



# ISMPP University

**CHEERS 2022 Health  
Economic Reporting Guidance  
What It Is and How to Use It  
March 30, 2022**





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# ISMPP Announcements

- This webinar has been approved for 1.0 ISMPP CMPP™ **Recertification Credit**. Please capture a screenshot of the title slide to submit for credit
- Registration NOW OPEN for the 18<sup>th</sup> Annual Meeting, being held in-person in Washington DC





# How To Ask Questions

Feel free to ask a question at any time, however all questions will be held until the end the of the presentation.

**To ask a question**, open the Q&A window, type your question into the Q&A box. **Click Send**

**Note:** Check **Send Anonymously** if you do not want your name attached to your question in the Q&A

We will make every effort to respond to all questions live (out loud)



# Disclaimer

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- Information presented reflects the personal knowledge and opinions of the faculty and does not necessarily represent the position of their current or past employers or ISMPP



# Christopher Carswell

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- Editor in Chief of Pharmacoeconomics for 17 years and Senior Editor for Springer Nature
- Co-Author of the CHEERs reporting guidelines and GPP-3
- Presented numerous international workshops at ISMPP and pharmaceutical companies on reporting economic evaluations



# Michael Drummond

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- Editor-in-Chief of *Value in Health*
- Author of more than 700 publications in health economics and policy
- Believes in the transparency of economic evaluation methods



# Don Husereau

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- Editorial Advisor for Value In Health Journal (2013-20); BMC Medicine (2013-), and PharmacoEconomics (2021-)
- Health Technology Assessment and Health Policy expertise
- Professional magician, and interested in framing effects and interpretation of information



# Which Best Describes Your Main Job Function?



9

- Medical Affairs
- Publication Planning/Writing
- HEOR/RWE
- Journal Publisher/Editor
- Other



# Have You Been Involved in Writing an Economic Evaluation?



10

- Yes
- No
- What is an Economic Evaluation?



Section

1

# The Importance of CHEERS

**Christopher Carswell**

Editor in Chief

*PharmacoEconomics*

Adis Publications, Springer Nature

Auckland, New Zealand



# Why Are Checklists So Important?

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- Transparency
- Replication
- Critical Appraisal

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## Your one-stop-shop for writing and publishing high-impact health research

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### Library for health research reporting

The Library contains a comprehensive searchable database of reporting guidelines and also links to other resources relevant to research reporting.



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### Reporting guidelines for main study types

[Randomised trials](#)

[Observational studies](#)

[Systematic reviews](#)

[Study protocols](#)

[Diagnostic/prognostic studies](#)

[Case reports](#)

[Clinical practice guidelines](#)

[Qualitative research](#)

[Animal pre-clinical studies](#)

[Quality improvement studies](#)

[Economic evaluations](#)

[CONSORT](#)

[STROBE](#)

[PRISMA](#)

[SPIRIT](#)

[STARD](#)

[CARE](#)

[AGREE](#)

[SRQR](#)

[ARRIVE](#)

[SQUIRE](#)

[CHEERS](#)

[Extensions](#)

[Extensions](#)

[Extensions](#)

[PRISMA-P](#)

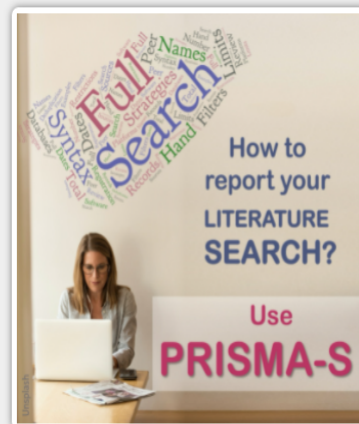
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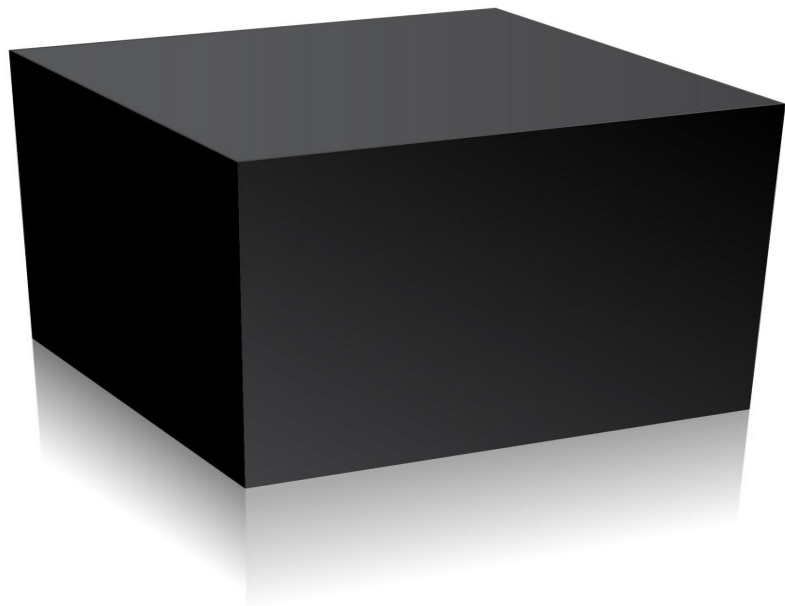
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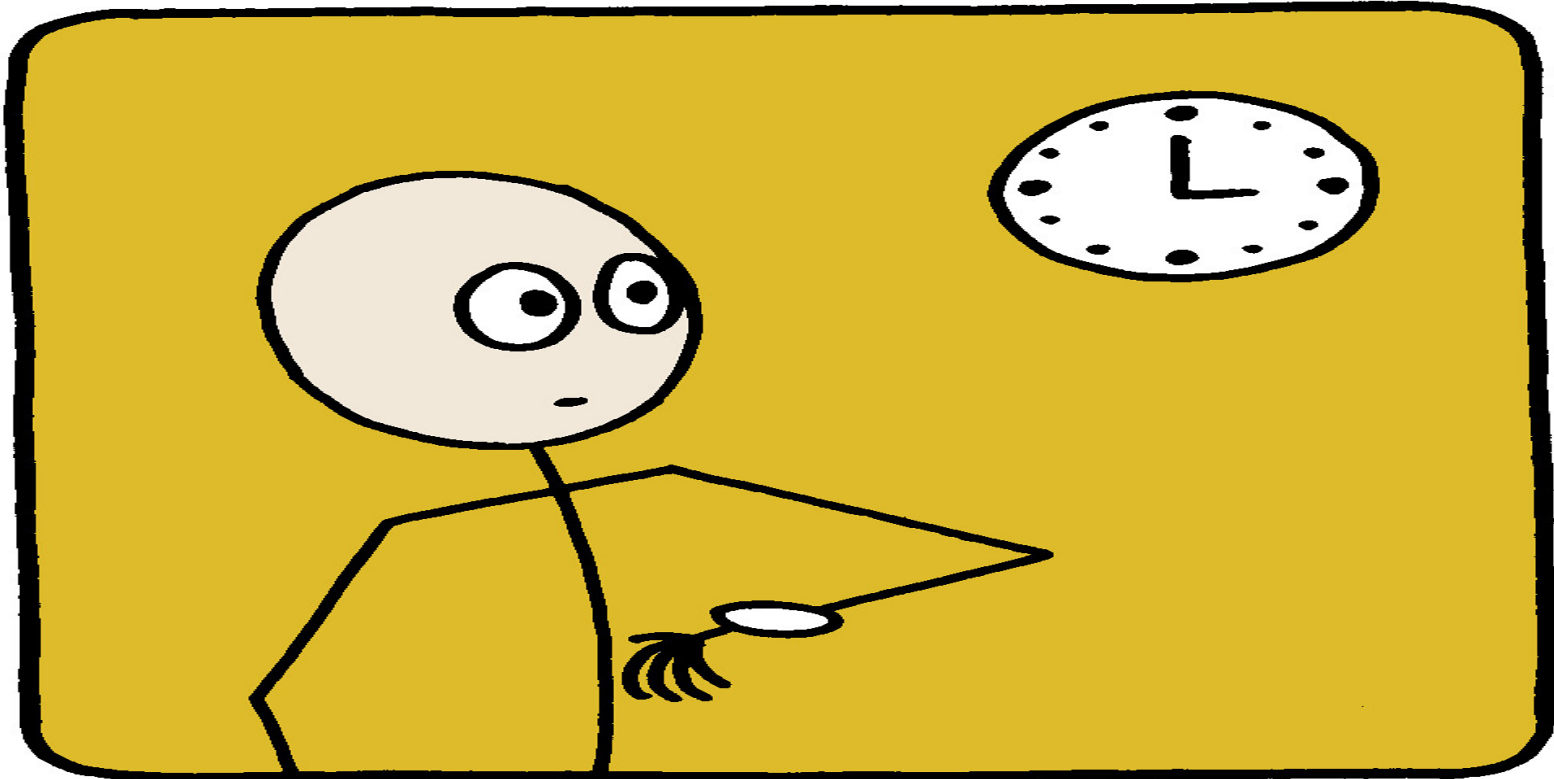
# Why Are Economic Evaluations a Special Case?

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# Getting it Right the First Time





# CHEERS Helps a Writer Focus on the Important Detail to Include in a Paper





# Motivation for Updating CHEERS and the Issues Arising

## Section 2

**Michael Drummond, MCom, DPhil**  
CHEERS II Co-Chair  
University of York  
York, England, UK



# Motivations for Updating CHEERS

- Criticisms of the original CHEERS
  - focus on cost-effectiveness/cost-utility analysis and state transition models
- Evidence of inappropriate use of CHEERS
  - around 50% of the time, CHEERS was used to assess the methodological quality of economic evaluations, not the reporting quality (Caulley et al *J Clin Epidemiol* 2020)
- Developments in economic evaluation methods
  - modeling approaches, preference measurement, distributional effects
- Changes in the external environment surrounding economic evaluation
  - increased use in decision making, need for more transparency, patient and public involvement in health services research



# The Process of Updating CHEERS

- Reconvened the Task Force and added new members
- Re-ran the Delphi exercise, with a more diverse group of respondents
- Established a Patient and Public Involvement and Engagement (PPIE) group
- Considered in more detail the dissemination and use of CHEERS



# Main Changes in CHEERS 2022 (compared with the 2013 version)



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- Items related to patients or service recipients, the general public, and community or stakeholder involvement and engagement added
- Language broadened to make CHEERS more widely applicable to cost-benefit/benefit-cost analysis, as well as equity or distributional cost-effectiveness
- Item related to reporting and availability of a health economic analysis plan added
- Item related to characterising distributional effects added
- Items distinguishing between model-based and single study-based measures removed
- Recommendation to report where publicly available models can be found added. Sharing of unlocked models with editors and reviewers encouraged



# Key Issues Arising



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- Inclusion or exclusion of some types of analyses
- How far to push transparency issues



# Inclusion or Exclusion of Some Types of Analysis



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- Budget impact analyses
  - excluded because they do not fully consider the costs and consequences of alternative courses of action
- Optimization modeling studies
  - would be relevant to use CHEERS to report on the alternatives included in the optimization model, but there are other guidelines for optimization modeling itself
- Free-standing preference measurement studies
  - excluded as the costs and consequences of alternative courses of action are not considered
  - within the context of a full economic evaluation, any approach to preference measurement is valid



# How Far to Push Transparency Issues

- The relevant items were #4 on the 'Health economic analysis plan' (HEAP) and #16 on 'Rationale and description of model' (including indicating whether the model is publicly available and, if so, where it can be accessed)
- No objection to these items in principle, but there was a view that including them may be interpreted as an expectation that a HEAP and the model should be publicly available
- Some queries about the practicalities (eg, what does 'making a model publicly available' mean; how would one know that the HEAP was developed *ex ante*?)



# The CHEERS 2022 Reporting Guidance: Everything You Wanted to Know But Were Afraid to Ask

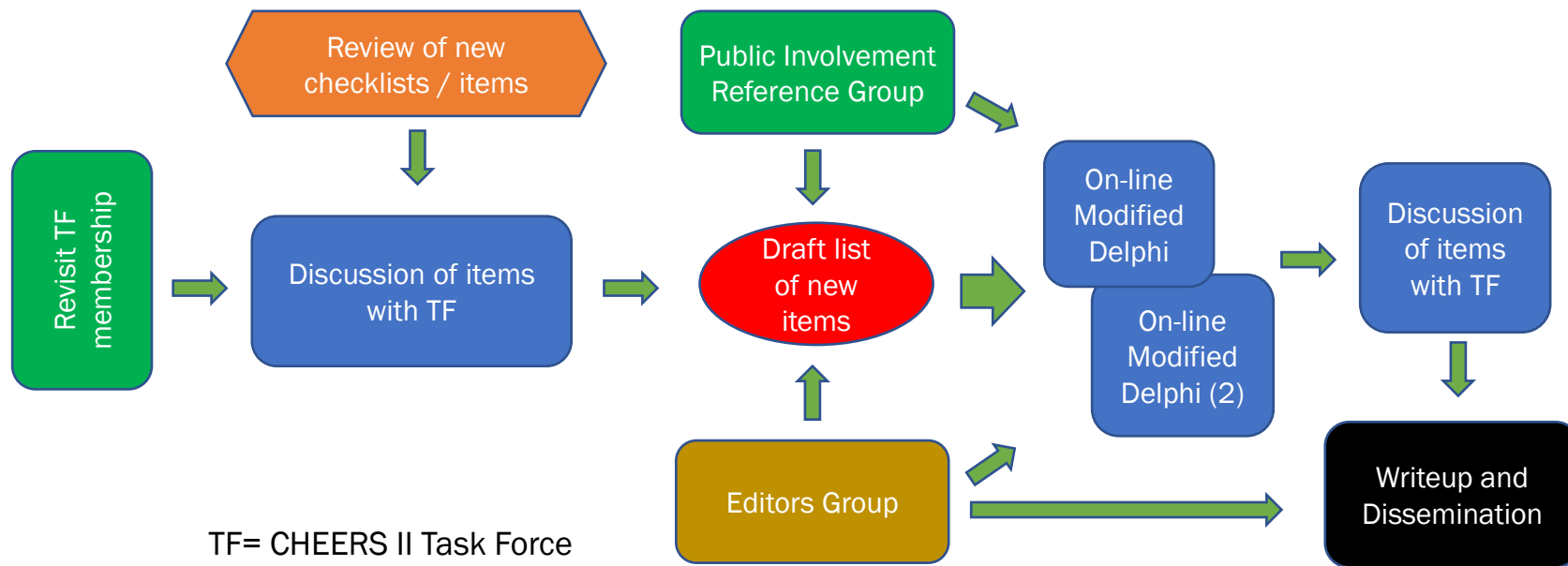
## Section 3

**Don Husereau**  
CHEERS II Co-Chair  
University of Ottawa  
Ottawa, ON, Canada



# Process of Updating CHEERS

## Approach to the CHEERS update





# Process of Updating CHEERS

“Thinking  
of the end  
user”

CHEERS II Task Force

Expertise , perspectives in:

- Health economic evaluation
- ‘Journalology’/reporting analysis
- Health technology assessment
- Lower-middle income countries
- Benefit-cost analysis, patient preference methods
- **Journal Editors / Publishing**
- **Patient and public involvement and patient experiences**

## PUBLIC REFERENCE GROUP

- Sophie Staniszewska (Lead)
- Mike Drummond (co-lead)
- Ivett Jakab
- Emma Kinloch
- Eric Low
- Jean Mossman
- Phil Posner
- Declan Noone
- Jo Watson

## EDITORS GROUP

- Chris Carswell (Lead, PharmacEconomics , Springer)
- Don Husereau (co-lead)
- Eva Szunyogova (BMC Med)
- Ken Stein (HTA Journal)
- Julia Robinson (PloS ONE / Global)
- Mike Gregg/Ken Lee (J Med Econ)
- Wendy Babbage (IJTAC)
- Wolfgang Greiner (EJHE)
- Laura Happe (JMCP)
- Elizabeth Loder / Wim Weber (BMJ)
- Mickael Hiligsmann (Osteo Intl)
- Tillie Cryer (BMC HSR)
- Brian Zikmund Fisher (MDM Pol Pract)
- C. Daniel Mullins (Value in Health)
- Dan Greenberg (Health Policy Open)
- Manuel Espinoza (ViH Regional)
- Tim Wrightson (AHEHP)
- Michael Marsh (BJOG)
- Natalie Pafitis (BMC Public Health)
- Ana Donnelly (BMC)
- Jill Maron (Clin Ther)
- Christine Laine (Ann Int Med)

HEOR, HTA, Public Health,  
Vaccine, General,  
Specialty, Health Services,  
Global Health

Engaged 7 months prior to  
launch



# Where Can I Find the New CHEERS?

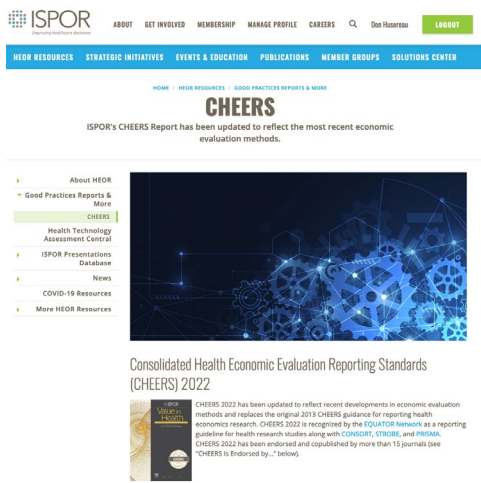
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Embargo date for CHEERS co-publication = 12:00 am ET Jan 11

- Applied Health Economics and Health Policy
- BJOG
- BMC Health Services Research
- BMC Medicine
- BMC Public Health
- BMJ
- Clinical Therapeutics
- Health Policy Open
- International Journal of Technology Assessment in Health Care (IJTAHC)
- Journal of Managed Care & Specialty Pharmacy (JMCP)
- Journal of Medical Economics
- MDM Policy & Practice
- Pharmacoeconomics
- The European Journal of Health Economics
- Value in Health
- Value in Health Regional Issues (Spanish)

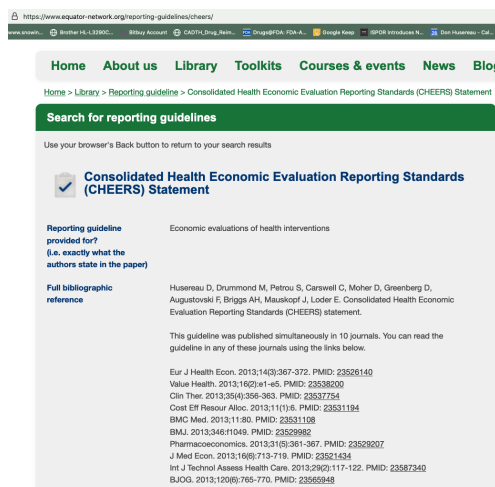
# Where Can I Find the New CHEERS?

## Websites



[ispor.org/cheers](https://www.ispor.org/cheers)

[Fillable PDF](#)



[equator-network.org/reporting-guidelines/cheers/](https://equator-network.org/reporting-guidelines/cheers/)

## Interactive tool



<https://don-husureau.shinyapps.io/CHEERS/>



[@CHEERSSTATEMENT](https://twitter.com/CHEERSSTATEMENT)



# The Checklist...



**Table 1.** The CHEERS 2022 checklist.

| Section/topic             | Item No | Guidance for reporting                                                                                                     | Reported in section |
|---------------------------|---------|----------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Title</b>              |         |                                                                                                                            |                     |
| Title                     | 1       | Identify the study as an economic evaluation and specify the interventions being compared.                                 | _____               |
| <b>Abstract</b>           |         |                                                                                                                            |                     |
| Abstract                  | 2       | Provide a structured summary that highlights context, key methods, results, and alternative analyses.                      | _____               |
| <b>Introduction</b>       |         |                                                                                                                            |                     |
| Background and objectives | 3       | Give the context for the study, the study question, and its practical relevance for decision making in policy or practice. | _____               |



# The Checklist Con't



## Methods

|                               |    |                                                                                                                                 |       |
|-------------------------------|----|---------------------------------------------------------------------------------------------------------------------------------|-------|
| Health economic analysis plan | 4  | Indicate whether a health economic analysis plan was developed and where available.                                             | _____ |
| Study population              | 5  | Describe characteristics of the study population (such as age range, demographics, socioeconomic, or clinical characteristics). | _____ |
| Setting and location          | 6  | Provide relevant contextual information that may influence findings.                                                            | _____ |
| Comparators                   | 7  | Describe the interventions or strategies being compared and why chosen.                                                         | _____ |
| Perspective                   | 8  | State the perspective(s) adopted by the study and why chosen.                                                                   | _____ |
| Time horizon                  | 9  | State the time horizon for the study and why appropriate.                                                                       | _____ |
| Discount rate                 | 10 | Report the discount rate(s) and reason chosen.                                                                                  | _____ |
| Selection of outcomes         | 11 | Describe what outcomes were used as the measure(s) of benefit(s) and harm(s).                                                   | _____ |
| Measurement of outcomes       | 12 | Describe how outcomes used to capture benefit(s) and harm(s) were measured.                                                     | _____ |
| Valuation of outcomes         | 13 | Describe the population and methods used to measure and value outcomes.                                                         | _____ |



# The Checklist Con't



|                                                                       |    |                                                                                                                                                                               |       |
|-----------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Measurement and valuation of resources and costs                      | 14 | Describe how costs were valued.                                                                                                                                               | _____ |
| Currency, price date, and conversion                                  | 15 | Report the dates of the estimated resource quantities and unit costs, plus the currency and year of conversion.                                                               | _____ |
| Rationale and description of model                                    | 16 | If modelling is used, describe in detail and why used. Report if the model is publicly available and where it can be accessed.                                                | _____ |
| Analytics and assumptions                                             | 17 | Describe any methods for analysing or statistically transforming data, any extrapolation methods, and approaches for validating any model used.                               | _____ |
| Characterizing heterogeneity                                          | 18 | Describe any methods used for estimating how the results of the study vary for subgroups.                                                                                     | _____ |
| Characterizing distributional effects                                 | 19 | Describe how impacts are distributed across different individuals or adjustments made to reflect priority populations.                                                        | _____ |
| Characterizing uncertainty                                            | 20 | Describe methods to characterise any sources of uncertainty in the analysis.                                                                                                  | _____ |
| Approach to engagement with patients and others affected by the study | 21 | Describe any approaches to engage patients or service recipients, the general public, communities, or stakeholders (such as clinicians or payers) in the design of the study. | _____ |



# The Checklist Con't



| Results                                                             |    |                                                                                                                                                                          |  |       |
|---------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|
| Study parameters                                                    | 22 | Report all analytic inputs (such as values, ranges, references) including uncertainty or distributional assumptions.                                                     |  | _____ |
| Summary of main results                                             | 23 | Report the mean values for the main categories of costs and outcomes of interest and summarise them in the most appropriate overall measure.                             |  | _____ |
| Effect of uncertainty                                               | 24 | Describe how uncertainty about analytic judgments, inputs, or projections affect findings. Report the effect of choice of discount rate and time horizon, if applicable. |  | _____ |
| Effect of engagement with patients and others affected by the study | 25 | Report on any difference patient/service recipient, general public, community, or stakeholder involvement made to the approach or findings of the study                  |  | _____ |



# The Checklist Con't



## Discussion

|                                                                      |    |                                                                                                                                            |       |
|----------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Study findings, limitations, generalizability, and current knowledge | 26 | Report key findings, limitations, ethical or equity considerations not captured, and how these could affect patients, policy, or practice. | _____ |
|----------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------|-------|

## Other relevant information

|                       |    |                                                                                                                                    |       |
|-----------------------|----|------------------------------------------------------------------------------------------------------------------------------------|-------|
| Source of funding     | 27 | Describe how the study was funded and any role of the funder in the identification, design, conduct, and reporting of the analysis | _____ |
| Conflicts of interest | 28 | Report authors conflicts of interest according to journal or International Committee of Medical Journal Editors requirements.      | _____ |



# Is CHEERS Available in Other Languages?

## Completed

- Spanish

## In development\*

- Mandarin
- French
- Portuguese



\* Expected Summer/Fall 2022



# What Other Activities Have You Planned?

## Extensions

- Value of Information CHEERS Extension (VOICE)

## Education

- Webinars (ISPOR Students)
- Video tutorials

## Patient User Guide

- Explaining the importance of the various reporting items to a patient audience; contains a glossary, explaining the technical terms

## Other

- No evaluation of CHEERS 2022 currently planned (still working on 2013)
- We are open to suggestions!
- Stay tuned to CHEERS websites...



# Limitations of CHEERS

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- CHEERS 2022 reflects the perspectives of the Task Force members, PPIE advisors, Delphi Panel members, and peer reviewers involved.
- Nominal group techniques such as the Delphi approach are intended to the excessive influence of dominant experts in a but only as good as the experience and perspectives represented.
- It is possible that more could be said for specific applications of CHEERS for interventions that have impacts beyond health (for example, educational, environmental, social care).
- We would encourage those who see opportunities to expand CHEERS 2022 items, or to create additional reporting guidance that provides clarification in specific areas, to work with members of the CHEERS Task Force to develop CHEERS extensions in these areas.



## Audience Q&A

To ask a question, open the Q&A window, type your question into the Q&A box. Click [Send](#).



# Upcoming ISMPP U Webinars

April 27, 2022:

- Copyrights in the Real World

Upcoming topics:

- Social Media – 90 minutes (June)
- Authorship Algorithm



# Thank you for attending!

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# ISMPP University

**CHEERS 2022 Health  
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# Faculty Bios

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# Christopher Carswell

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