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Title: Budget Impact Analysis – Economic Evaluation’s Under Appreciated Younger Brother – The Case of Thiazolidinediones

Rationale: In addition to the “value for money” issues addressed by economic evaluations, decision makers are often concerned with issues of affordability when considering including new drugs and devices on formularies. However, many economists do not look kindly on budget impact analysis, and some even feel economists should not be doing them.

Objectives: The objective of this paper is to compare and contrast the methods of full economic evaluation and budget impact analysis (BIA). The techniques of budget impact analysis will be applied to a new group of diabetic 2 drugs, the thiazolidinediones.

Methodology: There will be an examination of the reasons why budget impact analysis is not highly regarded by some economists. BIA and full economic evaluation will be compared on the basis of definition, objectives, scope, and methodology. A BIA was carried out for two thiazolidinediones: pioglitazone and rosiglitazone. It examines the potential impact at a macro level of their being funded by provincial drug plans. The size of the treatable population was determined, and the number of patients to be treated with the interventions was estimated (based on a plausible scenario for “switching to” and “adding on” the two drugs). The impact on the total cost was estimated. Data was provided by PMPRB on program expenditure and quantity information based on six drug programs: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Nova Scotia. Estimates for the total of Canada were projected based on population. A variety of sensitivity analyses were done based on growth rate for the market, rates for switching and adding on, and drug prices.

Results: The base case result for the impact on drug plans in Canada was estimated at just under \$60 million for 2004, and sensitivity analysis results range from \$12 million to \$88 million.

Conclusions: The BIA and full economic evaluation approaches both have their individual strengths and weaknesses, but they both address fundamentally different questions. Depending on the decision at hand, either BIA or full evaluation, or both may be appropriate. Introducing pioglitazone and rosiglitazone to Canadian formulary funding would result in an increase in expenditure on diabetes 2 drugs that is in the same range of the total currently spent on diabetes 2 drugs. An important consideration when introducing new drugs for provincial drug plans is cost, whether cost saving, or more commonly, cost increasing. BIA is a useful method for that purpose, as the thiazolidinedione application has shown.

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