

MC8

THE APPLICATION OF BAYESIAN METHODS TO EVALUATE THE IMPACT OF TIME-DELAY ON THE COST-EFFECTIVENESS OF PRIMARY ANGIOPLASTY FOR ACUTE MYOCARDIAL INFARCTION

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OBJECTIVES: To apply Bayesian approaches to evaluate the impact of time-delay on the cost-effectiveness of primary angioplasty versus hospital-administered thrombolysis for patients with acute myocardial infarction. **METHODS:** A probabilistic model was developed to evaluate the life-term cost-effectiveness of primary angioplasty. A health service perspective was adopted with outcomes estimated using Quality-Adjusted Life Years (QALYs). Evidence on short-term event rates was obtained by updating a recent meta-analysis of randomised trials comparing angioplasty with thrombolysis (Lancet 2003; 361:13–20). Data from 22 trials were combined using Bayesian hierarchical modeling and meta-regression. This approach enabled the simultaneous estimation of posterior distributions and correlation structure for: 1) major cardiovascular events including death, re-infarction and stroke, and 2) different time endpoints (4–6 weeks and 6 months). The impact of PCI time-delay to treatment was analysed using mean time delay compared to thrombolysis as a covariate of the random effects model. Long-term costs and QALYs were estimated using a Markov model populated from UK registry data. **RESULTS:** Based on the average time-delay reported in the trials (54 minutes), primary angioplasty resulted in a mean gain of 0.29 QALYs and an additional cost of £2680 compared to thrombolysis. The associated incremental cost-effectiveness ratio (ICER) was £9241 per QALY. At a threshold of £20,000 per QALY there was a 90% probability that primary angioplasty was cost-effective. Adjusting the time-delay resulted in considerable variation in the cost-effectiveness estimates. For a shorter delay of 30-minutes the ICER was £6,850 per QALY; increasing the time-delay to 90-minutes resulted in a marked increase in the ICER to £64,750 per QALY (98% and 36% probability cost-effective at £20k, respectively). **CONCLUSIONS:** This study demonstrates the policy importance of time-delay when considering the cost-effectiveness of primary angioplasty, and the advantages of using Bayesian approaches to model multiple endpoints, treatment effects and baseline event rates.

Preference and Utility Based Patient Reported Outcomes

PRI

EVALUATION OF PREFERENCES IN GENITAL HERPES TREATMENT USING A DISCRETE CHOICE EXPERIMENT

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OBJECTIVES: Genital herpes (GH) is widespread, psychologically disabling and costly. GH is characterized by episodic outbreaks of genital and perigenital vesicles and ulcers, and is one of the most prevalent sexually transmitted diseases in the world today. The seroprevalence of herpes simplex virus (HSV) type-2 ranges from 13% to 40% in the United States and from 7% to 16% in Europe. Often GH is not adequately treated, with consequences on benefits and patients' well being, and potentially important economic repercussions. GH patients play an important role in decision-making for their management strategies, and

their preferences can be crucial to improve treatment outcomes and resource allocation. This study evaluated patients' preferences in GH treatment. **METHODS:** Preferences were elicited from 157 patients, recruited from the Harris Poll panel, who completed an online Discrete Choice Experiment (DCE) questionnaire. DCE data was analysed using multinomial logit regression models to estimate respondents' preferences for GH medical treatment. **RESULTS:** Respondents, from the US (87.9%) and UK (12.1%), had a median age of 43 years (21–65), and 83.4% were women. Overall, respondents preferred medical treatment to no treatment of GH, with suppressive treatment preferred to episodic, assuming everything else equal. Willingness to pay (WTP) was \$38.2/month for episodic treatment and \$60.6/month for suppressive treatment, assuming everything else equal. Furthermore, respondents were WTP \$56.6/month for a 1% reduction in the "chance of a GH recurrence" in 12 months. In terms of treatment, respondents' preferences indicated that generally patients preferred the treatment they currently receive. Globally, more patients would choose to be treated (74.3%) than those actually treated (56.2%). **CONCLUSIONS:** Patients prefer suppressive treatment of GH. Such preferences are influenced by experience, knowledge and awareness of available options. The estimated model suggests that more patients than those actually receiving drug therapies would consider being treated.

PR2

PERCEIVED UTILITY OF HEALTH STATES INDUCED BY CHRONIC HEPATITIS B: ESTIMATES FROM UNINFECTED PERSONS IN CANADA

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OBJECTIVE: With an estimated prevalence in Canada between 206,000 and 280,000 persons infected with the virus, persons with hepatitis B typically progress through increasingly severe disease states before death. The objective was to estimate preferences (ratings and utility weights) for six hepatitis B-related disease states among uninfected persons. **METHODS:** Three hepatologists characterized the typical effects of symptoms on health-related quality of life in terms of symptoms, frequency of tests, hospitalizations, procedures, and dimensions of health such as pain, ability for self-care, activities of daily living, psychological well-being and future outlook. From a convenience sample of 100 uninfected persons in Canada, we elicited ratings using a visual analog scale based on a 'feeling' thermometer and standard gamble utility weights using probability wheels with 2-color pie charts for the relative probabilities of perfect health and death. **RESULTS:** The mean age was 42 years (standard deviation (SD): 14.8, range: 18 to 80 years) and 29% were male. Mean utilities were: 0.80 (95% confidence interval (CI): 0.76; 0.83) for chronic hepatitis B; 0.79 (CI: 0.75; 0.83) for compensated cirrhosis; 0.41 (CI: 0.35; 0.46) for decompensated cirrhosis; 0.69 (CI: 0.65; 0.74) for the first year after liver transplant; 0.77 (CI: 0.73; 0.80) for subsequent years after liver transplant; and, 0.45 (CI: 0.40; 0.51) for hepatocellular carcinoma. The values using the visual analog scale were lower than utilities elicited using the standard gamble, but the relative ranking of each health state did not change. **CONCLUSION:** All six hepatitis B-related health states are associated with substantial loss of quality-of-life, with uninfected persons perceiving that decompensated cirrhosis and hepatocellular carcinoma causing the most severe drop in utility. This information provides a means of making a direct comparison between health states and esti-