



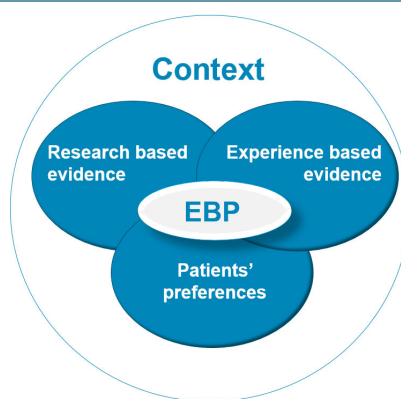
# The role of systematic reviews and their impact

Lillebeth Larun  
Norwegian Institute of Public Health  
16 September 2020

1



## Evidence Based Practice



16/09/2020

2

1



## Session outline



- What is a systematic review?
- Why do we need systematic reviews?
- How can the evidence from systematic reviews be used?

3

## What is a systematic review?

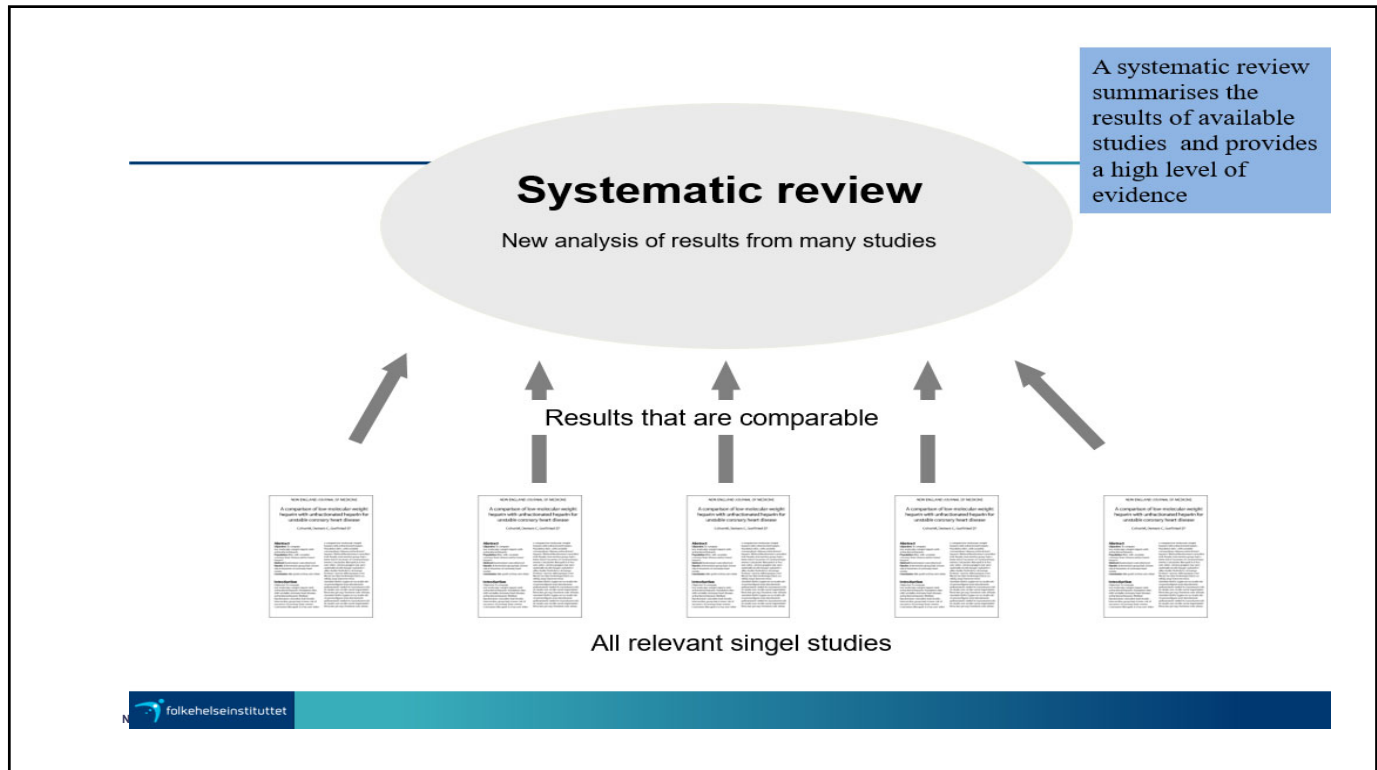


“A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (**meta-analysis**) may or may not be used to analyse and summarise the results of the included studies”

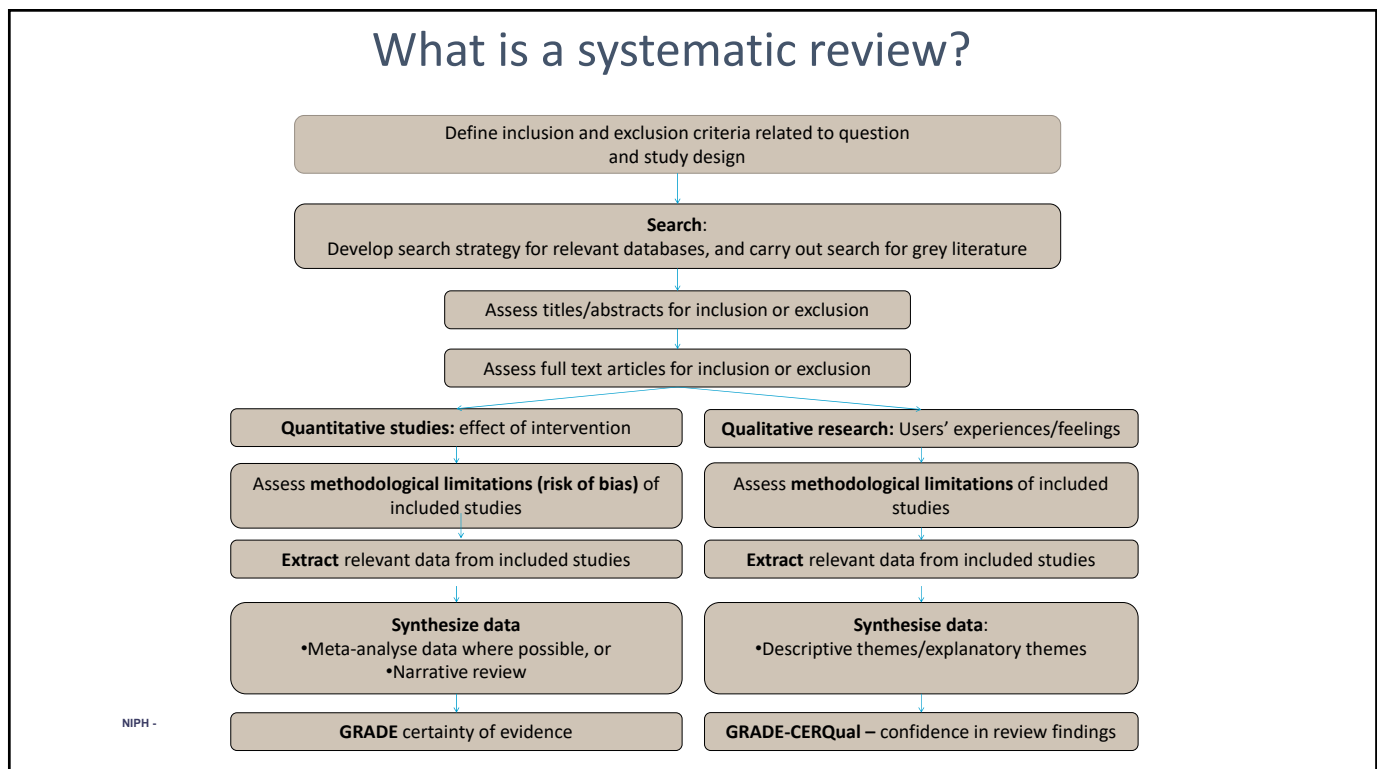
Cochrane Handbook

4

2



5



6

3

## Why do we need systematic reviews?

The achievement of health and others goals, such as the SDGs, is more likely to be realised through well-informed health policies

Poorly-informed decisions in the health sector lead to:

- effective and cheap interventions not being implemented
- services that are not effective or efficient
- inequities within health systems, including services failing to reach those most in need
- health indicators not being reached



7

## Evidence-informed decision making for health



An approach that is intended to ensure that decision making is well-informed by the best available research evidence

Characterised by:

- systematic processes - to ensure that relevant research is identified, appraised and used appropriately
- transparency - so that others can examine what research evidence has been used to inform policy decisions as well as the judgements made regarding the evidence and its implications

From: Oxman AD, Lavis JN, Lewin S, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 1. What is evidence-informed policymaking? Health Res Policy Syst. 2009; 7(Suppl 1):S1

4

8

Systematic reviews are a method for managing the rapid growth of evidence from primary studies

### Primary research production

- 1979: 14 randomised trials published daily
- 2010: 75 randomised trials published daily
- 2015: 130 randomised trials published daily
- 2019: ?

Source:  
[https://www.youtube.com/watch?v=7agcttubgkY&list=PLCo8PS\\_ppmDp0K5omvbn\\_bv2nWV6kM0](https://www.youtube.com/watch?v=7agcttubgkY&list=PLCo8PS_ppmDp0K5omvbn_bv2nWV6kM0)



Systematic reviews are a method for managing the rapid growth of evidence from primary studies

- The available evidence from primary studies exceeds our capacity as individual decision makers, service users or health care providers to find, assess and make sense of it
- We therefore need approaches to finding, appraising and analysing this evidence
- SRs attempt to do this in a transparent and reproducible way for a pre-defined question



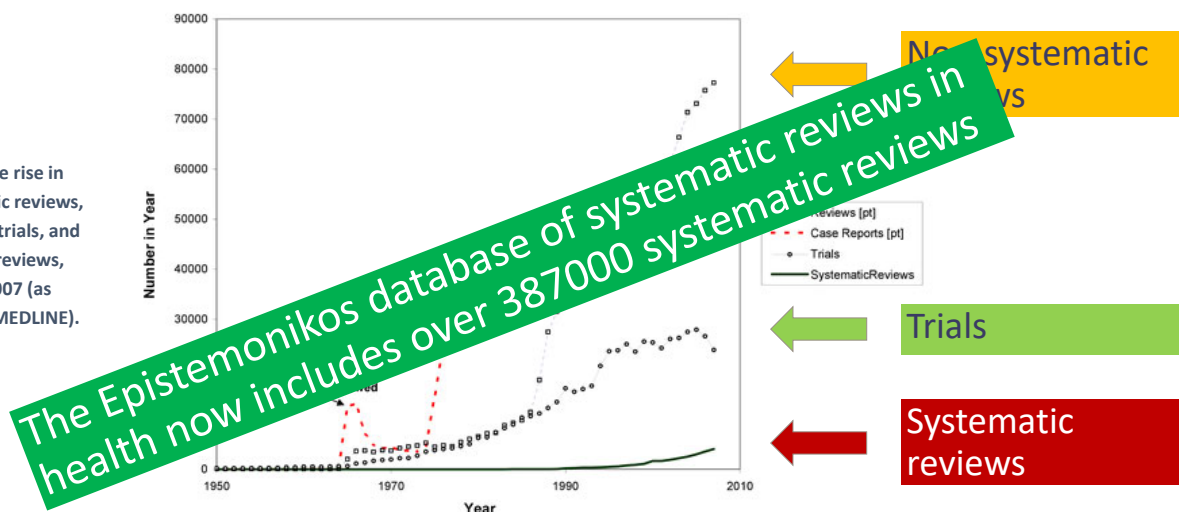
# A systematic review....

- Answers a specific question:
  - Prevalence
  - Etiology
  - Effects and cost-effectiveness of interventions
  - Diagnostics
  - Prognosis
  - Views and experiences of health issues and interventions
- Is based on all available research that corresponds to the review question
- Appraises the available research to identify methodological limitations or risk of bias
- Describes how certain we can be in the findings

11

But to some extent, we have become victims of our own success...

Figure 4. The rise in non-systematic reviews, case reports, trials, and systematic reviews, 1950 to 2007 (as identified in MEDLINE).



Bastian H, Glasziou P, Chalmers I (2010) Seventy-Five Trials and Eleven Systematic Reviews a Day: How Will We Ever Keep Up?. PLOS Medicine 7(9): e1000326. <https://doi.org/10.1371/journal.pmed.1000326>  
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000326>

NIPH -

12

And undertaking a review takes considerable resources



Study objective: To quantify the time and resources required to complete systematic reviews, based on those registered in the International Prospective Register of Systematic Reviews (PROSPERO) registry

## Results:

- Mean estimated time to complete and publish a review was 67.3 weeks (IQR=42)
- The number of studies found in the literature searches ranged from 27 to 92 020
- The mean yield rate of included studies was 2.94% (IQR=2.5)
- The mean number of authors per review was 5, SD=3

13

## Take home messages....



- Systematic reviews are an approach for bringing together the best available evidence on a question
- Systematic reviews can have important impacts on policy and practice decisions in health and other sectors
- Because they are resource intensive to produce, we need to choose systematic review questions carefully and avoid duplication
- Of course, knowledge translation is a complex and context sensitive process rather than a linear one and across settings there is considerable variation in capacity to undertake and use evidence from evidence syntheses

7

14

# Questions?

