STROKE

BUDGETARY IMPACT ANALYSIS OF RECOMBINANT ACTIVATED FACTOR VII IN THE TREATMENT OF INTRACEREBRAL HEMORRHAGE: A US HEALTH PLAN PERSPECTIVE

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OBJECTIVES: Intracerebral hemorrhage (ICH) is among the most costly and debilitating forms of stroke. Results from a recent Phase IIb clinical trial demonstrate that administration of recombinant activated factor VII (rFVIIa) reduces ICH mortality and improves functional outcome. The objective is to examine the health plan budget impact of introducing rFVIIa as a novel treatment for ICH.

METHODS: A decision-analytic model was adapted to estimate the budget impact of introducing rFVIIa (40, 80, or 160 μg per kilogram) for treatment of ICH, from a US managed care perspective. The patient population was similar to that of the Phase IIb clinical trial. Model structure and inputs were obtained from published literature, clinical trial data, managed care claims databases, and expert opinion. All costs are presented in 2005 US dollars. Costs and outcomes were discounted at 3 percent annually. Univariate sensitivity analyses were conducted to assess model robustness. RESULTS: Assuming a health plan of 1,000,000 members and an initial 30% uptake of rFVIIa, the annual health plan cost is expected to increase by between $38,868 and $279,057, or between $0.003 and $0.023 per-member per-month, depending on dose of rFVIIa used. Assuming use of rFVIIa 80 μg/kg dose and an absolute 5% increase in uptake each year (i.e., 55% patients receiving rFVIIa 80 μg/kg 5 years post introduction), the change in a health plan’s annual cost is expected to be $-65,778 (cost savings) compared to the current year’s budget at 5 years after rFVIIa introduction. CONCLUSIONS: Treating eligible patients with rFVIIa improves survival and functional outcome. Impact to a health plan’s budget is modest in the first year after introduction to market. In addition, due to expected improvements in health outcomes, a decrease in budget impact may be observed using rFVIIa 80 μg/kg as early as 3 years post introduction.

STROKE PATIENT RESOURCE USE AND CAREGIVER BURDEN OUTCOMES BY SEVERITY (RECOVERY) STUDY: METHODS AND PRELIMINARY GERMAN RESULTS

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OBJECTIVES: To evaluate the relation between post-stroke physical disability and place of residence (home vs long-term care facility), and, secondarily, between disability and other economic, quality of life and caregiver burden outcomes.

METHODS: Randomly selected Erlangen Registry ischemic stroke patients, 18 years of age or older, still alive at least 90 days post stroke and willing to attend a study visit were administered a 30-day retrospective resource use questionnaire, the EQ-5D, the Stroke Impact Scale (SIS-16), Modified Rankin Scale (mRS), and Barthel Index; caregivers reported resource use and hours of informal care. Stroke history was obtained from registry records. Multivariate logistic and linear regressions were used to examine the associations. Preliminary results are reported for the first 200 of the planned 360 subjects. RESULTS: At a mean time post stroke of 4 years (min 0.26—max 11.88 years), 14.5%, 25%, 13%, 7.5%, and 15% of subjects (49.5% male; mean age 74.3 years) had mRS scores of 0, 1, 2, 3, 4, and 5, respectively. At the study visit, 72% of patients were residing at home, and 28% were residing in a long-term care facility. The probability of residing in long-term care was significantly higher in patients with severe disability (mRS ≥ 3) vs mild/moderate disability (mRS = 0,1,2) (adjusted for age, sex, and time since index stroke; OR = 14.8, p < 0.0001). Over the previous 7 days, 96% of caregivers of severely disabled subjects cared for at home vs 50% of caregivers of the mildly/moderately disabled patients at home reported ≥1 hour of informal care (p < 0.001); mean informal care time received by patients with severe disability was 26.6 hours; patients with mild/moderate disability received 6.6 hours (p < 0.001). CONCLUSIONS: Results suggest post-stroke impairment remains an important determinant of place of residence and caregiver burden well beyond the acute care period, outcomes which translate into significant additional costs.

RESOURCE UTILIZATION AND COSTS OF STROKES IN A THIRD LEVEL HOSPITAL IN MÉXICO

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OBJECTIVE: To estimate resource utilization and economic costs of a stroke in Specialty Hospital (SH) of XXI Century National Medical Center (CMNXXI, in Spanish). METHODS: Data from stroke-diagnosed patients who received medical assistance in SH between 2003-05 were retrospectively collected, with the following inclusion criteria: 1) assistance with <24 hours after first symptoms, 2) CAT or magnetic resonance-confirmed stroke, and 3) >45 years old. The Barthel index was used to assess clinical status. Costs were estimated from the hospital perspective using a bottom-up approach, and only direct medical costs were estimated (hospitalization, treatment, laboratory tests, specialist visit, surgery). Clinical data and resource utilization were obtained from individual clinical. The unitary costs used are those officially published by Mexican Social Security institute (IMSS). A 3% discount rate was used, and prices were adjusted as to February 2006. Results are shown either as mean-standard (SD) or median-range and multivariate analysis test were applied. Sensitivity analyses included variation of the resource use frequency assumptions, percent complicated patients and cost inputs. RESULTS: 88 patients were included, Male 63.64%, age 55.59 (18.68), Mortality was 19.32%. More resources were utilized for complicated patients compared to non-complicated in CAT (1.68 vs 1.12, p = 0.006), thorax Rx (3.19 vs 1.44, p = 0.002), angiography (0.41 vs 0.19, p = 0.04) and days of hospitalization (15 vs 8.4, p = 0.0019). Total stroke costs were MXN$103,493 ($101,783.2),median = $66,789.15, range $20,158–$501,685.2). 62.36% of total costs were due to hospitalization. Per-patient costs for a complicated and non-complicated stroke were $151,308 and $69,926.03, respectively (p < 0.0015). Sensitivity analysis highlighted the model's sensitivity to the percent complicated patients and cost inputs. CON-