

Identifying COPD Patient-Informed Value Elements in Economic Evaluations: a Systematic Review

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Background

- With a global prevalence of 11.7%¹ COPD is a leading cause of morbidity and mortality worldwide², and is associated with a significant economic and social burden.³
- This economic burden associated with COPD and the use of economic evaluations of existing and emerging technologies to inform healthcare decision making have resulted in multiple COPD models.
- Understanding the characteristics of these models used in CEAs and the model parameters they have traditionally focused on can provide insight on the current COPD modeling landscape and identify opportunities for incorporating patient values into future CEAs.

Objectives

The objective of this study was to examine whether economic evaluations of chronic obstructive pulmonary disease (COPD) incorporate patient-informed value elements.

Methods

- Systematic review performed in PubMed and EMBASE using the following search terms: COPD, (patient values or patient perspective) and (economic evaluation or cost effectiveness analysis (CEA)).
- Additionally, we searched the reference list of two systematic reviews of CEAs in COPD for relevant studies.
- Full text of the identified articles meeting the inclusion criteria were reviewed by two reviewers to determine study type, key model parameters, study perspective and whether it considered specific patient values or perspectives.

Inclusion Criteria

- Full economic evaluations (i.e., CEA, CUA, CBA, CMA) of COPD-specific pharmacologic treatments
- Economic evaluations reporting total costs and benefits, or incremental cost-effectiveness ratios (ICERs)
- Full-length studies in English language

Results

- Of the 290 unique results our search returned, 51 met the inclusion criteria.
- Decision analytic modeling is the most common approach in the economic assessment of COPD, used by approximately 86% (n=44) of studies.

- 73% of the studies were sponsored by pharmaceutical companies.
 - Healthcare system or payer perspective: 34/46 (74%)
 - Societal Perspective: 6/8 (75%)
 - Patient perspective: 1/1 (100%)

Table 1. Study Perspective Reported by Articles Included in Search

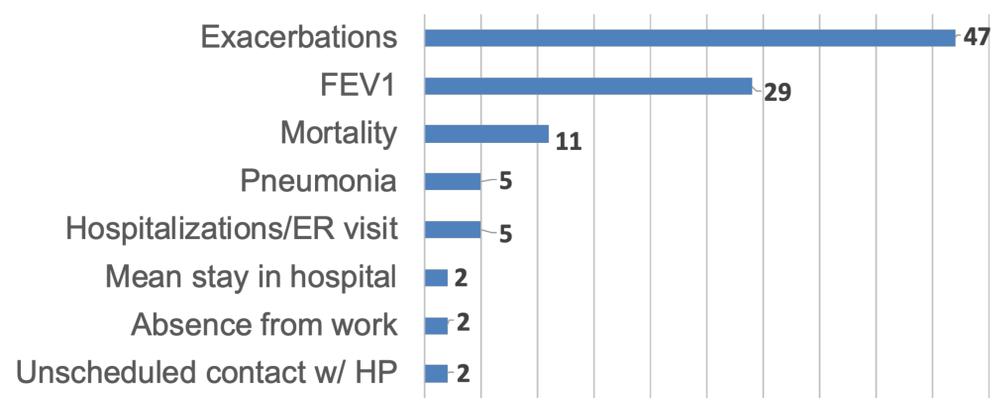
	Healthcare System or Payer Perspective**	Societal Perspective**
Total (N=51)*	n=46	n=8
UK (n=10)	10 (22%)	1 (13%)
US (n=8)	7 (15%)	1 (13%)
Spain (n=6)	6 (13%)	0
Sweden (n=5)	3 (7%)	3 (38%)
Other (n=22)	17 (37%)	5 (63%)

* Some of the included articles were conducted for multiple countries

** Some studies included both the healthcare system/payer and societal perspective

- The majority of studies reported a healthcare system or payer perspective. This finding was consistent for all countries, except for Sweden who had an equal amount of both.
- Although one study conducted in Italy reported using a patient perspective, no study explicitly mentioned incorporating patient values.

Figure 1. Most Frequently Reported Model Parameters Among the Studies Included in the Literature Review (n=51)



Abbreviations: FEV1= forced expiratory volume; ER= emergency room; HP= healthcare provider

- Exacerbations and FEV1 were the most frequently reported model parameters among the studies from both the healthcare system or payer perspective and the societal perspective.
- The study that reported taking the patient perspective incorporated the model parameters of exacerbations and symptom free days.

Conclusion

No matter the perspective taken, many of the drivers in selecting model parameters are the same among CEAs in COPD

Influence from pharmaceutical sponsorship may have an impact on the model parameters selected

We do not know whether the model parameters currently being used within CEAs in COPD are important to patients

References

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