



### Aim

- To analyze trends pertaining to published economic evaluations in pediatric health care over a 20-year period: 1980 to 2000
- To critically appraise the quality of these evaluations, identifying gaps and areas for further research.

### **Conclusions and results**

*Trend Analysis:* Over the study period, 787 papers were published, with an average annual growth rate of 22%. Cost effectiveness analysis was more commonly used than cost-benefit analysis, while cost-utility analysis was the least common technique used. Earlier studies (1980-1984) focused on infectious diseases and congenital anomalies with complications of pregnancy and perinatal conditions becoming more common. By 1995–1999, health prevention, health treatments, and detection interventions accounted for 70% of all interventions.

*Quality Appraisal:* Of 150 publications tested using the quality appraisal instrument developed for this project, 38% were rated as very good to excellent and 44% were rated as good or fair. Incremental analysis and sensitivity analysis were often missing, and the overall economic analysis was usually poor. The quality of the evaluations improved little over the 20-year period.

# **Recommendations**

Peer reviewers who critique manuscripts for publication in medical journals should become familiar with quality guidelines for health economic evaluations and insist on high-quality manuscripts.

# Methods

A comprehensive database of pediatric health economic evaluations published between January 1, 1980, and December 31, 1999, was created. Each citation includes year of publication, target population, ICD-9-CM disease class, age group, experimental intervention, intervention category, health outcomes, and analytical technique. As well, each citation is linked to a bibliographic database that includes an abstract.

Trends in the literature were examined by performing various one-way frequency distributions and two-way cross tabulations on variables within the database. A quality appraisal instrument was drafted, reviewed by a panel of experts, and pilot tested. Two independent appraisers used the final questionnaire to determine the quality of a random sample of 150 publications. Test-retest and inter-rater reliability of the instrument were assessed. Quality was described using descriptive statistics, correlations, and analysis of variance.

# Further research/reviews required

Statistical models are needed to capture health benefits over time horizons that include development and maturation.