HTA Policies and Principles Week 8: Critical Appraisal

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Introduction to the week

Welcome to week 8 of the Health Technology Assessment (HTA) Policy and Principles module. My name is Nicola Mcmeekin and I will be the week lead.

This week we will learn about critical appraisal of evidence for HTAs.

The week's learning is split into 3 sections which will:

1. introduce you to critical appraisal and explore the importance of critical appraisal.
2. consider what makes a study or reported evidence reliable. An important distinction is made between recognising the quality of the data and results, and the quality of reporting.
3. consider the range of different tools, such as guidelines and checklists, that can be used to help critique different types of evidence.

These sessions will also encourage you to think about the advantages and disadvantages of different critical appraisal tools, such as reporting guidelines, checklists and scoring systems.

What is critical appraisal and why is it important?

Welcome to the first section of week 8 Health Technology Assessment Policy and Principles we will look at what critical appraisal is and why it is important.

What is critical appraisal?

"Critical appraisal is the process of carefully and systematically examining research to judge its trustworthiness, and its value and relevance in a particular context."

- Burls, A. 2009 What is series

This quote from Amanda Burls is a concise explanation of what critical appraisal is: Critical appraisal is a structured, systematic approach to considering evidence. There are three broad things to consider when appraising a piece of evidence

Its **Trustworthiness**: is it reliable and credible?

Its **Value**: what do the results tell us and what is the significance and usefulness of the results?

Its **Relevance**: what is the importance and significance of the decision question/context posed by the authors - and also the relevance of the evidence to different contexts.

This introduction to critical appraisal video **(9 minutes 33 seconds)** gives you a great background introduction to the topic

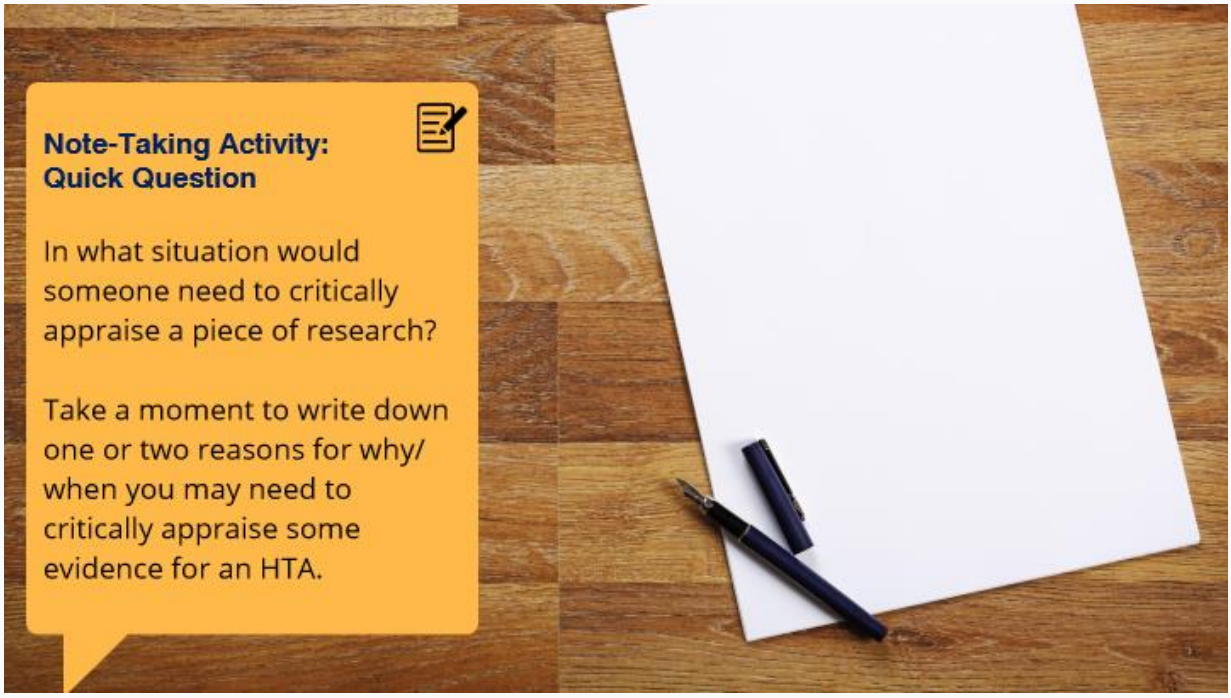
Importance of critical appraisal

Critical appraisal is an essential skill for evidence-based medicine because it allows clinicians, researchers, decision makers and other users to find and interpret research evidence reliably and efficiently.

However, not all research is good quality - some studies are biased and their results misleading. Decision makers, health care professionals and other users, need to be sure that the evidence they are

assessing (e.g. from a clinical efficacy study or a cost-effectiveness analysis) is reliable. They need to be able to make sense of the results and to know whether or not they can be applied to their own situations.

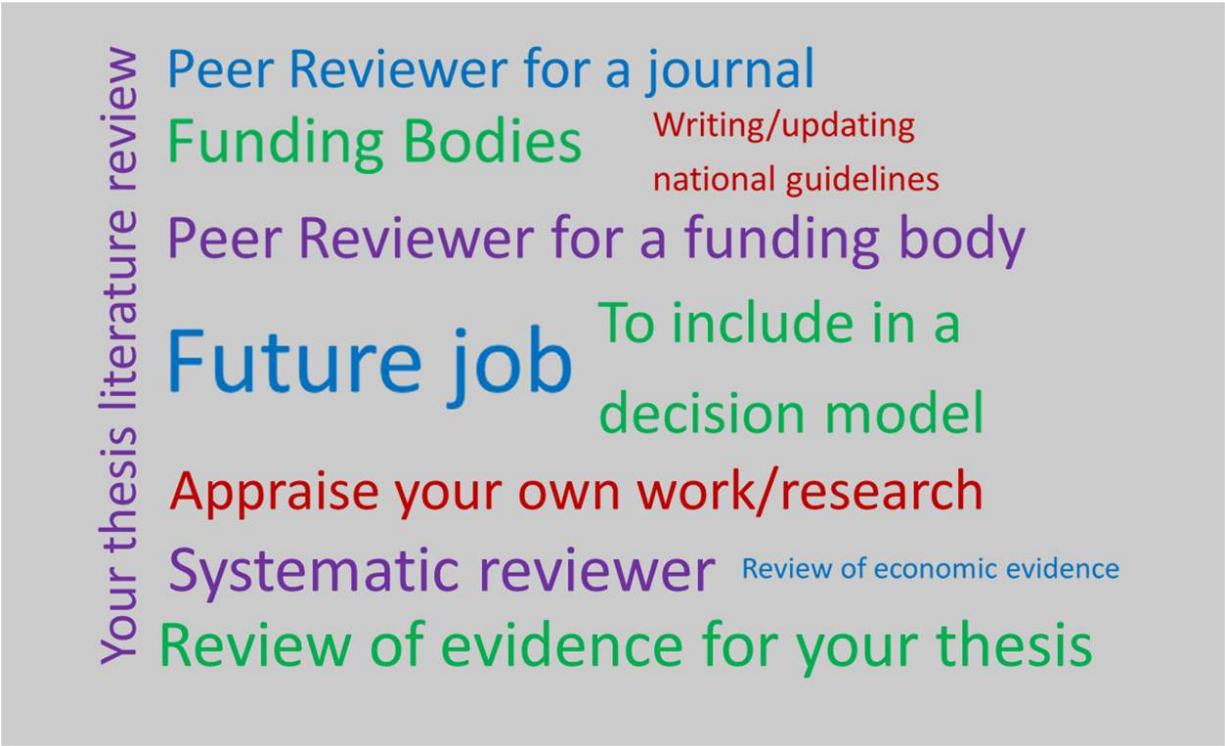
Therefore, critical appraisal is of great importance.



CONTINUE

There are many reasons why you might need to conduct a critical appraisal

this image shows some of the those reasons,



for example for peer review, for a systematic review, to inform clinical decision making and to inform an economic model. This is not an exhaustive list so if you thought of other reasons feel free to add them to this week's forum to share with your fellow students.

Critical appraisal is not merely an additional exercise that is undertaken by external reviewers but is also an intrinsic and integral part of good research practice. For example, following a research study, the next step is typically to write and submit a paper for publication which closely reflects the work done and the conclusions drawn. It is therefore also important for the authors to practice critical appraisal of their own work - in considering their methods and results, and in the reporting of their results.

Critical appraisal is an essential skill for evidence-based medicine because it allows clinicians and decision makers to find and use research evidence reliably and efficiently.

Bias

Every day we see or hear statements that try to influence our decisions and choices by claiming that research has demonstrated that something is useful, effective or cost-effective. For example, those bidding for more funding resources often claim that a new therapy or new treatment is cost-effective. Published studies are often cited in support of such claims, so we need to be sure that those published studies are reliable. However, before we can believe such claims, we need to be sure that the study was conducted appropriately. Conducting a study in a way that tends to lead to a particular conclusion regardless of the truth is known as bias. All studies are subject to bias, and it is important that researchers take steps to minimize this bias. But it is also important to remember that no study is perfect and free from bias. Before believing a study's results we should systematically check that the researchers have done all they can to minimize bias and that any biases that might remain are not likely to be big enough to account for the results observed. Your recommended reading by Burls et al (in reading list), provides further detail on reliability of evidence and bias. For example, reviewing some of the key sources of bias in a clinical trial.

As well as bias in conducting a study there is also non-publication bias. This is the bias resulting from not reporting findings from a study. This bias can be introduced by researchers who do not attempt to publish their results, as a whole or in part, or by peer reviewers and journal editors by rejecting research with undesirable results. These undesirable results could be because of negative, unforeseen or unwanted results. Non-publication bias might be due to a deliberate act, ignorance, time constraints or word limits.

Some possible reasons for bias, poor reporting, suppression

This video (**4 minutes 27 seconds**) gives you a great basic understanding of the types of bias you should consider when conducting a critical appraisal:

Responsibility for good reporting of research

Finally in this first section of critical appraisal, we will briefly touch on who is responsible for the good reporting of research. This responsibility lies with all stakeholders involved in publishing research, this includes the entire research team (for example clinicians, project managers, trialists, qualitative researchers, statisticians and health economists), peer reviewers, journal editors, funders and national agencies.

Now that we have covered what critical appraisal is, why it's important and some key biases, let's dive deeper in section 2.

What makes a study reliable?

Welcome to the second section of week 8 of the Health Technology Assessment Policy & Principles module. In this section we will consider what makes a study (or reported evidence) reliable; we will look at the quality of data, quality of reporting and explore checklists and guidelines designed to help with critical appraisal. In particular we will make an important distinction between recognising and critiquing the quality of the data & results and the quality of the reporting.

Quality of data vs reporting quality

- Theoretically, the quality of data and reporting of a study should be in harmony, however…..
- …..a study can be excellently reported but poorly conducted or poorly reported but excellently conducted

You may expect that the process of conducting research and the reporting of that research would go hand in hand harmoniously, however in practice this is not always the case. In critical appraisal confusion often arises because a study may be excellently reported but poorly conducted, or alternatively, the research may be poorly reported but in fact had a good research design and was excellently conducted. There are good examples of this disharmony in Chapter 5 of Moher et al 'Guidelines for Reporting Health Research - A user's manual' in your reading list.

It is important that you are able to make the distinction between the quality of the research and the quality of the reporting when undertaking a critical appraisal. While good reporting promotes enlightenment and clarity, poor reporting creates ambiguities and confusions. We will concentrate in the quality of reporting.

Critical appraisal is an essential skill for evidence-based medicine because it allows clinicians and decision makers to find and use research evidence reliably and efficiently. However, not all research is good quality and studies can be biased and their results misleading. Decision makers and health care professionals need to be sure evidence (e.g. from a clinical efficacy study or a cost-effectiveness analysis) is reliable. They need to be able to make sense of the results and to know whether or not they can be applied to their own situations.

Reporting checklists and guidelines for use in critical appraisal

Reporting checklists/guidelines are standardised lists of items that are expected to be reported in a published study. These items will broadly cover an introduction/background, clear aim, methods, results and a discussion/conclusion.

Before we start discussing checklists and guidelines in more details take a moment to think what the advantages of reporting checklists/guidelines are.

Some of the advantages of using reporting guidelines or checklists are clarity, completeness, and transparency of the reporting. It aids peer review, standardizes the content of reporting, highlights items of concern, and it aids critical appraisal.

This is not an exhaustive list and if you thought of other advantages you could share them in the forum with fellow students.

There are many published guidelines and checklists available to assist in critical appraisal; the **E**nhancing the **QU**Ality and **T**ransparency **O**f health **R**esearch (EQUATOR) Network program began in 2008 to promote reliable reporting of health research at www.equator-network.org. EQUATOR is an umbrella organisation bringing together many disciplines interested in checklists and guidelines and has a collection of these resources.

‘A systematic review of the content of critical appraisal tools’ (2004) Katrak et al. looks at the variability in content of the checklists/guidelines and concludes that the properties and intent of the guidelines vary, this paper is referenced in your reading material and makes interesting additional reading.

‘Conducting’ checklists/guidelines provide advice for conducting a study whereas ‘reporting’ checklists/guidelines provide advice on the minimum information that should be included when reporting a trial.

The primary goal of reporting checklists/guidelines is clarity, completeness and transparency of reporting; complementing journal instructions to authors. Most published checklists/guidelines are specific, providing guidance relevant to a particular medical specialty or aspect of research ie reporting adverse events or economic evaluations. In most journals the use of checklists/guidelines is expected, so it is important that authors are familiar with checklists relevant to their discipline before writing and submitting their report.

A checklist/guideline helps authors, editors, peer reviewers and readers to systematically review and critique a research paper. The advantages are that they can be very useful in helping to identifying the aspects of the research that should be of particular concern to the reader.

Most checklists/guidelines are specific to a research type, for example randomised control trials, cohort studies, systematic reviews or cost-effectiveness analyses.

Just a note of warning - when you are critiquing a report using a checklist try to avoid the temptation to assume that if all boxes on the checklist are ticked this equates to a good review, as this is not always the case. The appraiser should not treat critical appraisal as a box ticking exercise but should analyse the report in conjunction with a relevant checklist/guideline and produce an overall summary of the quality.

Example of checklists/guidelines

An example of a checklist is the CONSORT Statement 2010, part of which is presented below.

CONSORT stands for the **CON**solidated **S**tandards Of **R**eporting **T**rials and encompasses various initiatives developed by the CONSORT group to alleviate the problems arising from inadequate reporting of randomised controlled trials.

To critique a reported trial the appraiser will check to see whether each checklist item is included in the report and completes the checklist by adding the page number on which the item is included in the report. As mentioned before this should not be treated as a tick box exercise but should act as a guide to assess the quality of the reporting. For instance, identifying the study as a randomised trial in the title is straight forward - it is either included or not included. However the method used to generate the random allocation sequence can be reported in varying depth and quality, so although the box will be ticked if the method is included, the quality of the reporting may vary from poor to excellent.

In the CONSORT guidelines example, there is no overall scoring system however there may be a temptation to use the checklist as a box ticking exercise and score the paper, but what is needed is an overall written summary of the quality of the reporting.

CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item	Reported on page No
Title and abstract			
	1a	Identification as a randomised trial in the title	
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	
	2b	Specific objectives or hypotheses	
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	
Participants	4a	Eligibility criteria for participants	
	4b	Settings and locations where the data were collected	
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	

Example of a checklist

Appropriate use of checklists/guidelines

The primary goal of reporting checklists/guidelines is clarity, completeness, and transparency of reporting, allowing readers to develop an informed interpretation and, for those interested researchers, to replicate the methods. However, although the readers can judge the methods and results of the study the checklist/guideline will not specify how to make those judgements.

Adherence to a reporting guideline does not confer any stamp of quality on the research conduct

Da Costa et al (2011) (included in the reading list) look at the 'use and misuse' of the STROBE reporting guideline. STROBE is used for assessing the quality of reporting observational studies. Da Costa et al found that out of 19 systematic reviews they assessed, 53% inappropriately used STROBE as a tool to assess study quality. The authors conclude that the misuse of the STROBE reporting guideline to assess methodological quality can be explained by the lack of validated and accepted tools for such assessments.

Scoring systems

As mentioned above, there is a temptation amongst researchers and readers to use some reporting checklists/guideline to develop a quality scoring system. Such a process is not advocated in most reporting guidelines. For example, the CONSORT 2010 reporting guideline specifically states that it should not be used as a scoring system. Even so CONSORT has been misused as a basis for a quality score, despite it only stating what to report; it does not offer any judgment as to what is good and what is bad. Reporting guidelines were not conceived to serve as a springboard to a quality score. There have been many reviews undertaken to explore an array of different quality assessment scales. For example, in the Jüni et al (1999) (in reading list), an analysis of 17 trials, using 25 different assessment scales, the authors concluded that the use of summary scores to identify trials of high quality was problematic. Jüni et al stated that relevant methodological aspects should be assessed individually and their influence on effect sizes explored.

Most scoring systems lack a focussed theoretical basis and their objectives are unclear. Scales differ considerably in terms of dimensions covered, size, and complexity. Weighting given to scores is assigned for different reasons and depends on the scale and study; commonly weighting is assigned to the key domains most relevant to the control of bias such as randomization and blinding. Chapter five in

Moher et al ‘Guidelines For Reporting Health Researcher User's Manual’ has useful information about this topic.

Developing critical appraisal tools

Having a consensus for important and key items in a checklist/guideline helps to produce a standardised environment for critical appraisal tools. ‘Guidance for Developers of Health Research Reporting Guidelines’, authored by Moher et al, goes some way to provide guidance for developing reporting guidelines by giving practical advice on how to develop a guideline. Chapter two in ‘Guidelines for Reporting Health Research: A User's Manual’ by Moher et al also gives advice on developing a reporting guideline. Both of these resources are included in your reading list.

Now that we have covered some common mistakes and more information about critical appraisal, in section 3 we will look at some checklists/guidelines.

Critical appraisal tools

Welcome to the third section of week 8 of the Health Technology Assessment Policy & Principles module. In this section we will review a range of different guidelines and checklists for different types of studies.

Different research questions require different study designs

For example, for research questions evaluating the efficacy and effectiveness of healthcare interventions using quantitative data, suitable study types might be randomized controlled trials, observational and cohort studies. You covered some of these quantitative studies in week 2 of this module with Dr Jim Lewsey. For research questions involving qualitative data such as opinions and experiences, methods include focus groups and interviews you. You covered some of these studies with Dr Evi Germeni in week 3. For research questions that are assessing economic evidence, cost-effectiveness studies such as cost-utility and cost-benefit would be used. Other specific study types include prognostic and diagnostic studies, and quality improvement studies.

Take a look at the link below for a brief introduction to different study types:

An introduction to the different types of study designs

STUDY TYPES

Checklists/guidelines for different study types

- CONSORT: quantitative (randomised trials)
- COREQ/RAMESES: qualitative research
- CHEERS: economic evaluations
- PRISMA: systematic reviews and meta-analysis
- STARD: diagnostic/prognostic studies
- STROBE: observational studies
- GRIPS: genetic risk prediction

Different research questions require different study designs and different study designs require different checklists/guidelines.

The list above includes examples of some the main checklists/guidelines that you may come across. This is by no means an exhaustive list, for a more comprehensive list please refer to the EQUATOR Network website mentioned in the Section 1 https://www.equator-network.org/.

Now we'll look at each of these checklists/guidelines in more detail.

First, we will look at the CONSORT statement

CONSORT stands for 'CONsolidated Standards Of Reporting Trials', the purpose of this guideline is to alleviate problems arising from inadequate reporting of randomised control trials. It can be accessed via

this link: CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials | EQUATOR Network (equator-network.org)

The CONSORT statement is endorsed by most medical journals and health organisations and is an evidence-based minimum set of recommendations for reporting randomised trials. It offers a standard way for authors to prepare and report trial findings, leading to complete and transparent reporting, and helping in their critical appraisal and interpretation.

Extensions of the CONSORT guidelines are available for different trial designs (ie cluster and feasibility trials), specific interventions (ie herbal medicine) and data (ie harms or equity).

Take time to familiarize yourself with and read the CONSORT statement and the accompanying reporting documents available online at the CONSORT website (link above) and in chapter 8 of the Moher et al book 'Guidelines for Reporting Health Research: A User's Manual' discusses the CONSORT 2010 statement and checklist. For students who are interested in additional reading, chapters 10 to 14 in this book discuss the extensions to the CONSORT guidelines.

Next, we will take a brief look at the COREQ guideline

The '**CO**nsolidated criteria for **RE**porting **Q**ualitative Studies' (COREQ) provides guidance on the reporting of studies using focus groups and interviews.

It can be accessed via this link: https://academic.oup.com/intqhc/article/19/6/349/1791966

CONSORT 2010 checklist of information to include when reporting a randomised trial*

Section/Topic	Item No	Checklist item
Title and abstract		
	1a	Identification as a randomised trial in the title
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts[21 31])
Introduction		
Background and objectives	2a	Scientific background and explanation of rationale
	2b	Specific objectives or hypotheses
Methods		
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons
Participants	4a	Eligibility criteria for participants
	4b	Settings and locations where the data were collected
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed
	6b	Any changes to trial outcomes after the trial commenced, with reasons
Sample size	7a	How sample size was determined
	7b	When applicable, explanation of any interim analyses and stopping guidelines
Randomisation:		
Sequence generation	8a	Method used to generate the random allocation sequence
	8b	Type of randomisation; details of any restriction (such as blocking and block size)
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how
	11b	If relevant, description of the similarity of interventions
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses

The COREQ guideline comprises a 32-item checklist which can be used by authors, readers, peer reviewers and editors of qualitative studies.

Chapter 21 of the Moher et al book ‘Guidelines for Reporting Health Research: A User's Manual’ discusses the COREQ guideline if you want to familiarise yourself with this guideline.

The CHEERS 2022 checklist

The original ‘**C**onsolidated **H**ealth **E**conomic **E**valuation **R**eporting **S**tandards’ (CHEERS) was published in 2013, this was updated in 2022. This is a key checklist that you will need to be familiar with for economic evaluations.

It can be accessed via this link: https://pubmed.ncbi.nlm.nih.gov/35031096/

Table 1 The CHEERS 2022 checklist.

Section/topic	Item No	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.	_____

The purpose of the CHEERS checklist is to help authors in reporting their evaluation and to help others assess the quality of reporting. There are 28 items on this checklist with key sections for methods and results.

The paper explains the background to CHEERS and explains how to use it. There is also a sister paper which has explanations and elaborations for each of the 28 items to guide the user. This is available at:

https://www.sciencedirect.com/science/article/pii/S1098301521017952

Interestingly the authors of the CHEERS 2022 checklist report that CHEERS 2013 checklist has been used inappropriately as a checklist to assess the quality of methods in economic evaluations (page 2 paragraph beginning ‘Since’).

We will look at the CHEERS checklist in more detail in the **Health Economics for HTA** module in semester 3, however it will be useful to you to familiarise yourself with the papers related to CHEERS in this module.

Next we will look at the PRISMA 2020 statement

PRISMA stands for '**P**referred **R**eporting **I**tems for **S**ystematic reviews and **M**eta-**A**nalyses', the 2020 version replaces the one published in 2009. The PRISMA checklist represents an update and expansion of QUOROM (Quality of reporting of meta-analyses) - a guide for reporting meta-analyses of randomised trials.

Table 1 PRISMA 2020 item checklist

Section and topic	Item #	Checklist item	Location where item is reported
Title			
Title	1	Identify the report as a systematic review.	
Abstract			
Abstract	2	See the PRISMA 2020 for Abstracts checklist (table 2).	
Introduction			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	
Methods			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	

1 of 2

The PRISMA checklist has 27 items and aims to enable authors to produce transparent, complete and accurate accounts of the systematic review (there is also an extended version with more detailed information). Completing a systematic review is complex with many steps - the checklist will aid the author in reporting which steps were followed - and which weren't.

PRISMA was not developed to pass judgement on what authors did or did not do but to help authors accurately and clearly report their research. It is also useful for peer reviewers, editors and readers.

The checklist recommends the use of a PRISMA flow diagram, mapping out the flow of information through different phases of the systematic review: number of records identified, included and excluded. The flow diagram is a good way for authors to illustrate the flow of records etc during the systematic review.

The paper is available at the following link: https://www.bmj.com/content/372/bmj.n71##

Similar to the CHEERS checklist there is an explanation and elaboration paper which can be found at the following link: https://www.bmj.com/content/372/bmj.n160?ijkey=c503a076e08ae39e992e7bb52b1fe94736a13a3c&keytype2=tf_ipsecsha

The PRISMA website is found at: https://www.prisma-statement.org/

This website also has links to extensions of the PRISMA checklist, for example for scoping reviews, network meta-analysis and abstracts.

Next we will look at the STARD 2015 guideline

STARD stands for '**ST**Andards for **R**eporting of **D**iagnostic accuracy studies' and was originally published in 2003, an update was published in 2015 entitled 'STARD 2015 - An Updated List of Essential Items for Reporting Diagnostic Accuracy Studies'. This updated guidance is available at the following link: https://www.bmj.com/content/351/bmj.h5527.long

Table 1 The STARD 2015 list*

Section and topic	No	Item
Title or abstract		
	1	Identification as a study of diagnostic accuracy using at least one measure of accuracy (such as sensitivity, specificity, predictive values, or AUC)
Abstract		
	2	Structured summary of study design, methods, results, and conclusions (for specific guidance, see STARD for Abstracts)
Introduction		
	3	Scientific and clinical background, including the intended use and clinical role of the index test
	4	Study objectives and hypotheses
Methods		
Study design	5	Whether data collection was planned before the index test and reference standard were performed (prospective study) or after (retrospective study)
Participants	6	Eligibility criteria
	7	On what basis potentially eligible participants were identified (such as symptoms, results from previous tests, inclusion in registry)

1 of 3

The guideline comprises a 30-item checklist and flow diagram to illustrate the flow of participants through the study. Similar to the checklists we have just looked at, the aim of STARD 2015 is to maximise the completeness and transparency of reporting of diagnostic accuracy studies.

Finally, we look at STOBE

STROBE stands for '**ST**rengthening the reporting of **OB**servational studies in **E**pidemiology', and covers descriptive as well as analytical studies.

Table 1

STROBE guidelines

STROBE guidelines		
Section/topic	**Item number**	**Recommendation**
Title and abstract	1	Indicate the study's design with a commonly used term in the title or the abstract Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any prespecified hypotheses
Methods		
Study design	4	Present key elements of study design early in the manuscript
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	Cohort study - give the eligibility criteria, and the sources and methods of selection of participants; describe methods of follow-up Case-control study - give the eligibility criteria, and the sources and methods of case ascertainment and control selection; give the rationale for the choice of cases and controls Cross-sectional study - give the eligibility criteria, and the sources

Detailed information about this checklist can be found at: https://www.strobe-statement.org/

The related published paper can be found at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6398292/

STROBE is a set of recommendations to improve the reporting of the three main types of observational studies: cohort, case control, and cross-sectional. The checklist has 22 items and is designed to help authors in reporting observational studies.

Chapter 17 of the Moher et al book 'Guidelines for Reporting Health Research: A User's Manual' discusses the STROBE guideline if you want to familiarise yourself further with this guideline.

The Moher et al book also has chapters for the PRISMA and STARD checklists, however these are for the previous older versions of these checklists and it is best to read about these checklists (plus the CHEERS checklist) directly from the relevant published papers and websites.

This concludes the bulk of this week's material, all that is left is the week summary

Summary

I hope that you have enjoyed this week, we have covered what critical appraisal is, why it is important, the key issue of confusing checklists to critically appraise methods instead of reporting, and we also looked at some of the main checklists you should be aware of.

In conclusion, when reading any research, regardless of the study design, it is important to remember that there are three principles issues to consider: **Trustworthiness, results, and relevance**. For **trustworthiness**, it is necessary to ask: has the research being conducted in such a way as to minimize bias? Is it reliable and credible? For **results** ask: what does the study tell us and what is the significance and usefulness of the results? And for **relevance** ask: what did the results mean for the particular patient or context in which a decision is being made?

It is important when critically appraising research to take time to choose an appropriate guideline that is suitable for the study type. You should also give justification for the guideline or checklist chosen. And finally, beware of the checklist trap; don't treat critical appraisal as a tick box exercise when using checklists and guidelines.