. These savings estimates were robust to alternate model specifications and statistical corrections for endogenous imaging choice. Substituting CE-MRA for DSA among those not planning or requiring any follow-up procedures within 30 days could have reduced outpatient imaging costs by up to 55%, and reduced VA system costs by US$13.2 million.