

Publication of Health Economics and Outcomes Research (HEOR) Data in Non-HEOR Journals: A Literature Analysis

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Introduction

- Changes in the health care landscape have increased the importance of HEOR data
 - Including patient-reported outcomes, general and disease-specific quality of life (QoL) measures, and health economic evaluations
- As a result, communicating HEOR data is a central component of a comprehensive publication plan
- “Conventional wisdom”: HEOR data most appropriate for HEOR audiences and journals (vs clinical)
- We sought to apply a quantitative, evidence-based approach to evaluate if non-HEOR journals may be an appropriate venue to publish HEOR-focused datasets

Methods: Literature Searches

- Literature searches were conducted in PubMed using the following terms, chosen to represent different types of HEOR topics (next slide)
- PubMed filters were used instead of manual filtering (limits: 2012, English)
- Terms chosen were intended to be applicable across a range of therapeutic areas
- Results were not filtered for relevance

HEOR Measures and Concepts Evaluated

Concept	Description
General QoL measures	
SF-36/SF-12	<ul style="list-style-type: none"> • Short-Form 36 or Short-Form 12 • 36 questions with 8 functional health and well-being scores, and 2 summary scores (physical health and mental health)
EQ-5D	<ul style="list-style-type: none"> • EuroQoL 5 Dimension • 5 dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) and an index score
HAQ	<ul style="list-style-type: none"> • Health Assessment Questionnaire • 5 patient-centered dimensions: disability, pain, medication effects, costs of care, and mortality
Health economic concepts	
Health utilities	<ul style="list-style-type: none"> • Process/mechanism of assigning value to specific health states
Pharmaco-economics	<ul style="list-style-type: none"> • Overall discipline of evaluating the value to various stakeholders of a health-related intervention compared with other approaches
Cost effectiveness	<ul style="list-style-type: none"> • A set of approaches that evaluates the projected costs associated with an intervention in relation to its outcomes and comparators
Direct/indirect costs	<ul style="list-style-type: none"> • Total costs associated with an intervention or condition, including those directly incurred by the payer (eg, hospital stays, drugs) and those that are incurred by third parties (eg, lost time from work)

Methods: Analysis

- For each of the 7 searches, the total number of articles published in each journal was tallied
- Journals were assigned to HEOR and non-HEOR categories
- For analysis, 2 approaches were taken:
 - Top 20 journals (by number of search results) for each search
 - Journals publishing >1 article for each search
- Within each analysis, the percentage of HEOR journals and percentage of articles in HEOR journals were calculated

Percentage of HEOR journals =

$$\frac{\text{(\# of HEOR journals)}}{\text{(total \# of journals)}}$$

Percentage of articles in HEOR journals =

$$\frac{\text{(total \# of articles published in HEOR journals)}}{\text{(total \# of articles)}}$$

Methods: Benchmarking

- Statistical comparisons among groups were not conducted
- Benchmarking was used to obtain an indication of whether HEOR journals are over- or under-represented
 - HEOR journals only represent a fraction of the total number of journals
- Estimated the proportion of HEOR journals to total journals in PubMed as 0.6%-3.4%
 - Total journals indexed: 5,640
 - Total in health care administration, technology or delivery: 189
 - Total listed in Sylogent Journal Selector category of managed care and health economics: 32
- Only applies to percentage of journals calculation

Summary of Search Results

Concept	No. of articles	No. of unique journals	No. of journals publishing >1 article	No. of articles in top 20 journals
General QoL measures				
SF-36	1,518	638	279	353
EQ-5D	453	239	72	169
HAQ	261	129	127	146
Health economic concepts				
Health utilities	2,359	1,254	467	324
Pharmacoeconomics	787	353	103	299
Cost effectiveness	4,648	1,682	764	811
Direct/indirect costs	1,778	999	294	315

Frequency of HEOR Topics in HEOR and Non-HEOR Journals^a

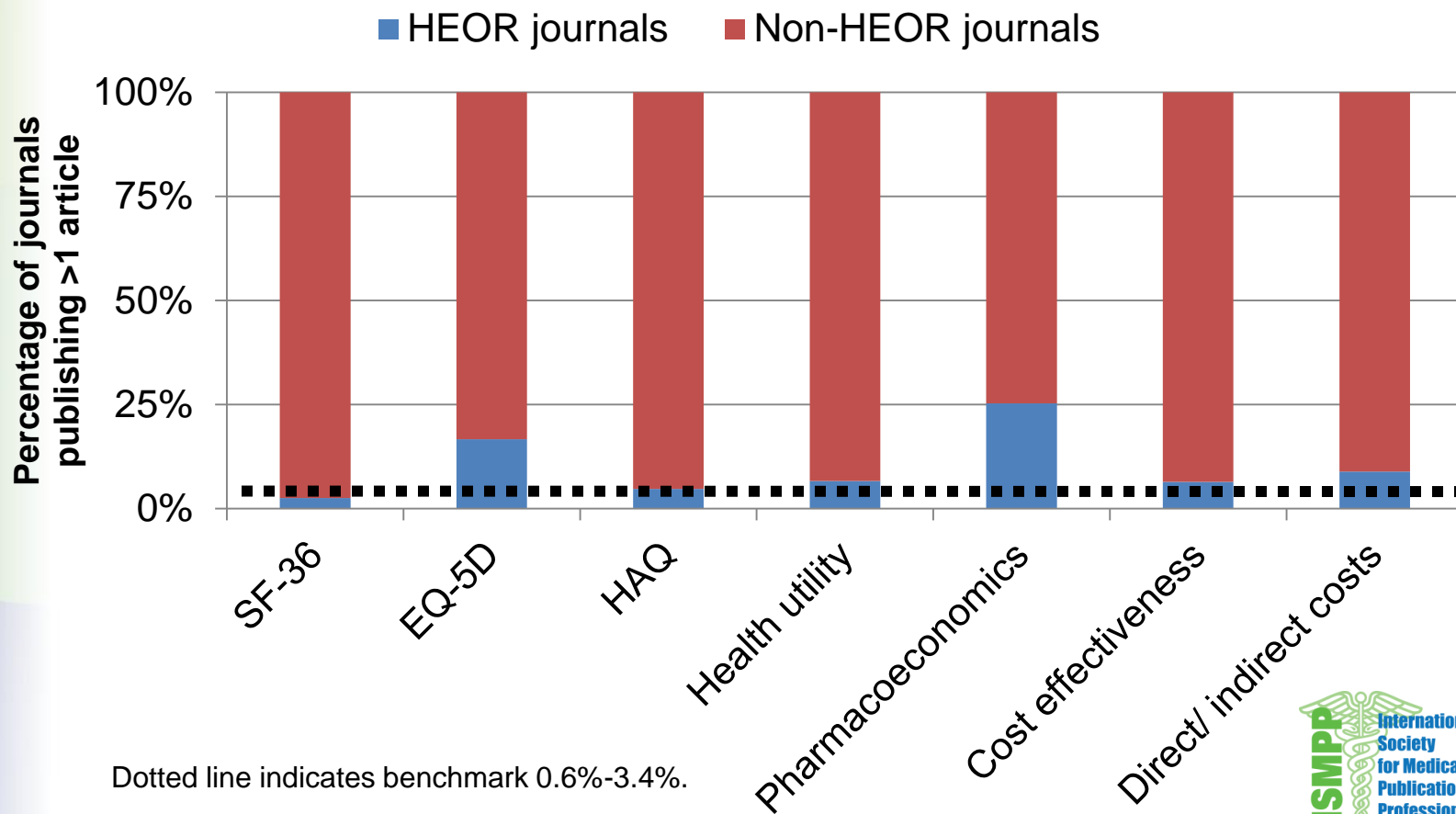
- Except for HAQ, HEOR journals published a greater mean number of articles on each topic than did non-HEOR journals

	Mean \pm SD articles per journal		Median articles per journal	
	HEOR	Non-HEOR	HEOR	Non-HEOR
General QoL measures				
SF-36	14.1 \pm 21.7	3.9 \pm 3.7	4	3
EQ-5D	9.3 \pm 11.0	2.9 \pm 1.7	4	2
HAQ	1.2 \pm 0.4	6.8 \pm 5.9	1	4
Health economic concepts				
Health utilities	8.0 \pm 8.1	3.0 \pm 3.2	4	2
Pharmacoeconomics	9.9 \pm 16.6	3.7 \pm 2.8	5	2
Cost effectiveness	13.9 \pm 19.4	4.2 \pm 4.7	5	3
Direct/indirect costs	6.8 \pm 9.2	3.3 \pm 3.7	3	2

^aBased on journals publishing >1 article in 2012.

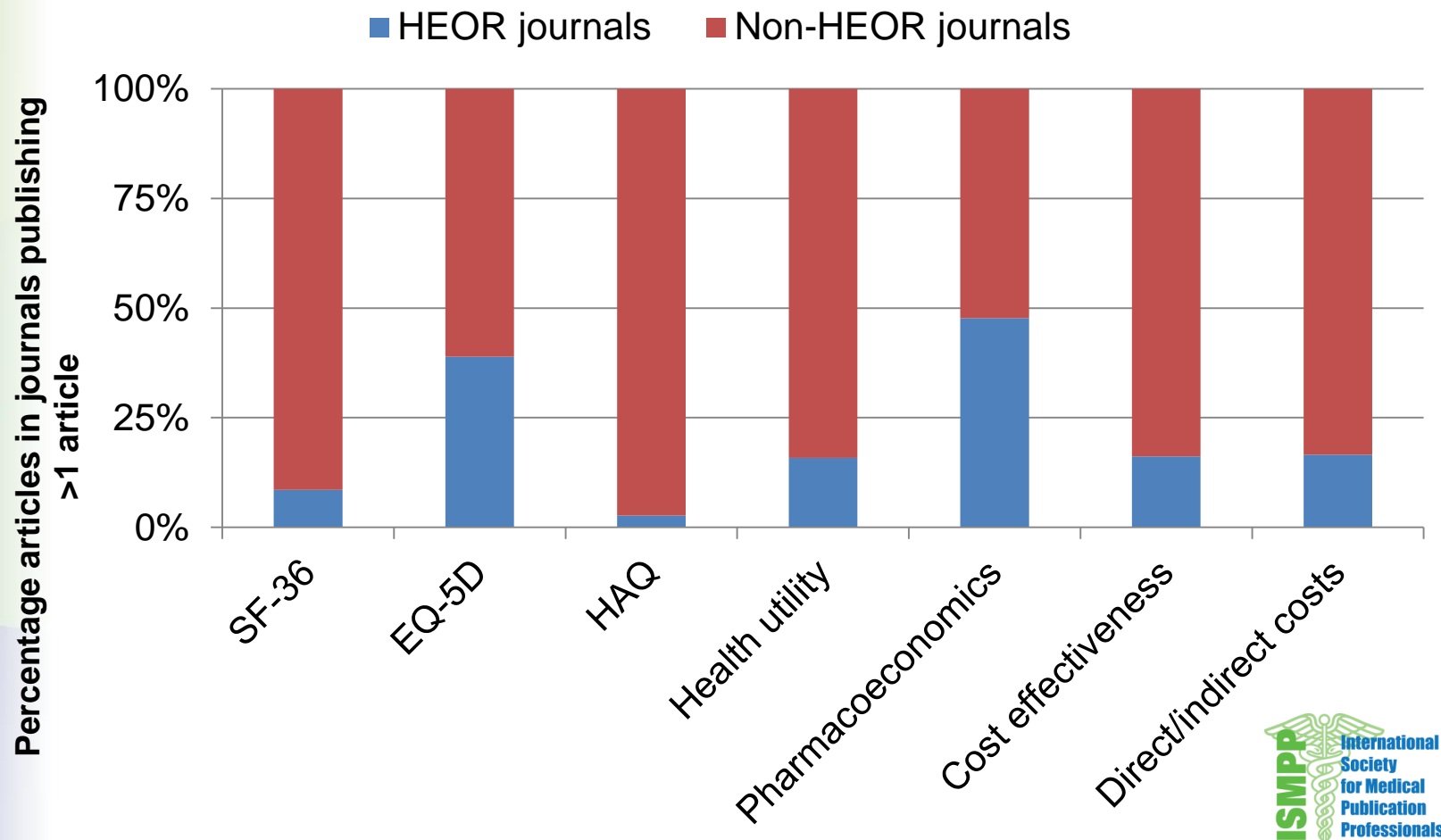
Journals Publishing >1 Article: Percentage of HEOR and Non-HEOR Journals

- Considering all journals publishing >1 article, non-HEOR journals dominate HEOR journals, although HEOR journals are generally still over-represented



Journals Publishing >1 Article: Percentage of Articles Published in HEOR and Non-HEOR Journals

- Non-HEOR journals still dominate when evaluated by percentage of articles



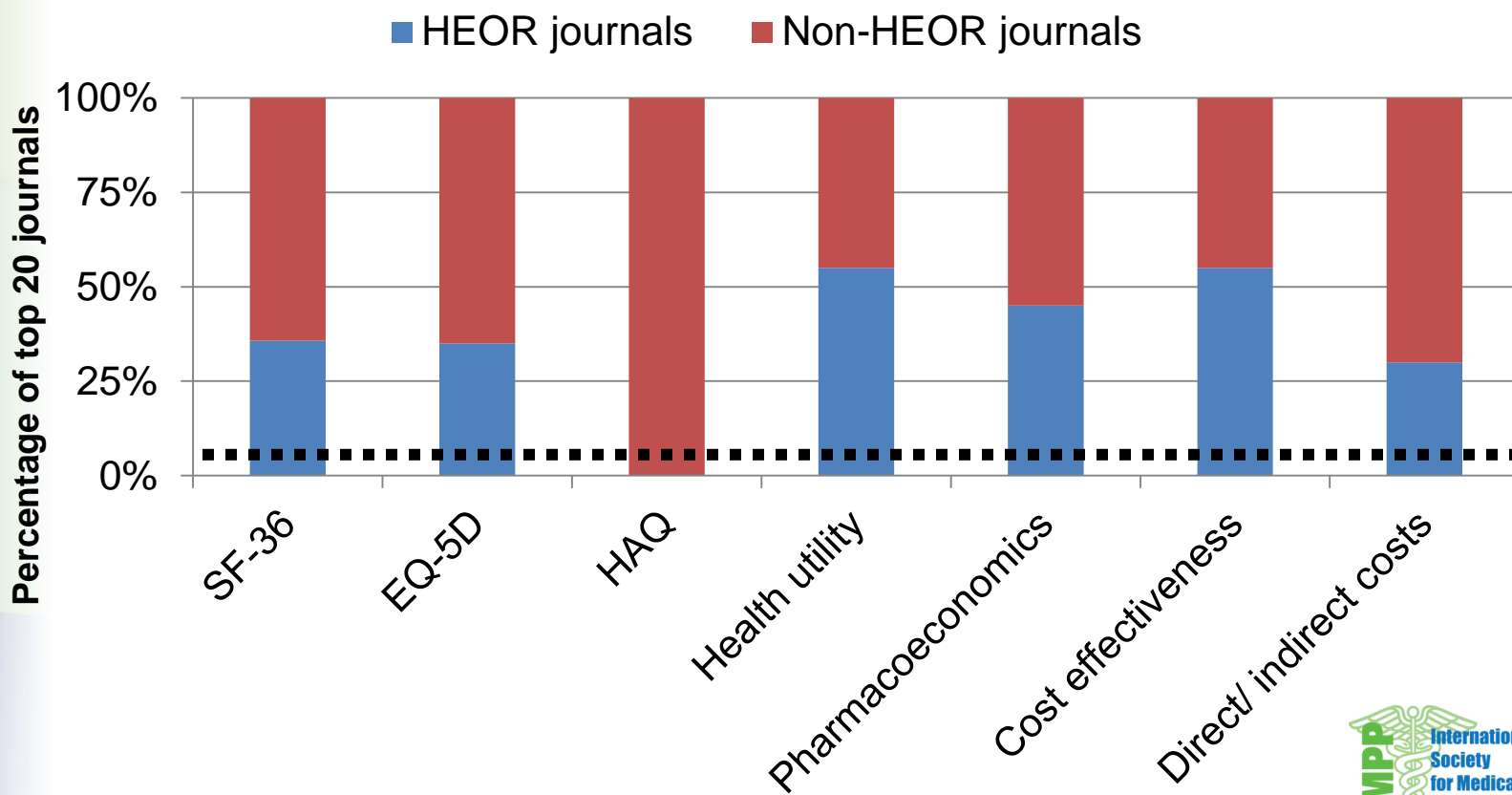
Top 20 Journals for Each Search

SF-36	EQ-5D	HAQ	Health utility	Pharmacoeconomics	Cost effectiveness	Direct/indirect costs
<ul style="list-style-type: none"> • Qual Life Res • Rheumatol Int • Clin Orthop Relat Res • Health Qual Life Outcomes • PLoS One • Spine (Phila Pa) • Arthritis Care Res (Hoboken) • Eur Spine J • Clin Rheumatol • Am J Sports Med • Knee Surg Sports Traumatol Arthrosc • Rheumatology (Oxford) • Injury • BMC Public Health • BMC Musculoskeletal Disord • Disabil Rehabil • Knee • J Neurosurg Spine • J Bone Joint Surg Am • Support Care Cancer 	<ul style="list-style-type: none"> • Qual Life Res • Health Qual Life Outcomes • Value Health • BMC Public Health • Eur Spine J • PLoS One • J Neurosurg Spine • Med Decis Making • BMJ Open • BMC Health Serv Res • Health Technol Assess • Acta Orthop • Spine J • Int Orthop • Neurosurgery • Trials • Spine (Phila Pa) • BMC Musculoskeletal Disord • Eur J Health Econ • J Bone Joint Surg Br 	<ul style="list-style-type: none"> • Rheumatology (Oxford) • Rheumatol Int • Arthritis Care Res (Hoboken) • Ann Rheum Dis • Clin Rheumatol • Clin Exp Rheumatol • J Rheumatol • BMC Musculoskeletal Disord • Arthritis Res Ther • Mod Rheumatol • PLoS One • Scand J Rheumatol • Joint Bone Spine • Int J Rheum Dis • Arthritis Rheum • Rev Bras Reumatol • Biologics • J Clin Gastroenterol • Phytother Res • Man Ther 	<ul style="list-style-type: none"> • PLoS One • Value Health • Qual Life Res • J Med Econ • Eur J Health Econ • Pharmacoeconomics • Health Qual Life Outcomes • Med Decis Making • BMC Public Health • Disabil Rehabil • Health Econ • BJU Int • Arthritis Care Res (Hoboken) • BMC Health Serv Res • Soc Sci Med • Health Technol Assess • BMJ Open • J Am Med Inform Assoc • Implement Sci • Genet Med 	<ul style="list-style-type: none"> • Pharmacoeconomics • Value Health • Expert Rev Pharmacoecon Outcomes Res • Clin Ther • BMJ • Pharmacoeconomics Drug Saf • Health Policy • Eur J Health Econ • J Med Econ • Ann Pharmacother • Pharmacotherapy • PLoS One • Manag Care Pharm • Am J Health Syst Pharm • Vaccine • Drugs • J Manag Care Pharm • J Am Pharm Assoc (2003) • Med Care • Clin Pharmacol Ther 	<ul style="list-style-type: none"> • PLoS One • J Med Econ • Value Health • Vaccine • Cochrane Database Syst Rev • Pharmacoeconomics • BMC Public Health • BMJ • Trials • Eur J Health Econ • Health Technol Assess • BMC Health Serv Res • Med Decis Making • BMJ Open • Expert Rev Pharmacoecon Outcomes Res • Int J Technol Assess Health Care • JAMA • Health Econ • Contemp Clin Trials • Am J Manag Care 	<ul style="list-style-type: none"> • PLoS One • J Med Econ • BMC Public Health • Vaccine • Value Health • Pharmacoeconomics • BMC Health Serv Res • Biosens Bioelectron • Opt Express • Environ Sci Technol • Eur J Health Econ • Lab Chip • Osteoporos Int • Clin Ther • Clinicoecon Outcomes Res • Cochrane Database Syst Rev • Anal Chem • J Environ Manage • J Occup Environ Med • Analyst

Highlighting indicates non-HEOR journals.

Top 20 Journals: Percentage of HEOR and Non-HEOR Journals

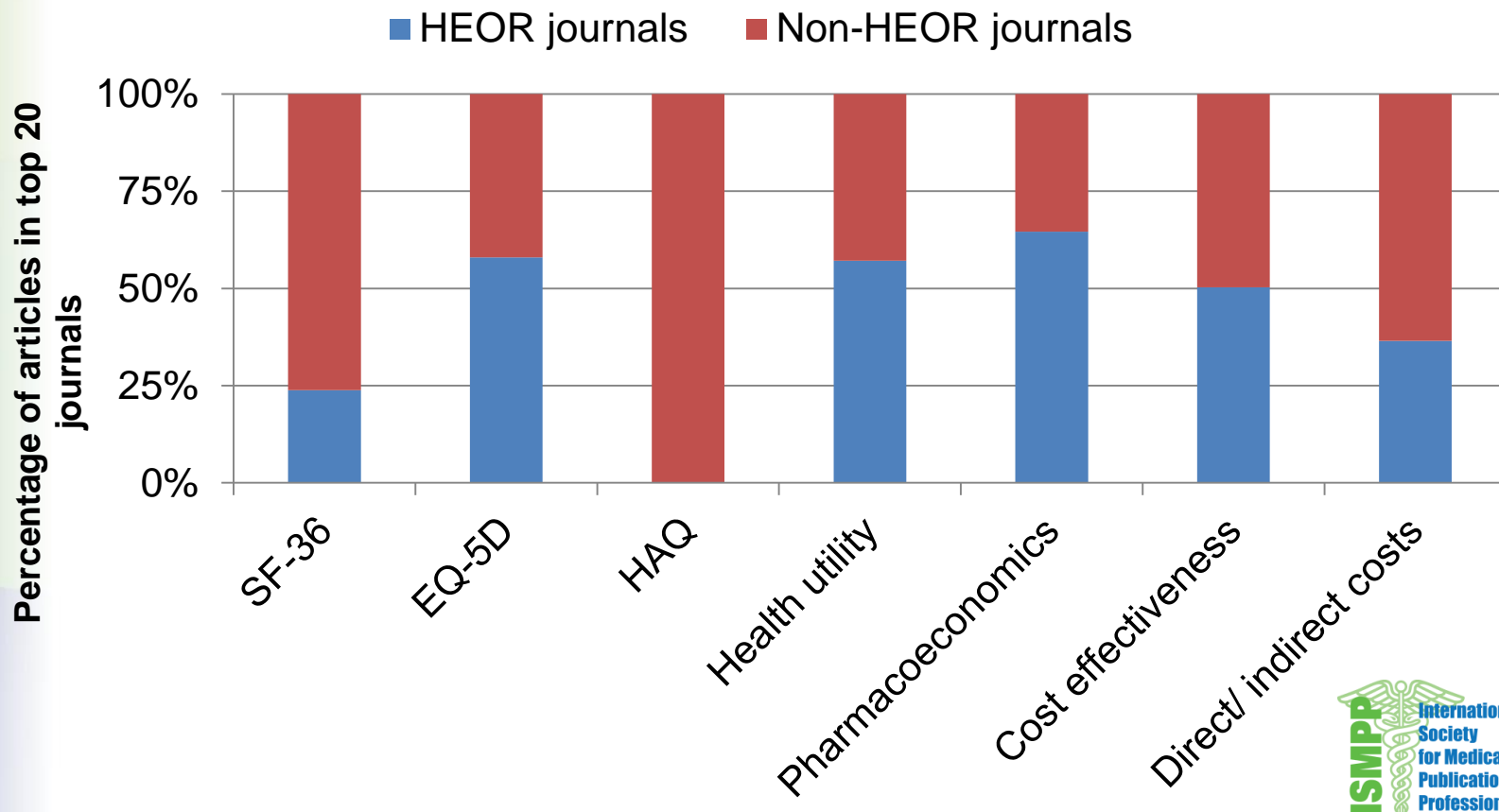
- Although HEOR journals are over-represented, non-HEOR journals are commonly in the top 20 journals across topics



Dotted line indicates benchmark 0.6%-3.4%.

Top 20 Journals: Percentage of Articles Published in HEOR and Non-HEOR Journals

- Similar to the analysis by number of journals, HEOR journals publish a significant proportion of articles across topics



Journals in Top 20 Across Topics

Non-HEOR

Journal	Number of topics in the top 20
<i>PLoS One</i>	7
<i>BMC Public Health</i>	5
<i>Arthritis Care Res (Hoboken)</i>	3
<i>BMC Musculoskelet Disord</i>	3
<i>BMJ Open</i>	3
<i>Vaccine</i>	3

HEOR

Journal	Number of topics in the top 20
<i>Value Health</i>	5
<i>Eur J Health Econ</i>	5
<i>BMC Health Serv Res</i>	4
<i>J Med Econ</i>	4
<i>Pharmacoeconomics</i>	4
<i>Qual Life Res</i>	3
<i>Health Qual Life Outcomes</i>	3
<i>Med Decis Making</i>	3
<i>Health Technol Assess</i>	3

Limitations

- Unfiltered searches
 - Non-relevant search results were not purged
 - The analysis was not limited to studies/trials
- Statistical comparisons were not conducted
 - It is not the actual numerical differences that are important, but rather that non-HEOR journals commonly publish HEOR data
- May only be applicable to the measures and concepts evaluated
 - Further analyses should evaluate where therapeutic area-specific measures (eg, Dermatology Life Quality Index) are published

Summary

- HEOR journals clearly publish a significant portion of articles on general QoL measures and health economic concepts
 - This is to be expected given their focus and readership
- However, this analysis has shown that non-HEOR journals also commonly publish these types of data
 - Several of the top 20 journals that published on evaluated topics were non-HEOR journals
 - Non-HEOR journals published a significant proportion of articles on selected HEOR topics (up to 50% or more, depending on the topic)
- These observations support the growing importance of QoL and health economic considerations in treatment decision-making by health care professionals



Thank You / Q&A