Cochrane Health Equity

Campbell and Cochrane Health Equity Thematic Group

Equity in all Cochrane Reviews

HEALTH INEQUITY

- Systematic, socially produced (and therefore modifiable) and unfair,

    - Whitehead and Dahlgren Levelling up, part I: 2006

- *"The term 'inequity' has a moral and ethical dimension. It refers to differences which are unnecessary and avoidable but, in addition, are also considered unfair and unjust."- Whitehead, 1992*

Inequity ≠ Inequality

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Some differences are unfair while others are inevitable!

1. Natural, biological variation.

2. Health-damaging behaviour if freely chosen, such as participation in certain sports and pastimes.

Inequalities

1. Lifestyle restrictions.

2. Exposure to unhealthy, stressful living and working conditions.

3. Inadequate access to essential health and other public services.

Inequities

PROGRESS-Plus is an acronym used to identify characteristics that may stratify health opportunities and outcomes:

PROGRESS refers to:

Place of residence
Race/ethnicity/culture/language/ancestry
Occupation
Gender and sex
Religion
Education
Socioeconomic status
Social capital

Plus refers to:

1) Personal characteristics associated with discrimination (e.g. age, disability)
2) Features of relationships (e.g. smoking parents, excluded from school
3) Time-dependent relationships (e.g. leaving the hospital, respite care, other instances where a person may be temporarily at a disadvantage)

(O'Neill et al., 2014)

What types of interventions generate inequalities? Evidence from systematic reviews

Theo Lorenc,[1] Mark Petticrew,[1] Vivian Welch,[2] Peter Tugwell[2]

- Some interventions may increase inequity, such as:
  - Media campaigns
  - Printed educational material
  - School-based interventions
  - Workplace smoking bans

Three main types of intervention review questions

1. Interventions aimed at the general population, where it is important to understand the distribution of effects across one or more PROGRESS-Plus characteristics;

2. Interventions focused on disadvantaged or at-risk populations in which there may not be equity outcomes but that may provide evidence about reducing inequities; and

3. Interventions aimed at reducing social gradients across populations or among subgroups of the population.

Equity is a Chapter in the 2019 Cochrane Handbook

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Cochrane Training

Trusted evidence.
Informed decisions.
Better health.

Search...

Online learning   Learning events   Guides and handbooks   Trainers' Hub   Log in

Chapter 16: Equity and specific populations

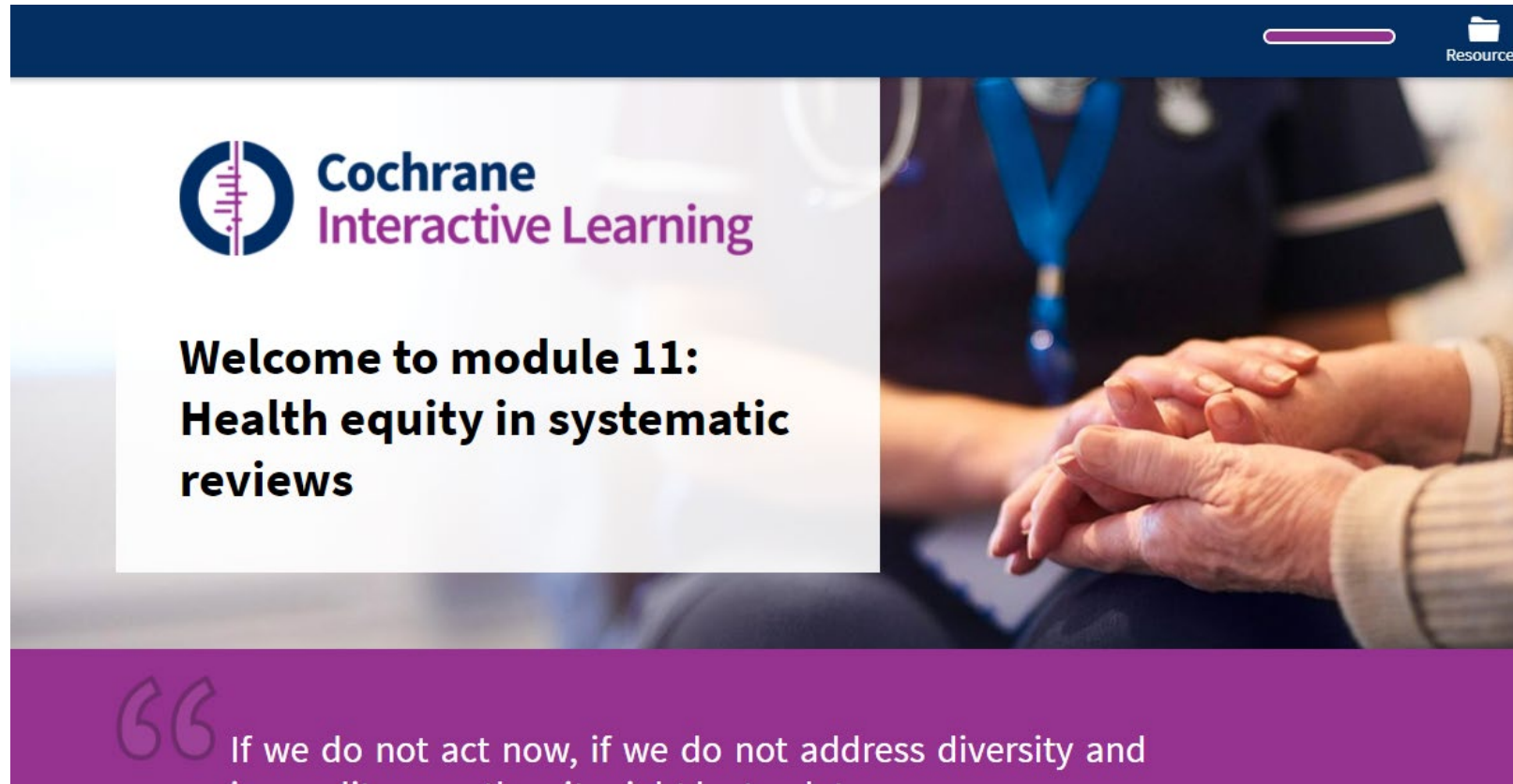Search Handbook

Vivian A Welch, Jennifer Petkovic, Janet Jull, Lisa Hartling, Terry Klassen, Elizabeth Kristjansson, Jordi Pardo Pardo, Mark Petticrew, David J Stott, Denise Thomson, Erin Ueffing, Katrina Williams, Camilla Young, Peter Tugwell

Key Points:

- Health equity is the absence of avoidable and unfair differences in health.
- Health inequity may be experienced across characteristics defined by PROGRESS-Plus (Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socio-economic status, Social capital and other characteristics ('Plus') such as sexual orientation, age and disability).
- Cochrane Reviews can inform decision making by considering the distribution of effects in the population and implications for equity.
- To address health equity in Cochrane Reviews, review authors may: consider health equity at the question formulation stage, possibly using a logic model; decide what methods will be used to identify and appraise evidence related to equity and specific populations; consider implications for 'Summary of findings' tables (e.g. separate tables for disadvantaged populations, separate rows for differences in risk of events); and

- Interactive Learning Module – Introduction to health equity

RevMan

![Cochrane Health Equity logo]

Default view | Full text

≡   [Practice] Intervention review template

Dashboard

About this review <

Data ∨

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Analyses

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Abstract <

Plain language summary

Summary of findings

Text ∨

• Background <

• Objectives

• Methods ∨

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the COVID-19 pandemic: a rapid review. Cochrane Database of Systematic Reviews 2021, Issue 3. Art. No.: CD013717. DOI: 10.1002/14651858.CD013717.pub2

Equity-related assessment

Add Note

Read, and cite when applicable, Chapter 16 of the *Cochrane Handbook for Systematic Reviews of Interventions* [14].

State whether or not you will consider equity-related assessments. If the review will not consider health inequity, state "We will not investigate health inequity in this review" and explain why.

If the review will consider health inequity:

- define which populations experience it with respect to the condition, problem or intervention being assessed. A framework, such as PROGRESS-Plus [47], might help identify the populations to consider in a systematic way, as well as different settings like high-income, low- and middle-income countries. If appropriate, include a logic model as an additional supplementary material dedicated to equity methods;
- specify what methods will be used to identify and appraise evidence related to equity and specific populations. Define how you are going to extract information to inform the Characteristics of included studies and Results sections. In an additional supplementary material dedicated to equity methods, describe whether there are differences in the lived experiences of these populations (e.g. racism, ageism, stigma, acceptability, other underlying determinants of health); explain the rationale for methodological decisions related to specific populations (e.g. inclusion/exclusion criteria, subgroup analyses, choice of outcomes); and the choice of databases to locate studies including some of our populations of interest.
- if you are planning separate comparisons or want to assess different baseline risks for specific population characteristics, report how your will address this in the summary of findings table(s). For example, separate summary of findings tables for (needs justification) or separate rows for differences in risk of events.

The PRO EDI initiative provides guidance on equity, diversity and inclusion in evidence synthesis. Please note, PRO EDI is not formally endorsed by Cochrane yet as it is still in development but may be a helpful resource for authors; if you use it, please cite it.

Section: Equity-related Assessment

1. Consider health equity at the question formulation stage, possibly using a logic model;

2. Which interest-holders should be engaged?

3. Decide what methods will be used to identify and appraise evidence related to equity and specific populations;

4. Describe equity-factors for populations in included studies

5. Consider implications for 'Summary of findings' tables (e.g. separate tables for disadvantaged populations, separate rows for differences in risk of events); and

6. Interpret findings related to health equity in the discussion.

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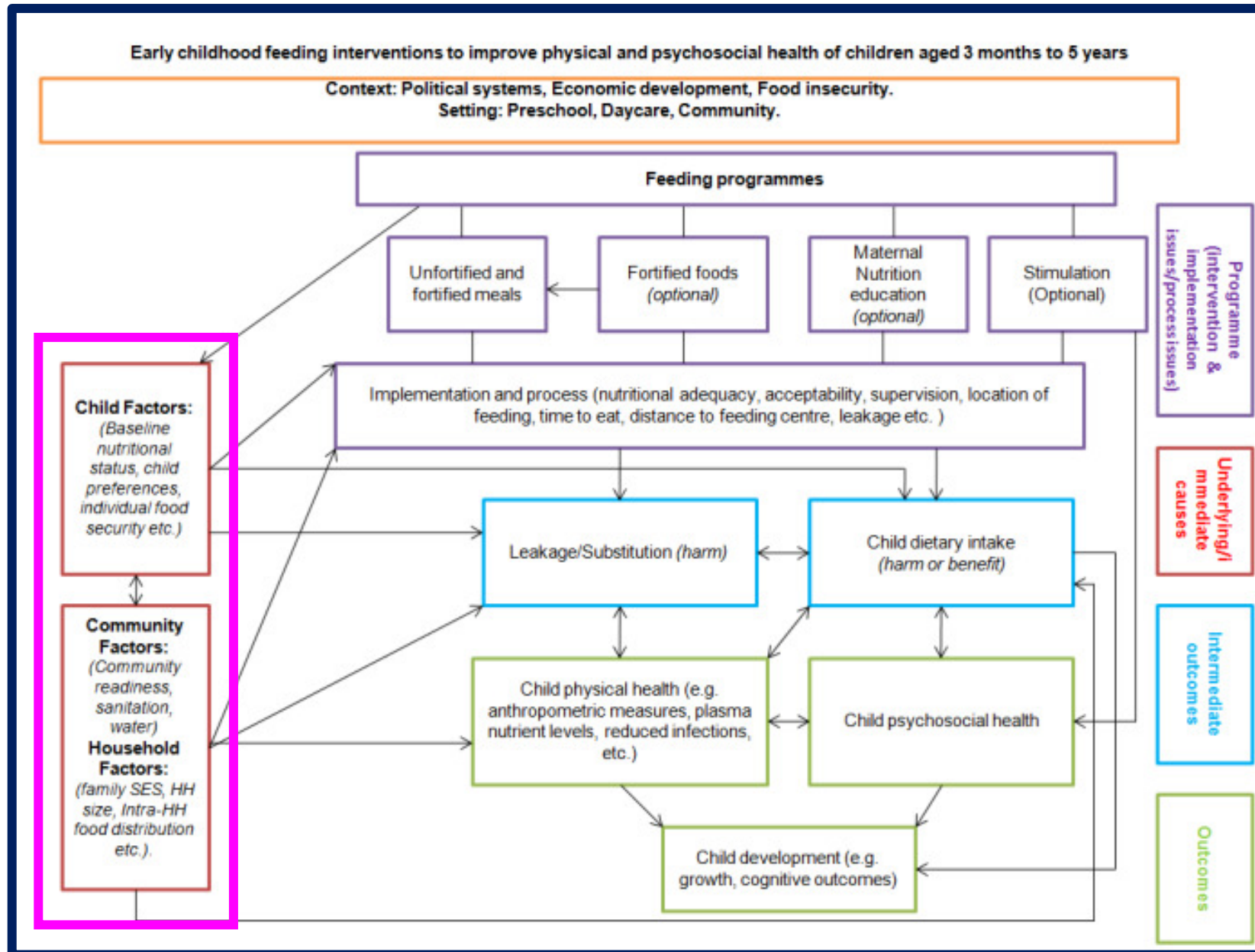6. Interpret findings related to health equity in the discussion.

Consider health equity at the question formulation stage, possibly using a logic model

- Describe who is affected by the health condition of interest and consider whether there are health inequities across population characteristics
  - Consider whether there are differences in the baseline risk of the condition or whether there are factors that could affect the effectiveness of the intervention

- Describe how social structures affect the condition of interest (e.g. racism, sexism, ageism)

- A logic model provides a visual description of the mechanisms or pathways between population characteristics and their relation to delivery/receipt/effects of the intervention

- Authors should describe any expected differences in the implementation of or outcomes of the intervention for specific populations and define these populations.

LOGIC MODEL EXAMPLE

Early childhood feeding interventions to improve physical and psychosocial health of children aged 3 months to 5 years

Context: Political systems, Economic development, Food insecurity.
Setting: Preschool, Daycare, Community.

Feeding programmes

Unfortified and fortified meals

Fortified foods *(optional)*

Maternal Nutrition education *(optional)*

Stimulation *(Optional)*

Implementation and process (nutritional adequacy, acceptability, supervision, location of feeding, time to eat, distance to feeding centre, leakage etc.)

Child Factors: *(Baseline nutritional status, child preferences, individual food security etc.)*

Community Factors: *(Community readiness, sanitation, water)*
Household Factors: *(family SES, HH size, Intra-HH food distribution etc.).*

Leakage/Substitution *(harm)*

Child dietary intake *(harm or benefit)*

Child physical health (e.g. anthropometric measures, plasma nutrient levels, reduced infections, etc.)

Child psychosocial health

Child development (e.g. growth, cognitive outcomes)

Programme (Intervention & implementation issues/process issues)

Underlying/Immediate causes

Intermediate outcomes

Outcomes

Examples:

- A review of rotavirus vaccines noted in their "description of the condition section" that most deaths associated with rotavirus occur in children within low- and middle-income countries, particularly in sub-Saharan Africa and in the Indian subcontinent (Bergman et al, 2021).

- Another review, assessing communication strategies to promote acceptance, update, and adherence to social distancing related to the COVID-19 pandemic including the following "It is clear that inequalities influence the degree to which individuals and populations are able to accept and adhere to preventive measures. Accordingly, the importance of public communication that recognises and is designed to counteract inequalities can't be overstated. This is critical to supporting community-level uptake of physical distancing measures – particularly as the effects of the pandemic disproportionately affect the poorest and most vulnerable." (Ryan et al, 2023)
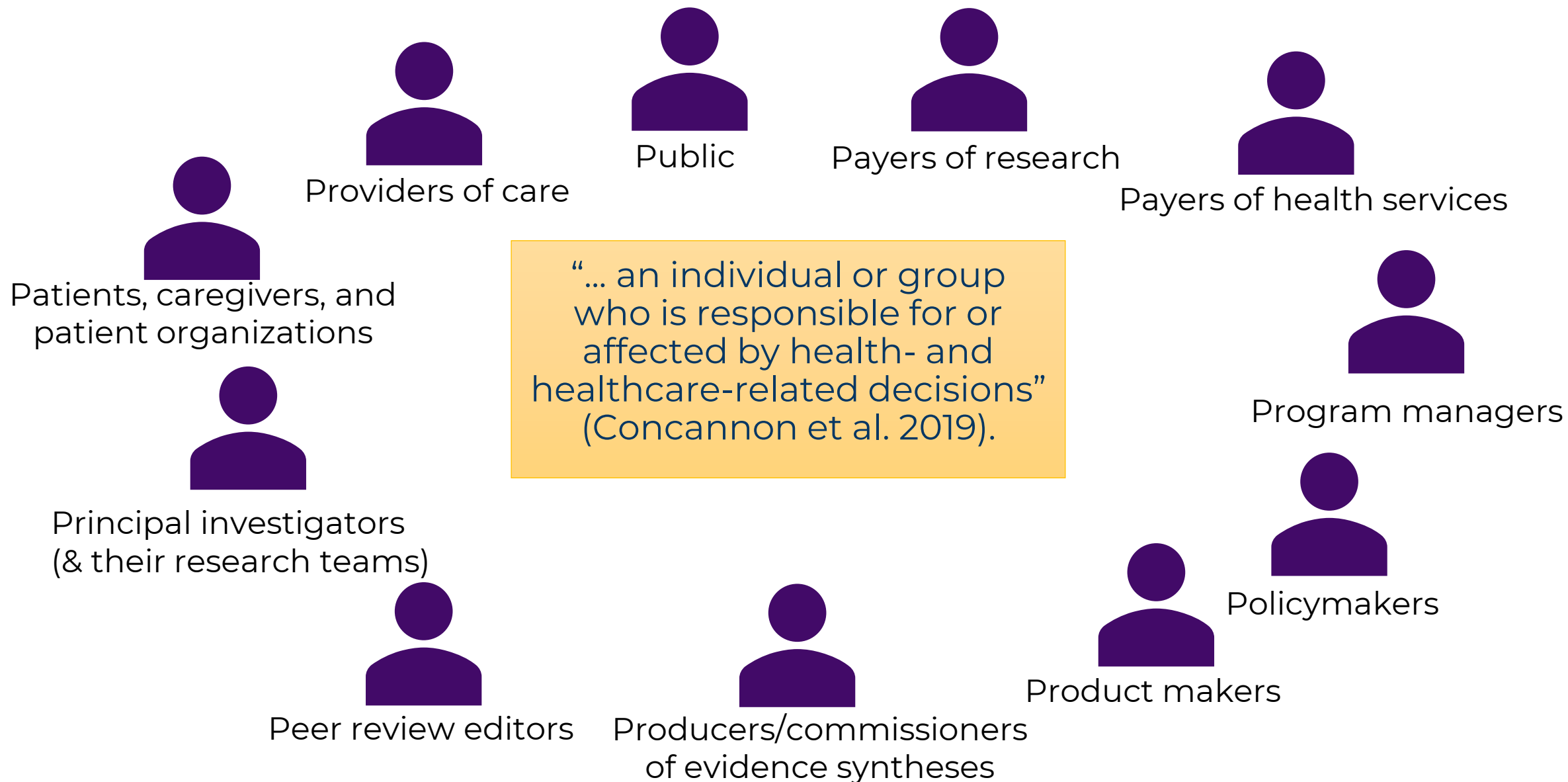
"That's too complicated…"

- You don't need to solve all equity questions at once.

  - You can prioritize a few populations with known or suspected inequities in the area

    - Look for high vs low-income settings

  - You can investigate potential inequities signals in the data

    - See if there are populations you expect to see represented absent in the study data

    - Explore if there are populations with a differential baseline risk that could affect balance of benefits and harms

    - If pertinent and appropriate with the causal pathway, explore subgroup analysis.

  - You can make explicit what you would like to do but don't have resources

    - Helps inform and plan for future updates.

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Who to engage?

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Providers of care

Public

Payers of research

Payers of health services

Patients, caregivers, and patient organizations

"… an individual or group who is responsible for or affected by health- and healthcare-related decisions" (Concannon et al. 2019).

Program managers

Principal investigators (& their research teams)

Policymakers

Product makers

Peer review editors

Producers/commissioners of evidence syntheses

EXAMPLE:

- A review of mobile apps for youth mental health interventions reported that they engaged youth as co-researchers who participated in the development of the research question, selection of outcomes, and determining the analytic approach. They also participated in article selection, data extraction, interpretation of findings and writing the final report. Their engagement was necessary to understand the gaps in mobile applications for depressive disorder and alcohol use among youth (Magwood et al, 2024).

"That's too complicated..."

- You don't need to involved all interest holders at once

  - You can prioritize one or two populations

- You can make explicit what you would like to do but don't have resources

  - Helps inform and plan for future updates.

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Decide what methods will be used to identify evidence related to equity and specific populations

- Searching: relevant databases, may need to search beyond health databases, e.g. Econlit, Sociological abstracts etc
- Relevant study designs
- Relevant outcomes that are important to people experiencing inequities
- Analysis strategies
- Assessing flow of participants, recruitment and retention according to equity
- Influence of the process of the intervention and context/setting

Methods section

- Define how you will extract information to inform the Characteristics of Included Studies and Results sections

- Consider reporting on equity methods to appraise evidence related to equity and specific populations and describes whether there are differences in the lived experience of these populations

- Describe the rationale for any methodological decisions related to specific populations within the appropriate methods section, such as eligibility criteria, subgroup analyses, choice of outcomes, and databases chosen to locate studies.

EXAMPLES

- The equity-focused review of corticosteroids for COVID reported that they would extract participant characteristics data, including age, sex, and ethnicity as well as co-morbidities. They also reported that the extracted equity-related considerations, such as place of residence, occupation, religion, education, socioeconomic statues, and social capital. They also reported that they planned to conduct subgroup analyses based on participant characteristics that may stratify the outcomes, including sex, age (<70 years compared to 70 years and older), ethnicity, and place of residence (high vs low- and middle-income countries) (Wagner et al, 2022).

- A review of family-centred interventions for Indigenous early childhood well-being reported that their rationale for including non-randomized study designs for many equity-relevant reasons, including the inherent ethical considerations for working with Indigenous populations as well as the barriers that may affect participants of randomized trials, such as trials no incorporating Indigenous knowledge systems. The authors also planned to organize the data by Indigenous population and child's age (although they were unable given the small number of included studies) (Strobel et al, 2022).

"That's too complicated…"

- "Primary studies won't have this data"

  - Showing what is not available will help future primary studies.

- "I don't have enough resources/time to do all of that"

  - If you can't conduct all the equity analysis, you can at least describe the information available so others can do it.

- You can make explicit what you would like to do but don't have resources

  - Helps inform and plan for future updates.

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Describe equity-factors for populations in included studies

- Report the characteristics of the populations considered. These population details can be summarized across included studies, including whether there are differences in baseline risk or prevalence of the problem or condition

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Table - Summary of the characteristics of participants we would expect to see in the evidence and the actual participant characteristics extracted from the included studies. (Using a review of interventions to prevent falls) (Drahota et al, 2024).

Characteristic	Inclusion criteria of review (people we expect to see)	Representation in included studies (people who took part)
Age	People aged 60 years or older	Studies of interventions to prevent falls included older adults, with mean ages over 70.
Sex / Gender	All sexes, all genders in studies about fall prevention.	The majority of participants were women, usually over 50% of participants and often over 70%.
Location (country / countries of data collection and site coordination)	Any country, urban or rural settings.	Most studies were from high income countries. The specific settings were often urban.

* Other characteristics might be important for your research questions (i.e. PROGRESS-PLUS)

Decide what methods will be used to appraise evidence related to equity

- Relevant study designs

- Relevant outcomes that are important to people experiencing inequities

- Analysis strategies

- Assessing flow of participants, recruitment and retention according to equity

- Influence of the process of the intervention and context/setting

"That's too complicated…"

- Actually, this deeper appraisal of the population of the studies would help you better understand differences between studies.

- It will make your discussion way richer!

- You can make explicit what you would like to do but don't have resources

  - Helps inform and plan for future updates.

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Consider implications for 'Summary of Findings' tables

- authors may choose to present equity-related findings in the Summary of Findings tables. If appropriate, authors can present separate tables to present different populations, e.g. low-mortality risk separately from high-mortality risk. Or, authors may choose to present different risks using separate rows within the same table.

- See the Cochrane Handbook for information about templates (https://training.cochrane.org/handbook/current/chapter-14).

EXAMPLES:

Summary of findings 1. Rotarix compared with placebo for preventing rotavirus diarrhoea in low-mortality countries

Open in table viewer

Patient or population: children
Setting: low-mortality countries
Intervention: Rotarix, 2 doses
Comparison: placebo

Outcomes	Illustrative risks* (95%	
	Assumed risk	
	Placebo	
Severe cases of rotavirus diarrhoea Follow-up: up to 1 year	13 per 1000	
Severe cases of rotavirus diarrhoea Follow-up: up to 2	29 per 1000	

Summary of findings 3. Rotarix compared with placebo for preventing rotavirus diarrhoea in high-mortality countries

Open in table viewer

Patient or population: children
Settings: high-mortality countries
Intervention: Rotarix, 2 doses
Comparison: placebo or no intervention

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Assumed risk	**Corresponding risk**				
	Placebo or no intervention	**Rotarix**				
Severe cases of rotavirus diarrhoea Follow-up: up to 1 year	40 per 1000	17 per 1000 (11 to 25)	**RR 0.42** (0.28 to 0.61)	15,822** (5 comparisons from 4 RCTs)	⊕⊕⊕⊕ **high**[a]	Rotarix reduces severe rotavirus diarrhoea compared with placebo or no intervention at up to one-year follow-up. Sensitivity analysis excluding the

Summary of findings 1. Compression stockings compared with no compression stockings for people taking long haul flights   **Open in table viewer**

Does wearing compression stockings prevent deep vein thrombosis in people taking long haul flights?

Patient or population: passengers on a long haul flight (more than 4 hours)

Setting: long haul flights

Intervention: wearing compression stockings[1]

Comparison: not wearing stockings

EXAMPLE:

Outcomes	Anticipated absolute effects[*] (95% CI)		Relative effect (95% CI)	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with not wearing compression stockings	**Risk with wearing compression stockings**				
Symptomatic deep vein thrombosis (DVT) Follow-up period immediately post flight to 48 hours	0 participants developed symptomatic DVT in these studies		Not estimable	2821 (9 RCTs)	Not estimable[2]	
Symptomless DVT Follow-up period immediately post flight to 48 hours	Low-risk population[3]		OR 0.10 (0.04 to 0.25)	2637 (9 RCTs)	⊕⊕⊕⊕ HIGH	
	10 per 1000	1 per 1000 (0 to 3)				
	High-risk population[2]					
	30 per 1000	3 per 1000 (1 to 8)				

"That's too complicated…"

- Simply consider if a different format of SoF is needed!

  - If yes, it will help you find a narrative to explain the results of your review.

  - If not, you're done!

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Interpret findings related to health equity in the discussion

- discuss the applicability of the results for different populations and settings, for example, whether there may be differences in the effectiveness of the intervention and whether there are differences in the importance of some outcomes

EXAMPLE

- The corticosteroids for COVID review reported that their included studies were from high-income countries with only 12% from middle-income countries. No studies were conducted in low-income countries and therefore the authors report that the evidence may not be applicable in lower resource settings because of differences in standard care as well as other constraints, such as shortages of hospital beds, oxygen or other respiratory support (Wagner et al, 2022).

- Another review of interventions to reduce tobacco use among people experiencing homelessness, reported in their discussion that all of the included studies were conducted in the USA or UK and therefore the results may not be generalizable outside of these countries and their respective systems for supporting people experiencing homelessness (Vijayaraghavan et al, 2022).

Key points

- Thinking about equity is needed from the beginning to the end
- Define health equity in context of your review and whether you will address equity questions
- Describe relevant PROGRESS-Plus characteristics for populations in studies
- Choose (or develop) methods to answer your equity-related questions

"That's too complicated…"

- Remember: making explicit what we couldn't do (but we would have love to!) would help update future updates.

- Don't rush to conclusions!

  - The absence of some populations on studies doesn't immediately mean the information won't apply to them.

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Thank you for your attention!

To learn more about Equity in all Cochrane Reviews

https://methods.cochrane.org/equity/