Ambulatory Care Survey, National Hospital Discharge Survey etc. in terms of data elements’ design, efficiency of a hierarchical structure and data integrity, data security, etc. Comparative analysis has been conducted using a tool that aggregates questions on qualitative registries’ metrics. RESULTS: Compared to other registries, NVDRS has a well-defined goal, sufficient for the development of a PH registry (to assist the design of PH interventions for a reduction of mortality due to violent deaths). NVDRS is a population based, confidential, incident-driven, computerized information system. NVDRS represents a new generation of systems with the highest level of data complexity because of the aggregation of multiple data sources obtained from different state agencies. NVDRS encompasses essential registry functionality and attributes sufficient to accomplish the system’s major goals. It has well defined core elements, which allows for many types of analysis. CONCLUSIONS: A comparative analysis of NVDRS demonstrates that goals, design and structure of this system promote best practices for the PH patient registries.

PMCID11 DEVELOPMENT OF A GLOBAL HEALTH ECONOMIC MODEL OF THE NATURAL HISTORY OF HPV INFECTION AND CERVICAL CANCER: CALIBRATION TO THE UNITED KINGDOM AND NETHERLANDS
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OBJECTIVES: To develop a Markov model that can be calibrated to different countries; to facilitate country-specific economic evaluations of a vaccine that protects against infection with multiple human papillomavirus (HPV) types. METHODS: We developed an Excel-based Markov model of the natural history of HPV and cervical cancer using a cycle length of six months for transitioning between health states (Normal, HPV, Cervical Intraepithelial Neoplasia (CIN) 1, CIN 2, CIN 3, Cervical Cancer (Stages 1 to 4), and death. Health states are stratified by HPV type (16, 18, 31, 45, 52, Other Oncogenic, and Non-oncogenic). Using a lifetime simulation of 12-year old girls, the model was calibrated to current data for two European countries (The Netherlands, UK (UK)). Calibration endpoints included: 1) Age-specific HPV prevalence; 2) HPV type distribution in cervical disease; 3) Prevalence of pre-cancerous lesions; and 4) Age-specific cervical cancer incidence and mortality. Observed screening practices and coverage (three-yearly for UK, five-yearly for The Nethelands) were used for calibrating to a screened environment. Transition probabilities were varied, within established ranges, to reproduce calibration endpoints. RESULTS: Model-predicted outcomes correlated well with observed data for both UK and The Netherlands. Overall, HPV prevalence was comparable for UK (model-predicted = 7.1%; observed = 9.6%) and the Netherlands (model-predicted = 6.4%; observed = 9.2%). Differences between countries were observed in other endpoints, such as crude cervical cancer incidence per 100,000 (UK: model-predicted = 10.4, observed = 10.2; The Netherlands: model-predicted = 8.5, observed = 8.1), as well as cervical cancer mortality per 100,000 (UK: model-predicted = 5.2, observed = 5.1; The Netherlands: model-predicted = 2.8, observed = 2.9). CONCLUSIONS: A model of the natural history of HPV and cervical cancer was successfully calibrated to two countries. It is important to calibrate to several epidemiological endpoints in countries so that health economic benefits of vaccine can be accurately projected in future cost-effectiveness analyses.

PMCID12 THE COST-EFFECTIVENESS OF BIOLOGIC AGENTS FOR THE TREATMENT OF AUTOIMMUNE DISORDERS: A STRUCTURED REVIEW OF THE LITERATURE
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OBJECTIVES: To conduct a structured review of the literature to identify cost-effectiveness evaluations involving at least one of four biologic treatments: adalimumab, anakinra, etanercept and infliximab for the treatment of autoimmune disorders. METHODS: A structured review of the literature was conducted in EMBASE and PubMed from January 1995 to February 2005 to identify all relevant cost-effectiveness evaluations investigating one or more of these four treatments in autoimmune disorders. RESULTS: Fifteen full economic evaluations were identified. There were 12 for rheumatoid arthritis, 2 for Crohn’s disease, and 1 for ankylosing spondylitis. There were 3 studies in the UK, 4 in the United States, 2 studies in Sweden, one joint study in Sweden and in the UK, one study in France, one study in The Netherlands and one study in Spain. The majority of evaluations used modeling to project the long-term cost-effectiveness of treatments. In general, cost-effectiveness ratios were favorable for the treatment of patients with refractory disease not responding to previous treatments whether in rheumatoid arthritis or ankylosing spondylitis. In Crohn’s disease, biologic treatments were not cost-effective in the treatment of perianal fistulae, or for maintenance therapy in patients with moderate to severe active disease. Due to the high cost of these treatments, cost-effectiveness ratios were less favorable for maintenance therapy across diseases. CONCLUSION: Modeling the cost-effectiveness of more expensive biologic treatments in autoimmune disorders presents significant challenges due to the chronic and recurring nature of diseases such as rheumatoid arthritis, Crohn’s disease and ankylosing spondylitis. A better understanding of these issues will be useful to researchers developing future models for these disease areas but also for other autoimmune disorders for which biologic agents may be appropriate such as, for example, ulcerative colitis, psoriasis and psoriatic arthritis.

PMCID13 APPLYING EXPECTANCY-VALUE MODEL TO UNDERSTAND HEALTH PREFERENCE: AN EXPLORATORY STUDY
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OBJECTIVES: To investigate factors influencing health preference with expectancy-value model (EVM). METHODS: EVM, a model widely used to explore underlying factors of attitudes was applied to study health preference, which was categorized as attitude in psychology. The factors include attitudinal attributes (AAs) and external variables. AAs are measured in a sum of multiplications of one’s subjective probability (expectancy) and perceived value of attributes. In one-to-one interviews, four AAs identified in focus group discussion, namely, reduction in quality of life (RQoL), burden to family (BTF), dependence on others (DOO) and inability to work (ITW) were assessed using 7-point Likert scales to measure expectancy and value of each attribute. Health preference was measured using visual analogue scales (VAS, range 0–100). Univariate analyses were used to identify external variables (age, gender, ethnicity, education, housing, marital status, and concurrent chronic diseases) that cause significant difference in VAS. Multiple linear regression model (MLR) was used to investigate the explanatory power of AAs and
possible significant external variable(s) separately or in combination. RESULTS: Twenty-five Chinese and 21 Indians (mean (SD) age: 45.0 (15.55) years, 55.6% female) were interviewed. Ethnicity was identified as the only independent variable causing significant difference in VAS (p < 0.05). RQoL, BTF, DOO, ITW were found to explain the variation of VAS of 26.5%, 27.2%, 23.2%, 17.1% respectively in separate MLR models (p < 0.05). Combining ethnicity together with the sum of AAs explained up to 27.3% of the variation in VAS, while a model with ethnicity alone only accounted for 10.7% (p < 0.05). When MLR was done to examine different predicting power of AAs by ethnicity, ITW failed to predict VAS of Indians (0.3%, p = 0.80) while the other 3 AAs moderately explained from 9.1% to 22.9% of the variation (p < 0.05). CONCLUSIONS: EVM may be helpful in explaining the variations in health preference and predicting important factors.

PREVAILING JUDGMENTS ABOUT SOCIETY’S WILLINGNESS TO PAY FOR A QALY: DO THEY VARY BY COUNTRY? HAVE THEY CHANGED OVER TIME?

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OBJECTIVES: Great debate exists over appropriate cost/QALY thresholds. We assessed reporting of cost-effectiveness thresholds in the literature to examine prevailing judgements about society’s willingness-to-pay per QALY. We hypothesized that stated thresholds were directly related to an author’s home country GDP per capita and that they have increased over time to reflect economic growth. METHODS: We evaluated 573 cost-effectiveness analyses (CEAs) published between 1998–2003 and listed in the Tufts-NEMC CEA registry. We scrutinized authors’ judgments regarding appropriate cost/QALY thresholds (e.g., that an incremental cost/QALY ratio under $50,000/QALY represents “good value for money”), and examined whether thresholds differed by author’s home country GDP per capita and that they have increased over time to reflect economic growth.

RESULTS: CEAs most frequently originated from the US (n = 320), UK (n = 68), Canada (n = 45), and The Netherlands (n = 35). Of 573 studies, 325 CEAs (57%) stated an explicit threshold. The most frequent thresholds used in the US were $50,000/QALY (52%), followed by the classification proposed by Laupacis (CAN$20,000–CAN$100,000) (16%), and $100,000/QALY (11%). Most Canadian studies (65%) used the Laupacis classification, and most UK studies (52%) used GBP30,000/QALY. The prevailing US threshold ($50,000/QALY) corresponded to approximately 1.4 times US GDP per capita, whereas the UK threshold (GBP30,000/QALY) was approximately 1.9 times UK GDP per capita. The lower and upper limits of the Laupacis classification used in Canada corresponded to 0.6 to 2.9 times Canadian GDP per capita. Thresholds used by authors have not changed significantly over time and where not inflated to address inflation or economic growth.

CONCLUSIONS: Thresholds used in the US, UK, and Canada do not appear to be related to GDP per capita, and have not increased over time. More research is needed to determine appropriate country-specific or disease-specific thresholds. Mechanisms for updating thresholds to reflect inflation rates or changes in GDP are warranted.