SYSTEMATIC REVIEW OF GUIDELINE RECOMMENDATIONS ON COMPARATOR SELECTION IN HEALTH ECONOMIC EVALUATIONS

Monika Wagner, Peter Melnyk and Donna Rindress

BioMedCom Consultants inc., Montreal, Quebec, Canada

Introduction

- The choice of comparator(s) is a critical design parameter for any health economic evaluation (HE).
- Numerous guidelines on conduct and reporting of HEs have been developed over the last three decades.
- HE guidelines differ in their objectives, scope and level of prescriptiveness.
- They may also differ in their recommendations on comparator selection.

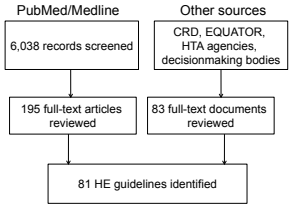
Objective

To review all publicly accessible HE guidelines to identify shared themes and differences within their recommendations on comparator selection.

Methods

- Systematic search for publicly accessible HE guidelines in:
  - PubMed/Medline (from inception to February 2012)
  - the Centre for Reviews and Dissemination (CRD)
  - the EQUATOR network
  - Health technology assessment agency websites
  - Healthcare coverage decisionmaking body websites
- Inclusion:
  - Documents containing guidance on performing or reporting comparative HEs
  - In case of different versions from the same source, most recent version selected
  - Languages: English, French, German, Spanish
- Guidelines were classified as jurisdictional mandatory, jurisdictional non-mandatory, or general
- Recommendations on comparator selection were identified and extracted from each guideline
- Data identification and extraction were re-examined by a second investigator
- Recommendations were analyzed and coded under common, non-mutually exclusive themes.
- Qualitative and quantitative (including statistical) content analyses were performed

Results



- 81 HE guidelines were identified and reviewed: 23 jurisdictional mandatory, 11 jurisdictional non-mandatory and 47 general
- Of these, 58 (72%) discussed comparators: 22 (96%) of jurisdictional mandatory, 10 (91%) of jurisdictional non-mandatory and 26 (55%) of general guidelines.
- Among all 58 guidelines that discussed comparator selection (Figure 1), the most frequent recommendations were to:
  - Use the most common treatment (69%);
  - Include 'no intervention' when appropriate (43%); and
  - Use best practice (e.g., guideline or specialist recommended treatment) as comparator (24%).
  - Other recommendations were to compare with the treatment most likely to be replaced (21%), to use all alternative treatments (17%), and the least costly treatment (14%).
- Apart from giving specific recommendations on choosing comparators, 47% of guidelines asked analysts to justify their choice and 22% asked for detailed descriptions of all comparators.
- When comparing the frequency of recommendation by type of guideline, jurisdictional mandatory guidelines were significantly more likely than general guidelines to specify most common treatment (86% vs 46%, $P<.01$ Fisher's exact test), whereas general guidelines were more likely to recommend comparing all alternative forms of therapy (31% vs 5%, $P<.05$).
- Frequency of specific recommendations was similar when comparing guidelines published ≤ 2000 (N=21) and > 2000 (N=37) (Figure 2), except for the recommendation to compare with the intervention most likely to be replaced, which was significantly more common among guidelines published after 2000 (5% vs 30%, $P< .05$).
- Similar results were obtained when the comparison by publication date was restricted to general guidelines only (Figure 2).

Figure 1: Frequency of specific guideline recommendations regarding comparator selection by type of guideline

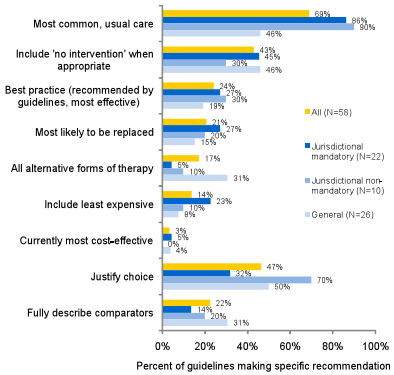
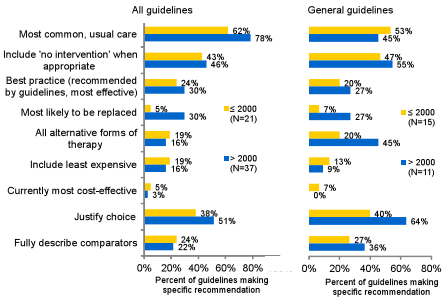


Figure 2: Frequency of specific guideline recommendations regarding comparator selection by publication year



Discussion and Conclusions

This data is a small part of a larger study evaluating issues in currently available HE reporting guidelines as well as quality of HE reporting, and examining evolution in reporting guideline content over time.

Regarding choice of comparator, although there is great commonality among existing HE guidelines, some differences can be seen. For example, general guidelines were more likely than jurisdictional mandatory guidelines to recommend comparison with all alternatives and less likely to recommend comparison with the most common treatment.

Differences among guidelines seem to relate principally to the pragmatic purpose of each guideline, its mandate and level of prescriptiveness. For the experienced practitioner the rationale for these differences will likely be clear; for the less experienced or a non-expert in this field, they suggests a need to standardize the discipline.

References

Ontario guidelines for economic analysis of pharmaceutical products. 1994; Swiss Federal Office of Social Security. Manual for the standardisation of clinical and economic evaluation of medical technology. 1995; Cleemput I et al. Value Health 2009;12(4):441-9; Dutch guidelines for pharmacoeconomic research. Amstelveen, The Netherlands: Health Insurance Council, 2008; Guidelines for the economic evaluation of health technologies: Canada. 2006; Behmane D et al. Baltic guideline for economic evaluation of pharmaceuticals (pharmacoeconomic analysis). 2002; Commonwealth Department of Health and Ageing. Guidelines for the pharmaceutical industry on preparation of submissions to the Pharmaceutical Benefits Advisory Committee, including major submissions involving economic analyses. 2008; Mittmann N et al. Addendum to CADTH's guidelines for the economic evaluation of health technologies: specific guidance for oncology products. 2009; National Institute for Clinical Excellence. Updated guide to the methods of technology appraisal. 2008; Alves da Silva EA et al. Guidelines for economic drug evaluation studies. 1998; Ministry of Social Affairs and Health and Finland. Guidelines for preparing a health economic evaluation. 2009; Irish healthcare technology assessment guidelines. 2000; Pharmaceutical Management Agency Ltd and New Zealand. A prescription for pharmacoeconomic analysis. 2007; Scottish Medicines Consortium. Guidance to manufacturers for completion of New Product Assessment Form (NPAF). 2010; Pharmaceutical Administration, Ministry of Health, Israel. Guidelines for the submission of a request to include a pharmaceutical product in the national list of health services. 2010; Branch Standard: The Standardization System in the Russian Federation Health Care System. Clinico-Economic Studies. General Provisions. 2002; Institute for Quality and Efficiency in Health Care (IQWiG). General methods for the assessment of the relation of benefits to costs. 2009; Norwegian guidelines for pharmacoeconomic analysis in connection with applications for reimbursement. 2005; Pharmaceutical Benefits Board and Sweden. General guidelines for economic evaluations from the Pharmaceutical Benefits Board (LFNAR 2003:2). 2003; Guía para la conducción de estudios de evaluación económica para la actualización del Cuadro Básico de Insumos del Sector Salud en México. 2008; The AMCP format for formulary submissions. 2009; National Pharmacy and Therapeutics Committee and WellPoint Pharmacy Management. Health technology assessment guidelines: drug submission guidelines for new products, new indications and new formulations. 2005; Rovira J, Antonanzas F. Pharmacoeconomics 1995;8(3):245-52; Szende A et al. Eur J Health Econ 2002;3(3):196-206; French guidelines for the economic evaluation of health care technologies: methodological recommendations. 2004; Orlewska E, Mierzejewski P. Eur J Health Econ 2003;4(4): 296-303; Annemans L et al. Pharm World Sci 2002;24(1):5-7; Walter E, Zehetmayr S. Guidelines on Health Economic Evaluation (Austria). 2006; Capri S et al. Drug Inform J 2001;35(1):189-201; Garattini L et al. Pharmacoeconomics 1995;7(1):1-6; Lopez-Bastida J et al. Eur J Health Econ 2010; Abellan Perpinan JM et al. Rev Esp Salud Publica 2009;83(1):71-84; Siegel JE et al. Pharmacoeconomics 1997;11(2):159-68; Task Force on Principles for Economic Analysis of Health Care Technology. Ann Intern Med 1995;123(1):61-70; Drummond MF, Jefferson TO. BMJ 1996;313(7052):275-83; Mullins CD, Ogilvie S. Clin Ther 1998;20(6):1194-202; Sacristan JA et al. Ann Pharmacother 1993;27:1126-33; Clemens K et al. Pharmacoeconomics 1995;8(2):169-74; Walker DG et al. Vaccine 2010;28(11):2356-9; Pang F. Pharmacoeconomics 2002;20(2):75-90; Russell LB et al. JAMA 1996;276(14): 1172-7; Siegel JE et al. JAMA 1996;276(16):1339-41; Ramsey SD, Sullivan SD. J Am Board Fam Pract 1999;12(6): 477-85; Evers S et al. Int J Technol Assess Health Care 2005;21(2):240-5; Philips Z et al. Pharmacoeconomics 2006;24(4):355-71; Soto J. Int J Technol Assess Health Care 2002;18(1):94-111; Graf von der Schulenburg JM et al. Value Health 2008;95(1):52-5; Drummond MF et al. JAMA 1997;277(19):1552-7; McGhan WF, Lewis NJ. Clin Ther 1992;14(3):486-94; Byford S, Palmer S. Pharmacoeconomics 1998;13(6):659-66; Drummond M et al. Int J Technol Assess Health Care 2005;21(2):165-71; Nuijten MJ et al. Pharmacoeconomics 1998;14(3):259-68; Sonnenberg FA et al. Med Care 1994;32(7 Suppl):JS52-JS64; Halpern MT et al. Value Health 1998;1(2):131-47; Drummond M, Sculpher M. Med Care 2005;43(7 Suppl):5-14; Sun X, Faunce TA. J Evid Based Med 2010;3(3):156-61; Vintzileos AM, Beazoglou T. Am J Obstet Gynecol 2004;191(4):1070-6; Davis JC, et. al. Osteoporos Int 2011;22(9):2449-59.

Acknowledgements

The contribution of several staff at BioMedCom in this study is appreciated; no external funding was received.