A Systematic Review of Economic Evaluations in Latin America: Assessing the Factors That Affect Adaptation and Transferability of Results

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Introduction

Health technology assessments (HTA) which incorporate economic evaluations are increasingly being conducted as evidence-based decision making across Latin America in order to prioritise interventions in health care systems with scarce resources.1

An increasing number of Latin American countries have nationally published economic evaluation guidelines to ensure that these studies have the necessary elements for decision-makers to make them reliable.1,2

However, issues of the generalisability of economic evaluations can arise due to a variety of factors between countries which can depend on the methodology, data sources used, and the quality of reporting of the studies.3,4

Methods

Economic evaluations conducted in Latin America were identified by searching NHS-EED (whose search strategy included MEDLINE, MEDLINE in Process, EMBASE and Scicon) in February 2015. The Latin American health bibliographic database (LILACS) was also searched to increase the sensitivity of the review.

The search strategy included terms related to “economic modelling”, “economic evaluation”, “cost studies”, “cost-effectiveness”, “cost-utility”, “pharmacoeconomics”, “QUALY” in conjunction with any Latin American country. Search terms were incorporated in English and no date limits were applied.

The eligibility criteria for the SLR included: being published in English; reporting the results of a full economic evaluation,2 and reporting results from the perspective of the Latin American country. Search results were evaluated by two independent reviewers, with any disagreements resolved through consensus or third-reviewer arbitration.

Cost-effectiveness analyses were selected for inclusion in the review as these types of studies are more standardised than other economic evaluations, and are commonly recommended by national guidelines.2,5

The quality of reporting assessment of the identified economic evaluations was conducted in concordance with the Drummond et al. critical appraisal checklist.6

Results

A total of 452 abstracts and titles were selected for screening after de-duplication, of which 31 articles fulfilled the inclusion criteria for cost-utility economic evaluations and were included in this analysis (Figure 1).7,8

Almost half of all studies identified were from a Brazilian perspective (15, 48%), with the remaining based in Mexico (16, 6%), Colombia (n=8, 23%), Chile (n=2, 6%), Argentina (n=2, 6%), Peru (n=1, 3%) or a combination of Latin American countries (n=7, 23%).

Methodology and Data Sources

Of the cost-utility analyses identified in the review, the vast majority used a transition state Markov approach (n=20, 64%); and 23% (n=9) utilised a decision tree approach.

-A transition state Markov model (6) was used to model the effectiveness of vaccination programmes in Brazil.4,9

-Cost and resource inputs were sourced from a mixture of locally published data, public list prices, local literature localised to the relevant country, and expert opinion.

-The majority of clinical inputs were based on international clinical guidelines; however, only 6% (n=2) used data from a local RCT (Figure 2).

-As regards generalisability, despite the high use of international sources to inform the primary clinical inputs, in all cases, national clinical guidelines and/or local expert opinion were used to inform additional model inputs or assumptions.

In total, 94% (n=29) of the cost-utility analyses identified quality of life data through international published literature. No studies included in the review elicited preferences specifically related to the perspective of the evaluation.

-Measures of eliciting preferences in the literature included Standard Gamble (SG), Time Trade-Off (TTO) and the Visual Analogue Scale (VAS), however, expert opinion and assumptions were also commonly used to derive utility estimates.

-Cost and benefits were discounted at either 3% or 5% per year across all studies with the exception of Fabrikant et al.10 whose analysis was conducted over a 1-year time horizon (Figure 3).

-Annual rates of discounting were applied in line with national economic evaluation guidelines for analyses conducted in Chile and Colombia.

-However, multiple discount rates were observed in Brazil and Mexico, where the national guidelines in both cases recommend a 5% rate over a 1-year time horizon.

Quality of Reporting

A lack of detail of the quality of reporting in the economic evaluations are presented in Figure 4.

In most instances, a clear question was posed in the study objectives, with international, trial-based studies commonly used as data sources.

-However, detailed reporting of the valuations of the cost and benefit inputs likely reduced the generalisability and transferability of the results.

-There exists potential for knowledge sharing of economic evaluations in Latin America as long as studies can be applied to or adapted for different settings.

-Further studies are required to specifically assess the generalisability of published economic evaluations.

Conclusions

Economic evaluations identified in Latin America demonstrated consistent reporting of study objectives, with international, trial-based inputs commonly used as data sources.

-However, detailed reporting of the valuations of the cost and benefit inputs likely reduced the generalisability and transferability of the results.

-There exists potential for knowledge sharing of economic evaluations in Latin America as long as studies can be applied to or adapted for different settings.

-Further studies are required to specifically assess the generalisability of published economic evaluations.

References


*Please contact the study author for a full list of citations identified in the systematic literature review (gavin.stewart@costellomedical.com).

Figure 1. PREMAH flow diagram

Figure 2. Full economic evaluation checklist used in this study.

Figure 3. Overview of annual discount rate applied in the economic evaluations.

Figure 4. Equality of reporting of identified economic evaluations

Table 1. Number of economic evaluations screened and included across Latin America

Table 2. Economic evaluation guidelines in Latin America: a current snapshot.