

Update of the Consolidated Health Economic Evaluation Reporting Standards: CHEERS 2022

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Abstract

If economic evaluations are to be used by researchers and healthcare decision makers, they need to be adequately reported. This article discusses the update of the Consolidated Health Economic Evaluation Reporting Standards (CHEERS 2022), the main motivations for the update, the major changes to the CHEERS checklist, and the resources to support its dissemination and use. The update of CHEERS is an important step in increasing transparency in the reporting of economic evaluations. Those in the medical writing community are encouraged to use the CHEERS 2022 guidelines when assisting authors of economic evaluations in communicating their research.

Introduction

One key element of sustainable healthcare systems is financial sustainability. The budgets for healthcare are under increasing pressure because of the high-level of innovation in medicine. While these innovations have the potential to deliver major benefits to patients, they often come with major costs. Therefore, most high-income countries employ health technology assessment (HTA), of which a major component is the conduct of economic evaluations. In these studies, the benefits of new health technologies (drugs, medical devices, and health interventions more generally) are compared with their costs, to assess whether they provide good value for money.

If economic evaluations are to be used by researchers and healthcare decision makers, they need to be adequately reported. In the recent issue of *Medical Writing* focusing on medical decision making and health technology assessment, we discussed the development of the Consolidated Health Economic Reporting Standards (CHEERS) and outlined the CHEERS 2013 checklist.¹ At the time, we indicated that the CHEERS checklist was being updated due to developments in economic evaluation methods and changes in the environment in which economic evaluations are conducted and reported. The new CHEERS 2022 statement and checklist were released on January 11, 2022, and co-published in 16 journals.* The new checklist (see Table 1) should now be used instead of the original CHEERS checklist.

It is important that those assisting in the reporting of economic evaluations are aware of the new reporting standards. The purpose of this paper is to outline the new CHEERS 2022

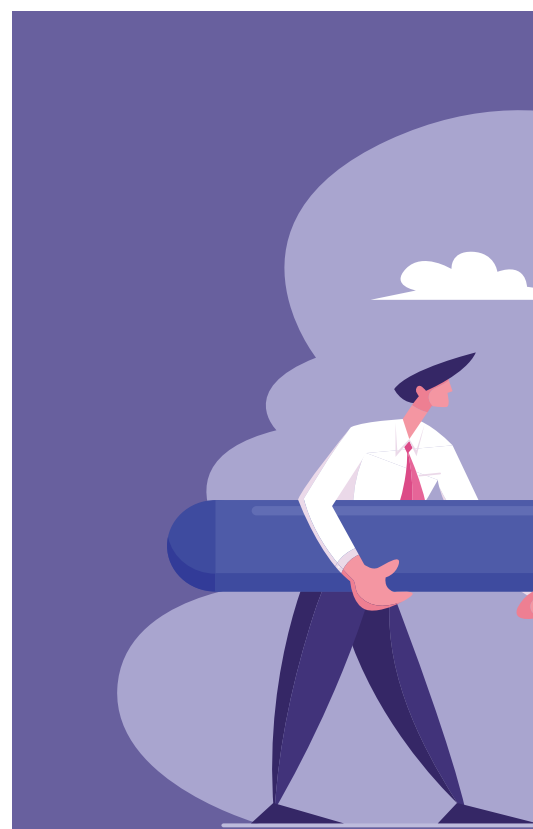
checklist, to discuss the rationale behind the main changes, and to make readers aware of some of the resources being made available to support the dissemination and use of CHEERS 2022.

New features of CHEERS 2022

Reflecting developments in methods

There have been several developments in health economic evaluation methods since 2013, and they do not all require changes in reporting guidelines. However, the original CHEERS was criticised for being too focused on cost-effectiveness analysis and the measurement and valuation of health benefits in quality-adjusted life-years. Developments in the methods and use of health preference measurement and valuation have mainly occurred in the context of free-standing studies rather than as part of economic

* Journals publishing the CHEERS 2022 Statement are: *Applied Health Economics and Health Policy*, *Brit J Obstet Gynae*, *BMC Health Services Research*, *BMC Medicine*, *BMC Public Health*, *BMJ*, *Clinical Therapeutics*, *Health Policy Open*, *International Journal of Technology Assessment in Health Care*, *Journal of Managed Care & Specialty Pharmacy*, *Journal of Medical Economics*, *MDM Policy & Practice*, *PharmacoEconomics*, *The European Journal of Health Economics*, *Value in Health*, and *Value in Health Regional Issues* (in Spanish)



evaluations. Therefore, in the discussion of Item 13 (“Valuation of outcomes”) in the CHEERS explanation and elaboration document,² it is now made clear that a range of approaches could be used to value health benefits, including willingness-to-pay³ and discrete choice experiments.⁴

In addition, although the main interest in conducting economic evaluations is increased efficiency (i.e., maximising the total benefits from the use of healthcare resources), there is also interest in how those benefits are distributed.⁵ For example, subgroups of the general population may be differentially impacted by health interventions due to socioeconomic status, ethnicity, geographical location, and disease categories such as disability or severity of illness. Decision makers may be interested in the equity impacts of interventions as well as their efficiency. Therefore, a new reporting item (Item 19) has been added on “Characterising distributional effects” in reporting economic evaluations.

Reflecting the need for more transparency

The main objective in improving the reporting of research is to increase transparency and the

ability to replicate an analysis. However, two particular issues have arisen in the context of health economic evaluation.

First, in contrast to clinical trials, where the study protocol and statistical analysis plan is determined in advance and often made public, health economic analysis plans are not very common in economic evaluations.⁶ This has led to concerns that bias could be introduced by the selective reporting of results or analyses. Therefore, Item 4 (“Health economic analysis plan”) has been added, asking study authors to report whether a health economic analysis plan was developed and where it is available.

Secondly, many economic evaluations employ decision-analytic models as a vehicle to synthesise data from several sources. In modelling, there is considerable analyst discretion in the choice of the data and methods used and the assumptions made. Although many of the reporting items in CHEERS ask study authors to

make these choices transparent, there have been calls to make the models themselves publicly available so that other researchers can fully explore the impact of different analytic choices and conduct analyses of their own.⁷ Therefore, in Item 16 on the “Rationale and description of the model”, authors are asked to report if the model is publicly available and where it can be accessed.

Recognising the role of patients and the public

The role of patients and the public in clinical and health services research has increased in recent years.⁸ In addition, many health technology assessment committees include patient representatives. Therefore, patients and the public are becoming an important audience for health economic evaluations. In the development of CHEERS 2022, a public and patient involvement and engagement (PPIE) group was formed to support and advise the Task Force in the development of its recommendations. This resulted in two new reporting items. One of them (Item 21, “Approach to engagement with patients and others affected by the study”) asks authors to report on any approaches to engage patients or service recipients, the general public, communities, or stakeholders (e.g., clinicians or payers) in the design of the study. The other patient-centric addition is Item 25 (“Effect of engagement with patients and others affected by the study”), which asks authors to report on the effect that any engagement had on the approach or findings of the study.

Resources to support the dissemination and use of CHEERS 2022

Several resources are being developed to support the dissemination and use of CHEERS. These can be accessed on the websites for CHEERS (<http://ispor.org/cheers>) or EQUATOR (<https://www.equator-network.org/reporting-guidelines/cheers/>).

1. Several presentations are being developed; some for webinars targeted toward selected audiences, and some for those involved in teaching students or other groups about CHEERS.

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Table 1. CHEERS 2022 Checklist

SECTION /Topic	Item	Guidance for Reporting	Reported in section
TITLE			
Title	1	Identify the study as an economic evaluation and specify the interventions being compared.	
ABSTRACT			
Abstract	2	Provide a structured summary that highlights context, key methods, results, and alternative analyses.	
INTRODUCTION			
Background and objectives	3	Give the context for the study, the study question and its practical relevance for decision making in policy or practice.	
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.	
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 sub-groups.	
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 characterize any sources of uncertainty in the analysis.	

SECTION /Topic	Item	Guidance for Reporting	Reported in section
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 (e.g., clinicians or payers) in the design of the study.	
RESULTS			
Study parameters	22	Report all analytic inputs (e.g., 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	
DISCUSSION			
Study findings, limitations, generalisability, and current knowledge	26	Report key findings, limitations, ethical or equity considerations not captured, and how these could impact 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.	

This checklist was developed using US English.

- Members of the CHEERS II Task Force have produced a series of videos discussing the rationale behind the various reporting items. These can be accessed as a group or as individual videos if one's interest is in a particular reporting item.
- Downloadable interactive forms have been developed, making it easier to provide responses to the 28 reporting items. These can be accessed on the CHEERS website and <https://don-husereau.shinyapps.io/CHEERS/>.
- A users' guide for patients is being developed, explaining the rationale behind the reporting items in lay language, along with a glossary to explain the technical terms.

Conclusions

The update of CHEERS is an important step in increasing transparency in the reporting of economic evaluations. The CHEERS guidelines are one of the EQUATOR series of reporting guidelines. Those in the medical writing community are encouraged to use the CHEERS 2022 guidelines when assisting authors of economic evaluations in communicating their research. The appropriate use of reporting guidelines is intended to lead to more transparent and timely publications.

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Disclosures and conflicts of interest

The authors declare no conflicts of interest.

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