OBJECTIVES: To determine the proportion of published cost-minimization analyses (CMAs) that provided appropriate evidence of equivalence between drug comparators. METHODS: Medline, Embase, and International Pharmaceutical Abstracts (from inception to December 2006) were searched using the words “cost” and “minimization”. Included articles were those that: claimed to be a CMA, compared costs between drugs, reported original research, and were available as full-text (abstracts/reviews/letters were not accepted). Data extraction was performed by two independent reviewers and included: evidence of equivalence, journal type, publication date, and class of drug. To determine adequacy of evidence of equivalence, each article was assessed for source of data as well as strength of effect- viveness between comparators, and categorized as: “adequate”, “questionable”, and “inadequate”. All differences in raters’ deci- sions were resolved through consensus. RESULTS: A total of 67 articles were assessed for evidence of equivalence. Of those, the majority were from the US/Canada, followed by Europe. Only one article was from outside these regions (Australia). CMAs were most published in general medicine journals and in the field of cardiovascular drugs. Of the total accepted studies, 9 (13.4%) were judged “adequate”, 21 studies (31.3%) were categorized as “questionable”, and 37 (55.2%) studies had “inadequate” evidence of equivalence of comparators. The majority of studies failed to prove their comparators’ equivalence because the evidence in the literature supported different outcome results, because some of these studies simply assumed equivalence, or did not provide any evidence at all. No correlation was found between studies that provided “adequate” or “inadequate” equivalence and year of publication. CONCLUSION: The majority of studies failed to prove adequate evidence of the suitability of CMA as an analytic technique. Guidelines should be developed that explicitly specify criteria for the performance of a CMA in future studies.

ICER VS. IECR: THEORETICAL HEALTH ECONOMICS VS. PRACTICAL DECISION MAKER BASED VALUE EVIDENCE

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OBJECTIVES: The incremental cost-effectiveness ratio (ICER) is commonly calculated by health-economic researchers as a method to communicate the relative incremental value among treatments. It is intended as evidence to determine whether a drug is a good value. However, as a single number presented as a value in a local currency it is poorly understood by the average health care decision maker(s). The objective of this project was to re-examine the ICER value and design an economic calculation that would be more readily understood and more easily interpretable by the customers of health economic information, the health care decision makers. METHODS: The components of the ICER were evaluated and rearranged in various possible calculations to yield a value that was comparable across different treatments utilizing the available cost (price) and effectiveness components of medical treatments. RESULTS: The incremental effectiveness per incremental cost ratio (IECR) is “incremental value” is proposed. The incremental difference in effectiveness is expressed as a ratio to the incremental difference in cost, with all factors expressed in percentages. We compared the traditional ICER to the proposed IECR. If a new treatment had an IECR value of 100% it would be considered neutral. If the IECR was less than 100% it could be considered needing alternative value, and any value greater than 100% would generally be considered positive value. Examples: Drug-A: Drug-B Cost $100 : $160. Effectiveness 50% : 80%. ICER : IECR $133 $150% = GOOD. Cost $100 : $180. Effectiveness 50% : 80%. ICER : IECR $267 75% = POOR. CONCLUSION: The results of the IECR calculation are easily interpretable and produce a value that is simple to compare across treatments. The IECR removes Theorical value of the ICER, which is difficult for decision makers to interpret, and replaces it with a value that has an interpretable reference range.

GUIDELINES FOR BUDGET IMPACT ANALYSIS IN CANADA

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OBJECTIVES: Budget Impact Analysis (BIA) addresses the question of whether a new drug is affordable by the health care system in which it is being introduced. In Canada, committees and managers of each public drug plan make reimbursement decisions regarding new drugs. Most drug plan managers now require economic data, including a BIA, as part of the formal decision process on the pricing and reimbursement of drugs. There is currently no standardized method of performing and presenting BIAs for submission. METHODS: A survey of representatives across Canada and a review of 35 previously submitted BIAs were conducted to assess existing needs for BIA guidelines. Based on these findings, previously published guidelines (ISPOR) and input from the project’s Steering Committee, BIA guidelines were developed to provide detailed instruction on how BIAs should be performed. An interactive budget impact model template was designed to facilitate BIA model development. RESULTS: Five key problem areas were identified for improvement in BIA models: Lack of transparency, inaccurate or misapplied assumptions, generalized analysis non-specific or inaccurate to jurisdiction and/or plan, inappropriate choice of comparators; and overall quality. The guidelines and accompanying template address these problems and cover model design, analytic perspective, time horizon, target population, costing, scenarios to be compared, uncertainty analysis, discounting and validation methods that should be used when preparing a BIA as well as provide detailed guidance on data inputs and data sources. CONCLUSION: The BIA guidelines and accompanying template address the requirements of each of the participating drug plans in Canada. Both have been endorsed by the National Prescription Drug Utilization Information System (NPDUIS) Steering Committee and the PMPRB for the standardization of BIA submissions. The intended audience includes those who develop, submit or use BIA models, and drug plan managers who evaluate BIA submissions.

PROPOSAL FOR A METHODOLOGICAL CHANGE OF PRACTISE: SEPARATING THE PROCESS OF ESTIMATING CLINICAL EFFECTIVENESS FROM ECONOMIC EVALUATIONS

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OBJECTIVES: Any economic evaluation of a health care inter- vention is only as good as the effectiveness data it is built upon (Drummond 1997). Despite this knowledge, the quality of information on clinical effectiveness is still poor. METHODS: The main reason is that most data, at least on medicinal drugs, is tai- lored towards obtaining a market authorisation. Competent authorities, in the European Union, the United States and
Canada, are often granting market access on the basis of efficacy data alone. Because of this lack of effectiveness data, information is mostly extrapolated from the existing efficacy data. In theory it should be left to evidence-based-medicine specialists to estimate this information. In practise this is done as an integral part of most economic evaluations. We challenge this practise and propose to separate the estimation of effectiveness from the overall process of economic evaluations. Our main argument is that the estimation of effectiveness is not necessarily a core competency for authors of economic evaluations. RESULTS: Hence this crucial issue gets too little attention in discussions and guidelines of economic evaluations. Subsequently we argue that this niche of evidence-based-medicine is still underdeveloped. It urgently needs scientific discussion and development of its own guidelines. CONCLUSIONS: We propose that the estimation of effectiveness on the basis of efficacy data should be done as an endeavour in itself. This would make the appraisal of these two distinct procedures, namely effectiveness assessment and economic evaluation, clearer and thus more valuable. The European Union is currently trying to develop this field (Pharmaceutical Forum Conclusions—Press release September 29, 2006).

**SYSTEMATIC BIAS BETWEEN INTERNET AND MAIL SURVEYS: IMPLICATION FOR SCALING OF CONJOINT QUESTIONS**

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OBJECTIVES: To examine the role of two modes of administrations of surveys: mail and internet, and associated source of biases on validation of results of patient surveys, set up by J Winter and D McFadden at Berkeley. Since internet surveys are increasing, especially for conjoint surveys in health care, it becomes important to control such biases on estimators of demand for care. Previous estimations of survey biases in conjoint models for health care choices (e.g. Suzuki and Ohkusa on common cold, 1999) did not address such sources of biases.

METHODS: Two experimental questionnaires designed in 2003 and 2004 were administered on AARP patients, with the two modes of administration. This paper analyses responses to three policy questions. They are measured with scaling responses, similar to the one used for the validation stage of a new cost index for physicians’ decision making. RESULTS: Results from the 2003 survey show that there is systematic bias associated with modes of administrations. The paper provides 2003 results on three policy questions where scaling measures were used on health care choices for different types of care; preliminary results of a modified 2004 design of the 2005 survey will also be provided. Findings from Winter and McFadden suggest that there are systematic biases between internet and mail surveys in the range of 0.514 to 0.528 for the selected choice questions. These results will be updated and discussed in the context of the creation of a sampled survey on primary care physicians combining mail and internet surveys CONCLUSION: This paper contributes to methodological advances to improve validation of new type of reversed conjoint surveys as predictive tools for demand of health care, especially for the validation of physicians/surveys, when there are a lot of variations in adoption of IT systems in physicians’ practices.