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How effects on health equity are assessed in systematic reviews of interventions (Review)

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[Methodology Review]

How effects on health equity are assessed in systematic reviews of interventions

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ABSTRACT

Background

Enhancing health equity is endorsed in the Sustainable Development Goals. The failure of systematic reviews to consider potential differences in effects across equity factors is cited by decision-makers as a limitation to their ability to inform policy and program decisions.

Objectives

To explore what methods systematic reviewers use to consider health equity in systematic reviews of effectiveness.

Search methods

We searched the following databases up to 26 February 2021: MEDLINE, PsycINFO, the Cochrane Methodology Register, CINAHL, Education Resources Information Center, Education Abstracts, Criminal Justice Abstracts, Hein Index to Foreign Legal Periodicals, PAIS International, Social Services Abstracts, Sociological Abstracts, Digital Dissertations and the Health Technology Assessment Database. We searched SCOPUS to identify articles that cited any of the included studies on 10 June 10 2021. We contacted authors and searched the reference lists of included studies to identify additional potentially relevant studies.

Selection criteria

We included empirical studies of cohorts of systematic reviews that assessed methods for measuring effects on health inequalities. We define health inequalities as unfair and avoidable differences across socially stratifying factors that limit opportunities for health. We operationalised this by assessing studies which evaluated differences in health across any component of the PROGRESS-Plus acronym, which stands for Place of residence, Race/ethnicity/culture/language, Occupation, Gender or sex, Religion, Education, Socioeconomic status, Social capital. "Plus" stands for other factors associated with discrimination, exclusion, marginalisation or vulnerability such as

personal characteristics (e.g. age, disability), relationships that limit opportunities for health (e.g. children in a household with parents who smoke) or environmental situations which provide limited control of opportunities for health (e.g. school food environment).

Data collection and analysis

Two review authors independently extracted data using a pre-tested form. Risk of bias was appraised for included studies according to the potential for bias in selection and detection of systematic reviews.

Main results

In total, 48,814 studies were identified and the titles and abstracts were screened in duplicate. In this updated review, we identified an additional 124 methodological studies published in the 10 years since the first version of this review, which included 34 studies. Thus, 158 methodological studies met our criteria for inclusion. The methods used by these studies focused on evidence relevant to populations experiencing health inequity (108 out of 158 studies), assess subgroup analysis across PROGRESS-Plus (26 out of 158 studies), assess analysis of a gradient in effect across PROGRESS-Plus (2 out of 158 studies) or use a combination of subgroup analysis and focused approaches (20 out of 158 studies). The most common PROGRESS-Plus factors assessed were age (43 studies), socioeconomic status in 35 studies, low- and middle-income countries in 24 studies, gender or sex in 22 studies, race or ethnicity in 17 studies, and four studies assessed multiple factors across which health inequity may exist.

Only 16 studies provided a definition of health inequity. Five methodological approaches to consider health equity in systematic reviews of effectiveness were identified: 1) descriptive assessment of reporting and analysis in systematic reviews (140 of 158 studies used a type of descriptive method); 2) descriptive assessment of reporting and analysis in original trials (50 studies); 3) analytic approaches which assessed differential effects across one or more PROGRESS-Plus factors (16 studies); 4) applicability assessment (25 studies) and 5) stakeholder engagement (28 studies), which is a new finding in this update and examines the appraisal of whether relevant stakeholders with lived experience of health inequity were included in the design of systematic reviews or design and delivery of interventions. Reporting for both approaches (analytic and applicability) lacked transparency and was insufficiently detailed to enable the assessment of credibility.

Authors' conclusions

There is a need for improvement in conceptual clarity about the definition of health equity, describing sufficient detail about analytic approaches (including subgroup analyses) and transparent reporting of judgments required for applicability assessments in order to consider health equity in systematic reviews of effectiveness.

PLAIN LANGUAGE SUMMARY

How effects on health equity are assessed in systematic reviews of effectiveness

Key message

We found five methodological approaches to consider health equity in systematic reviews of effectiveness but the most appropriate way to address any of these approaches is unclear.

Review question

We reviewed the methods that systematic reviewers use to consider health equity in systematic reviews of effectiveness.

Background

Reducing health inequities, avoidable and unfair differences in health, has achieved international political importance and global endorsement. Decision-makers have cited a lack of equity considerations in systematic reviews, creating a need for guidance on the advantages and disadvantages of methods to assess effects on health equity in systematic reviews.

Study characteristics

We included empirical studies of collections of systematic reviews that assessed methods for measuring effects on health inequalities. We define health inequalities as unfair and avoidable differences across socially stratifying factors that limit opportunities for health. We evaluated differences in health across any component of the PROGRESS-Plus acronym, which stands for Place of residence, Race/ethnicity/culture/language, Occupation, Gender or sex, Religion, Education, Socioeconomic status, Social capital. "Plus" stands for other factors associated with discrimination, exclusion, marginalisation or vulnerability such as personal characteristics (e.g. age, disability), relationships that limit opportunities for health (e.g. children in a household with smoking parents) or environmental situations which provide limited control of opportunities for health (e.g. school, food, environment).

Key results

This updated review includes 158 collections of systematic reviews: 108 focused on evidence relevant to populations experiencing inequity, 26 assessed subgroup analysis across PROGRESS-Plus, two assessed analysis of a gradient in effect across PROGRESS-Plus and 20 used

a combination of subgroup analysis and focused approaches. The most common PROGRESS-Plus factors assessed were age (43 studies), socioeconomic status (35 studies), low- and middle-income countries (24 studies). Four studies assessed multiple factors across which health inequity may exist.

We identified five methodological approaches to consider health equity in systematic reviews of effectiveness: 1) descriptive assessment in the reviews, 2) descriptive assessment of the studies included in the reviews, 3) analytic approaches, 4) applicability assessment, and 5) stakeholder engagement. However, the most appropriate way to address any of these approaches is unclear. Analysis of effects for specific populations need to be justified and reported appropriately to allow assessment of their credibility. Transparency of judgments about applicability and relevance to disadvantaged populations needs to be improved. Guidance on equity and specific populations is available in the Cochrane Handbook.

Search date

The evidence is up to date to February 2021.

BACKGROUND

Health differences between groups may be due to inequalities in factors such as socioeconomic characteristics. Health inequalities that are unfair and avoidable are classed as health inequities. Health inequities persist, and are worsening, across almost all health problems, both within and between countries. For example, people living in the poorest countries have a life expectancy that is at least 30 years shorter than for people living in the richest countries. Within low- and middle-income countries (LMIC), the mortality rate of children younger than five years is 64.6 deaths per 1000 births among the poor and 31.3 per 1000 among the rich (Chao 2018). In an update on global trends on child mortality, inequality in under-five mortality between high- and low-income regions is increasing as it is estimated that sub-Saharan Africa will bear 60% of the global burden of under-five deaths by 2050 (UN IGME 2018).

The World Health Organization (WHO) convened the Commission on Social Determinants of Health (CSDH) in 2006 and released its final report in 2008 to assess the evidence on taking action on reducing health inequity (Marmot 2008). The CSDH defined health inequity as "the poor health of poor people" both within countries and between countries as due to an "unequal distribution of power, income, goods, and services, globally and nationally, the consequent unfairness in the immediate, visible circumstances of people's lives—their access to health care and education, their conditions of work and leisure, their homes, communities, towns, or cities—and their chances of leading a flourishing life" (Marmot 2008).

Such health inequalities need to be addressed, not only for moral and ethical reasons, but also for economic reasons (Sachs 2001). There is an increasing evidence base on the effectiveness of interventions for reducing health inequities, both within and between countries, as well as methods to evaluate health equity in systematic reviews, such as the Cochrane Handbook chapter on equity and specific populations (Welch 2021), and other guidance focused on considering inequalities in health (Maden 2018).

There is increasing acceptance that systematic reviews of the best available evidence are the foremost source of information on which to base evidence-informed policy and practice (Lavis 2009,Kayabu 2013, White 2019). This view has been endorsed by a World Health Assembly resolution, which was based on the Mexico Ministerial Statement on Health Research (58th World Health Assembly Resolution). A similar recommendation emerged during the Role of Science in the Information Society health conference (European Organization for Nuclear Research 2003) that was held as part of the World Summit of the Information Society in December 2003. The recommendation stressed the need for reliable evidence delivered in a timely manner and in the right format. Systematic reviews are a useful basis for decision-making because they reduce the chance of being misled, increase confidence in results, and are an efficient use of time (Lavis 2006).

Studies of policy maker perceptions found that policy makers increasingly consider systematic reviews as a useful source of knowledge to support decision-making (Pope 2006,Kayabu 2013). However, decision-makers are interested not only in what works, but also in the costs and resources involved in implementation and ensuring continuity, the potential harms or adverse effects, and the distribution of benefit across sociodemographic factors (Lavis 2005). The lack of evidence on the distribution of effects and impact on health equity has been highlighted by policy makers as a major barrier to the use of systematic reviews as a basis for decision-making (Petticrew 2004, Vogel 2013). Unequal benefits or harms across different socioeconomic or demographic population groups could contribute to worsening health equity (Tugwell 2006). In the context of reducing health inequities, decision-makers from diverse organisations may be interested in evidence of effects of interventions on reducing health inequity such as non-governmental organisations and human rights organisations, as well as government decision-makers in ministries of health and other departments (e.g. financial and agricultural) (Marmot 2008).

Health inequities are defined by Margaret Whitehead as "differences in health which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust" (Whitehead 1992). Assessing the effects of interventions on health equity is difficult because it requires a subjective judgment about both the avoidability and the fairness of the distribution of effects (Kawachi 1999). Hence, assessments of the distribution of effects of interventions across groups of people who may experience health inequities in both clinical trials and systematic reviews focus on differences in health effects that can be measured (Arblaster 1996; Gepkens 1996).

The Campbell and Cochrane Equity Methods Group has adopted the acronym PROGRESS-Plus to identify dimensions across which health inequities may exist: place of residence (e.g. urban/rural), race/ethnicity/culture/language, occupation, gender and sex, religion, education, socioeconomic status (SES), and social capital (Evans 2003; O'Neil 2014; Tugwell 2006). The "Plus" in PROGRESS-Plus refers to any additional factors across which health inequalities may exist such as age, disability, and sexual orientation (Kavanagh 2008). The "Plus" could also include factors such as the experience of sexual or physical abuse as a child, which may shape the experience of health inequity later in life.

Despite the demand for equity assessment by policy makers, these assessments are rare in systematic reviews. The first version of this systematic review of methods to assess health equity, published in 2010, found that systematic reviews described the population by PROGRESS factors for only 0% to 57% of reviews, with sex distribution of the population being the most commonly reported factor. For the methodology studies with approaches to analyse or judge applicability of findings across PROGRESS-Plus, there was insufficient detail to judge the credibility of these analyses or judgments (Welch 2010N).

Description of the methods being investigated

In this review, we investigated the different methods used to describe and assess effects on health inequalities in systematic reviews. Because health equity requires a subjective judgment about whether differences in health outcomes are unfair, we focused on the assessment of health inequalities across PROGRESS-Plus factors (O'Neil 2014). We chose PROGRESS-Plus as an organising framework to assess dimensions across which health inequities exist since it is endorsed by the Campbell and Cochrane Equity Methods Group and also encompasses the factors suggested by the World Health Organization Commission on Social Determinants of Health (Tugwell 2010). We also assessed whether the authors of the included studies described inequalities in health outcomes as unfair and unjust.

There are a number of ways to measure health inequalities. For example, health inequalities can be expressed as the difference between the most and least advantaged groups in relative or absolute terms (Keppel 2005), or they can be expressed using more complicated indices such as the Gini index, concentration index (Koolman 2004), or benefit-incidence estimate (Wagstaff 2005). The choice of method and comparator or reference group influences both the magnitude of the result and its interpretation (Keppel 2005). See Table 1 for selected methods of assessing effects on health inequalities.

How these methods might work

Relative or absolute differences for health inequalities measured over time can demonstrate either an increase or decrease in health inequalities for the same data, because relative measures are affected by the underlying rate of the reference group. A detailed example of this can be found in Table C of Keppel 2005. Economic measures of health inequalities, such as the Gini index, concentration index, and the benefit-incidence ratio, may be too complex to interpret and require too many data points to be useful in the context of systematic reviews (Tugwell 2006). This methodology review sought to assess whether these methods have been used to assess health inequalities in empirical studies analysing systematic reviews, and to explore the advantages and disadvantages of each method.

Why it is important to do this review

Despite the demand for health equity assessment in systematic reviews by policy makers and practitioners, there remains little empirical evidence on which of the different methods available for assessing health inequalities are have been used in the context of systematic reviews of effectiveness, and their advantages and disadvantages.

With the development of the PRISMA-Equity extension in 2012 (Welch 2012a), there are now reporting guidelines for systematic reviews that are focused on equity. Furthermore, the discourse of equity is now more prominent than it was in 2010. In 2016, the United Nations Development Program adopted a list of 17 Sustainable Development Goals in order to reduce poverty and improve equality worldwide. All 17 goals are related to social determinants of health and the following 10 are strongly relevant to PROGRESS-Plus and how equity issues affect healthcare outcomes (United Nations Development Programme 2015):

- Goal 1: End extreme poverty
- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3: Ensure healthy lives and promote well-being for all ages
- Goal 4: Ensure inclusive and equitable quality education
- Goal 5: Gender equality
- Goal 6: Ensure clean water and sanitation for all
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 10: Reduce inequality within and among countries
- Goal 13: Combat climate change
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

OBJECTIVES

To explore what methods are used by systematic reviewers to consider health equity in systematic reviews of effectiveness, and to assess advantages, disadvantages and feasibility of these methods.

METHODS

Criteria for considering studies for this review

Types of studies

We included empirical studies of a cohort (more than one) of systematic reviews of health or non-health interventions that assess effects on health across one or more socioeconomic and demographic factors defined by PROGRESS-Plus. The empirical studies needed to assess whether authors of the included systematic reviews presented or discussed results on the effects of interventions for groups of people who could be classified as suffering from health inequity, across one or more of the factors of PROGRESS-Plus. Empirical studies using qualitative or quantitative approaches were eligible.

Empirical studies could assess the effects of interventions that aim to decrease the category of health inequity experienced by a group of people, such as interventions which aim to improve education opportunities or reduce poverty, if they measured effects on health outcomes of these interventions (Gakidou 2010). An example of an eligible study is an empirical study which assessed the health effects of community-based tobacco control interventions for groups of people who could be defined as experiencing health inequity across sex, race/ethnicity or socioeconomic status (SES) in six Cochrane Reviews (Ogilvie 2004).

We excluded individual systematic reviews assessing health inequalities as we aimed to assess methods for comparing health inequalities across different systematic reviews, rather than within an individual systematic review. Furthermore, including individual systematic reviews might introduce bias because they are less likely to report health inequalities analyses when no substantive differences are found (Chan 2004).

Overviews of systematic reviews synthesise evidence from multiple systematic reviews of interventions into one document (Higgins 2021). Overviews of systematic reviews were eligible if they assessed effects of interventions for groups of people who could be classified as experiencing health inequity.

Types of data

We assessed data from published or unpublished empirical studies of a cohort of systematic reviews on the advantages, disadvantages and feasibility of methods used to assess effects of interventions in groups of people who could be defined as experiencing health inequity. We extracted data on the advantages and disadvantages (or strengths and limitations) of each of the methods as described by the authors of the empirical studies. We used PROGRESS-Plus to categorise groups of people who might experience health inequity. The place of residence of high-income country compared to low- and middle-income country was also considered as a factor across which health inequity may exist. We used the classification of the World Bank for high-, middle- and low-income countries. Since the political climate of a country interacts with the income level of the country in relation to the existence of health inequities, we

considered differences in political stability and climate in the "Plus" factor of PROGRESS-Plus. For example, although Saudi Arabia is a high-income country, the experience of health inequity by religious groups and women is different than in a Western industrialised country.

For the health inequalities to be judged inequitable, unfairness and avoidability (or remediability) need to be assessed. Therefore, we assessed whether the empirical studies of cohorts of systematic reviews included a judgment about the fairness and avoidability of health differences. If the studies made no judgment about health equity, we used the Whitehead criteria of avoidability and unfairness to make a judgment about whether health differences across these factors for the particular intervention and setting could be considered health inequities (Whitehead 1992). Judgments made using these criteria were documented, including whether sufficient information was available to make such a decision. For example, sex differences that are due to unavoidable underlying differences in biology would not meet the criteria for a health inequity, such as differences in rates of breast cancer across sex, or manifestations of haemophilia in males (Whitehead 1992). We expected substantial heterogeneity in definitions of equity. Therefore, we documented the variety of existing definitions to help inform the development of universally accepted definitions.

Empirical studies of cohorts of systematic reviews were included if they focused on the following.

1. Targeted approaches: evaluating effects (benefits or harms) in disadvantaged populations only (i.e. populations who suffer from health inequity across socially stratifying characteristics defined by one or more of the PROGRESS-Plus factors).
2. Gap approaches: evaluating differences in effects (benefits or harms) between the most and least advantaged groups (see Table 1).
3. Gradient approaches: evaluating effects (benefits or harms) on the gradient from the most disadvantaged to the least disadvantaged groups (Table 1).

We use the term "disadvantaged" to indicate people and groups of people who are denied opportunities for health due to structural and systemic maldistribution of power and resources in society. We recognise that different groups of people may use different terms to define their situation such as under-served, marginalised, socially excluded or stigmatised.

Types of methods

We compared different methods used by the empirical studies for considering health equity in terms of: the expertise required to implement the strategy at the level of the overview/empirical study; the availability of data from the systematic reviews as assessed by the authors of the empirical study; their advantages and disadvantages; and whether and how judgments about health equity were made (e.g. judgments about fairness and avoidability of differences in benefits or harms).

Types of outcome measures

Primary outcomes

- Advantages and disadvantages of the methods used for assessing health inequalities, based on descriptions of the authors of the empirical studies and a judgment by the data extractors assessed from the perspective of a user of the empirical study. This judgment was made by asking the data extractors to consider a decision-maker's perspective. These judgments were compared and agreed to. We also discussed these judgments with other authors who were not responsible for the data extraction.
- Whether the analyses of effects on health inequalities across PROGRESS-Plus factors met the following criteria for credible subgroup analyses, as recommended by the Cochrane Handbook (Oxman 1992, Higgins 2021).

  a. Clinically important difference.
  b. Statistically significant difference.
  c. *A priori* hypothesis.
  d. Subgroup analysis is one of a small number of hypotheses tested.
  e. Difference suggested by comparisons within primary studies of meta-analyses.
  f. Difference consistent across primary studies of meta-analyses.
  g. Indirect evidence that supports hypothesised difference.

Four additional criteria for credibility of subgroup analyses were proposed since the protocol for this review (Welch 2009) was written for assessing the credibility of subgroup analyses: 1) consideration of baseline characteristics; 2) independence of the subgroup effect (i.e. the subgroup effect is not confounded by association with another factor); 3) *a priori* specification of the direction of effect; and 4) consistency across related outcomes (Sun 2010). These four criteria are included in this updated review.

Secondary outcomes

- Whether and how health inequity was defined and measured (e.g. whether proxy measures, such as nutritional status, were used).
- Information on the availability of data from primary trials or meta-analyses to conduct analyses across PROGRESS-Plus factors.
- What factors are associated with health inequalities (e.g. implementation factors, such as the degree to which flexibility was allowed in the implementation).
- Implications for practice, policy, and research based on analysis of effects on health inequalities.

Search methods for identification of studies

The search strategy was developed by one review author (VW) using a systematic scoping exercise to assess the effects of different MeSH terms and the use of limits on publication type (i.e. limited to meta-analyses or systematic reviews) and type of studies (i.e. intervention studies). The terms developed for equity were based on the elements of PROGRESS-Plus, and testing that our group has done on the use of filters for health equity (McGowan 2003). We tested the inclusion of a term related to geographic disparities (including terms such as resource-poor settings and low and middle-income countries) because the search was very broad without using restrictions. We tested this strategy to ensure that known relevant studies were retrieved, including one study of the assessment of low- and middle-income country concerns in systematic reviews (Nasser 2007). The final search strategy does not include limitations on publication type as these were found to be

too restrictive. An information scientist (JM) reviewed the search strategy, as recommended by the Peer Review of Electronic Search Strategies (PRESS) guidelines (Sampson 2008).

The search strategy was not limited by publication type or study design as there is no indexing term for studies that assess cohorts of systematic reviews. We included published and unpublished articles, as well as abstracts.

Electronic searches

We searched:

- the Cochrane Methodology Register (to 31 May 2012, after which it was discontinued)
- MEDLINE (January 1950 to 26 February 2021) using the Ovid interface
- Embase (1980 to 26 February 2021) using the OVID interface
- PsycINFO (1806 to February, Week 4, 2021) using the OVID interface
- CINAHL (1998 to 2 March 2021)

See Appendix 1 for the MEDLINE search strategy.This search strategy was adapted for the other electronic databases (Appendix 2).

To identify systematic reviews of social, legal, and educational interventions, we searched non-health literature databases using the Scholars Portal interface including the Education Resources Information Center (ERIC, 1965 to January 2021), Education Abstracts (1983 to 2 July 2010. Note: this database was discontinued since the first version of this review so it was not included in the update search), Criminal Justice Abstracts (1968 to 2 March 2021), Index to Foreign Legal Periodicals (1994 to 2 March 2021), PAIS International (public affairs, public and social policies, international relations - 1972 to 4 March 2021), Social Services Abstracts (1979 to 4 March 2021), Sociological Abstracts (1952 to 4 March 2021), and Digital Dissertations (1997 to 2 July 2010. Note: this database was discontinued since the original review thus was not updated). We also searched the reports of national health technology assessment organisations using the Health Technology Assessment Database (available on the Cochrane Library) to 10 May 2017 (note: it was discontinued after this date).

Through our search process, we discovered that the Digital Disserations and Educational Abstracts databases no longer existed. The original search strategies were used for all databases except for ERIC, which migrated to the OVID interface since the original review. The original ERIC search strategy was altered to fit the OVID interface and can be found in Appendix 2.

Searching other resources

We also handsearched abstracts from Cochrane and Campbell Collaboration Colloquia (2007 to June 2021).

We used SCOPUS to identify citations of potentially included studies. SCOPUS is a citation tracking database of over 18,000 titles across scientific, technical, medical and social sciences fields as well as arts and humanities. We conducted a search of SCOPUS for all included studies on 10 June 2021. This identified any articles which had cited one or more of the included studies.

We checked the reference lists of included studies using an automated method (https://www.lens.org/) to identify other potentially relevant studies.

We also asked the editorial board members of the Cochrane and Campbell Equity Methods Group whether they were aware of other potentially relevant studies.

Unpublished studies and abstracts were identified through the above methods of contacting experts, authors and searching conference proceedings of the Cochrane and Campbell Colloquia.

We contacted all authors of studies identified from 2010 onwards to ask whether they were aware of any potentially relevant methodology studies. We received 27 responses and a total of 31 suggested reviews.

Data collection and analysis

Selection of studies

Two review authors (chosen from EU, JdM, MB, BD, VW, KM, WM, JT, CM, AR, WM, AA, SA, AAM, VB, OD, KK, MTM, HAP, and EG) independently screened the titles and abstracts of all references retrieved by the search strategy to exclude those that were obviously irrelevant. They were not blinded to the authorship of the titles and abstracts because this is difficult to achieve and may not affect the screening process (Berlin 1997).

Potentially relevant articles were retrieved and screened independently by two review authors (chosen from EU, JdM, BD, MB, VW, WM, KM, JT, CM, AR, WM, AA, SA, AAM, VB, OD, KK, MTM, HAP, and EG) using an eligibility checklist. Disagreements were resolved by consensus in consultation with another review author (MP, PT, VW, OD, EG or AR). We documented all reasons for exclusion at both stages of screening for entry into a PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) flowchart (Moher 2009).

Data extraction and management

Two review authors (chosen from EU, JdM, MB, VW, CM, WM, KM, JT, CM, AR, WM, AA, SA, AAM, VB, OD, KK, MTM, HAP, and EG) extracted data independently from the included empirical studies using a pre-tested data extraction form designed in an Excel spreadsheet (see Appendix 3), which was used to manage and summarise data.

For consistency, VW or JT extracted data from each study. The assignment of articles to the other data extractors was based on their time available to contribute. We compared the data extracted by both review authors for each study. Disagreements were resolved by consensus. Another author (MP, PT, VW, OD, EG, or AR) mediated when consensus could not be reached.

We extracted data on:

1. how the sample of systematic reviews was selected;
2. the characteristics of the systematic reviews (population, intervention, comparison, outcomes, study designs included, quality assessment, year of publication);
3. characteristics of the interventions being studied (e.g. pharmacologic, implementation, health services);
4. the method used to consider health equity in systematic reviews of effectiveness (how and whether equity is defined; which elements of PROGRESS-Plus were compared; whether other

factors, such as the study design of primary studies, setting, or context, were assessed that might explain differences in effects across PROGRESS-Plus factors);
5. how effects were compared (e.g. relative or absolute differences, or gradient approaches such as the Gini coefficient);
6. the size of the difference in effects across different populations defined by PROGRESS-Plus.

We also assessed whether data on PROGRESS-Plus were available from the systematic reviews, as reported by the authors of the empirical studies. We did not verify these data availability by consulting the systematic reviews.

Assessment of risk of bias in included studies

Two of the four possible reasons for systematic error or bias were addressed: selection bias and detection bias (Boutron 2021). For each of these possible sources of bias, we assessed the transparency of the methods described by the authors and the potential for bias in the methods used to select and analyse the systematic reviews included in the cohort. We did not assess performance bias as this is related to exposure to the intervention in randomised controlled trials and does not apply to empirical studies of cohorts of systematic reviews. In the context of empirical studies designed to assess health inequalities in cohorts of systematic reviews, selection and detection bias were defined as follows.

- **Selection bias:** potential for bias in the selection of the systematic reviews to be included or excluded. We extracted details on the inclusion and exclusion criteria used to select systematic reviews.
- **Detection bias:** potential for bias in the assessment of analytic methods and outcomes in cohorts of systematic reviews. We extracted information on how the details of how health equity was considered were extracted from the systematic reviews.

We did not assess attrition bias because in the context of this review, attrition bias (defined as systematic differences between groups in withdrawals) refers to the same concept as selection bias.

Measures of the effect of the methods

We conducted a comparative analysis of the methods used to assess effects on health inequalities by comparing the advantages and disadvantages of each of the methods, as judged by the data extractors, based on the description by the authors of the empirical studies and considering the perspective of the reader or user of the empirical study.

We extracted details reported by the authors of the empirical studies on the availability of data from the systematic reviews and their included studies, as well as on the methods used to compare differences in disadvantaged populations to the overall pooled effect.

We also compared any subgroup analyses against 11 criteria for credible subgroup analyses (Oxman 1992, Sun 2010). Two additional criteria for subgroup analyses for clinical trials and meta-analyses were also considered for this comparison of a test for subgroup by treatment interaction and whether trials stratified by subgroup (Rothwell 2005; Thompson 2005).

Unit of analysis issues

.

Dealing with missing data

We planned to contact authors of the included studies if insufficient information was available regarding sample generation, methods, and outcomes. We only contacted one author for additional information, to request the criteria used to assess applicability and equity (Althabe 2008). These authors provided their checklists.

Assessment of heterogeneity

Results were not pooled. Results for each outcome (e.g. data availability, advantages, disadvantages, and credibility of subgroup analyses) were presented across each factor of PROGRESS-Plus for each included study.

Assessment of reporting biases

Reporting bias occurs when dissemination of research findings is influenced by the nature and direction of results (Boutron 2021). Positive studies, in the context of this review, include studies that are able to show statistically significant and substantive differences in effects across one or more PROGRESS-Plus categories. We attempted to minimise the identification of only studies with positive results by using a comprehensive search strategy in diverse electronic databases, assessing relevant conference proceedings, reviewing citations, and contacting the authors of eligible empirical studies and other experts.

Data synthesis

Results were synthesised in tables. Where data were available on subgroup analyses, we summarised the methods used to compare effects in different populations across PROGRESS-Plus categories. For subgroup analyses, we assessed the first criteria of clinical importance of the difference in effects by assessing whether the authors of the empirical study described the clinical importance. If the authors did not judge the clinical importance, we indicated that this was not assessed.

Subgroup analysis and investigation of heterogeneity

As this is a descriptive methodology review, the results were not pooled and subgroup analyses were not conducted.

Sensitivity analysis

As this is a descriptive methodology review, the results were not pooled and sensitivity analyses were not conducted.

RESULTS

Description of studies

Results of the search

In total 10,058 potential articles were screened for inclusion up to 2 July 2010 for the first version of this review (Welch 2010). An additional 48,814 records were identified in the updated searches for screening (Figure 1). Of these, 310 potentially eligible studies were retrieved in full text.

Figure 1. PRISMA flow chart

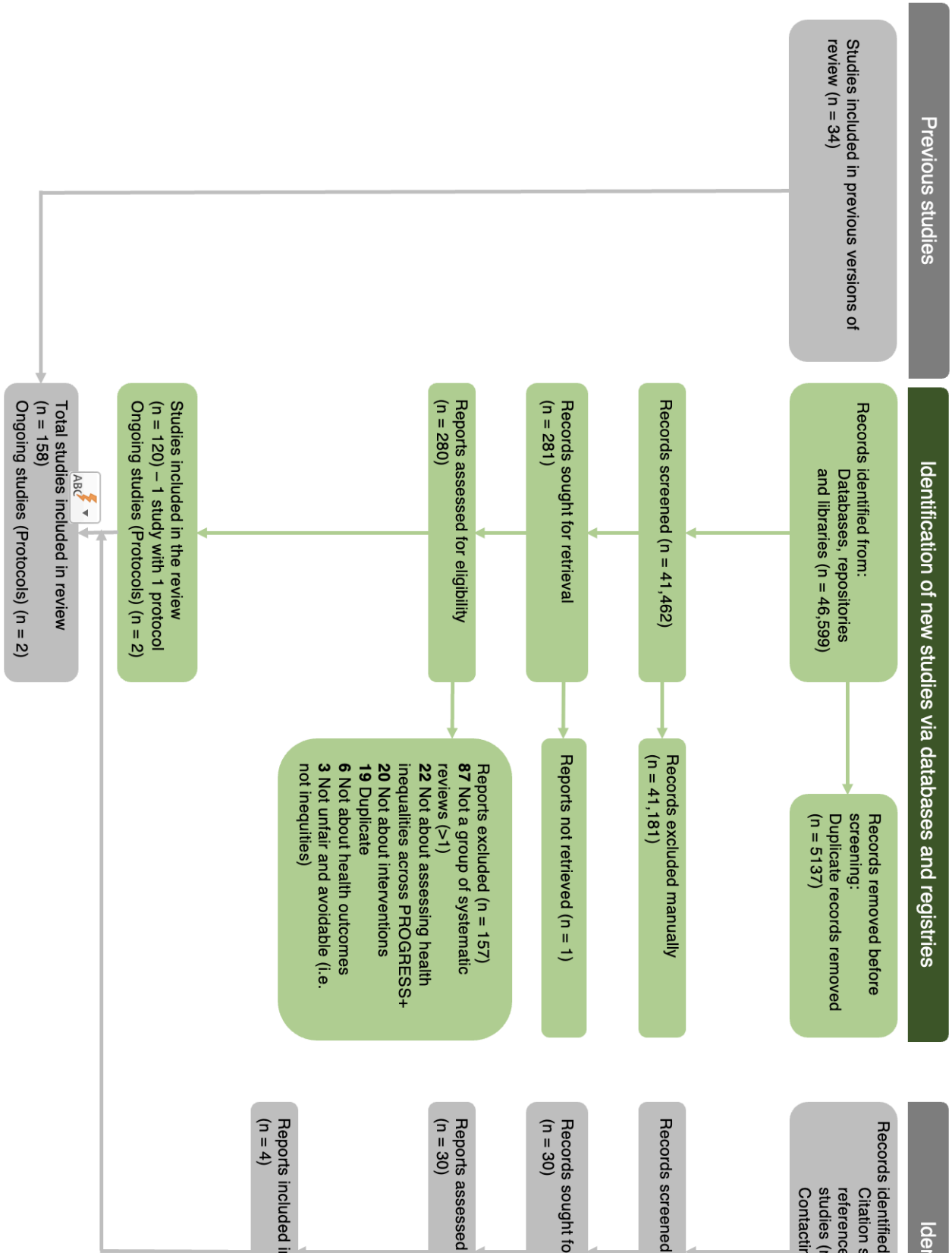
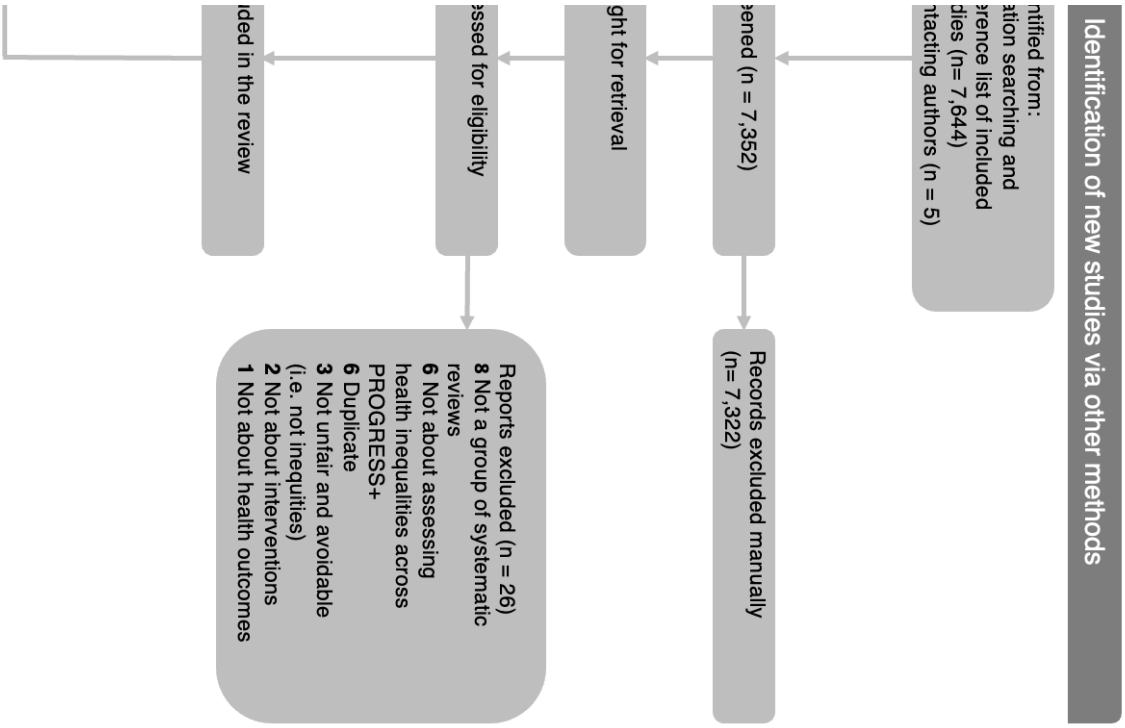


Figure 1. (Continued)



Included studies

We included 158 methodology studies in this review (Table 2). Thirty-four were identified in the previous version of this review (Welch 2010). The included studies in this update were overviews (122 studies), methodology (25 studies), scoping reviews (eight studies) and evidence and gap maps (three studies). The median number of systematic reviews per study was 17 (range 2 to 1598). The studies were identified by searching electronic databases (123 studies), reference checking (15 studies), SCOPUS checking (nine studies), contacting authors (eight studies), and handsearching (three studies). Of the 158 included studies, 153 were published as full papers, and five were published only as abstracts. We identified two protocols for methodology studies which we have classified as ongoing studies.

The methods for evaluating health equity were classified as gap approaches which evaluated differences between groups across PROGRESS (26 studies), gradient approaches which assessed the relationship of effects to PROGRESS characteristics (two studies), studies which focused their search on specific populations defined across PROGRESS-Plus (108 studies) and studies which used both a gap analysis and a focused approach (22 studies).

The dimensions of equity assessed are summarised in Table 3. The most commonly assessed dimension was age (either vulnerability of young or older people) in 30% of studies (47 studies), followed by gender or sex (37 studies, 23%), socioeconomic status (SES) (36 studies, 23%) and place of residence in a low- and middle-income country (27 studies, 17%). In comparing the dimensions assessed in the 34 studies included in the previous version of this review and this update, there were relatively more studies assessing age (33% versus 18%) or health condition (18% versus 6%) as factors across which inequities are experienced, and fewer studies focused on LMIC settings (9% versus 47%).

Excluded studies

In the updated search, 183 out of 310 studies that were retrieved in full text were excluded. In total 240 studies were excluded since they clearly did not meet the inclusion criteria because they were not cohorts of systematic reviews (n = 133), or because they did not assess health inequalities across one or more PROGRESS-Plus factor (n = 47), or were not about interventions (n = 22), duplicates (25), not about health outcomes (n = 7), not about inequities (3) and protocols (3). Eighteen studies which appeared to meet all inclusion criteria, but on closer examination failed, are described in the Characteristics of excluded studies.

Seven studies were excluded because they did not describe a focus on health equity (Barlow 2004; Craig 2003; Espinosa-Aguilar 2007; Gaes 1999; Gulmezoglu 1997; Maden 2018, Proper 2019) (See Characteristics of excluded studies). These studies assessed health effects of interventions in specific populations that could be considered as socially disadvantaged across one or more PROGRESS-Plus factor (e.g. sexual offenders, elderly, children with chronic disease,health promotion interventions at the workplace), but the study authors did not describe a focus on vulnerability or social disadvantage. Five studies of cohorts of systematic reviews were excluded because they did not assess health inequalities (Ahmad 2010, AHRQ 2010, Newman 2020, Nguyen 2020, Skelton 2020). Three studies that assessed health inequalities were excluded because they were a single systematic review of multiple interventions, not a cohort of systematic reviews (Thomas 2008, Lee 2016, Huntley 2017). One study was excluded because it was not possible to determine if it was a cohort of systematic reviews (Prabhakaran 2018). One study of equity in

health technology assessment (HTA) identified as ongoing in the original review was excluded because, although HTA reports often include systematic reviews, it was not possible to assess the systematic reviews in this study (Panteli 2015). One systematic review of reviews assessed health effects of interventions to prevent HIV but mapped the evidence from included primary studies rather than the reviews (Krishnaratne 2016).

Risk of bias in included studies

From the reporting of each cohort, we assessed the risk of selection bias to be low for 128 out of the 158 included studies (Figure 2). These 128 studies reported using an explicit search method, and a prespecified criteria was used in screening titles for inclusion to identify relevant systematic reviews. Selection bias was assessed to be high in eight of the 158 included studies because of the absence of a systematic search or predetermined inclusion criteria. The remaining 22 studies have an unclear risk of bias as the methods for a systematic search and screening of studies are not fully reported.

Figure 2. Risk of bias summary: review authors' judgements about each risk of bias item for each included study.

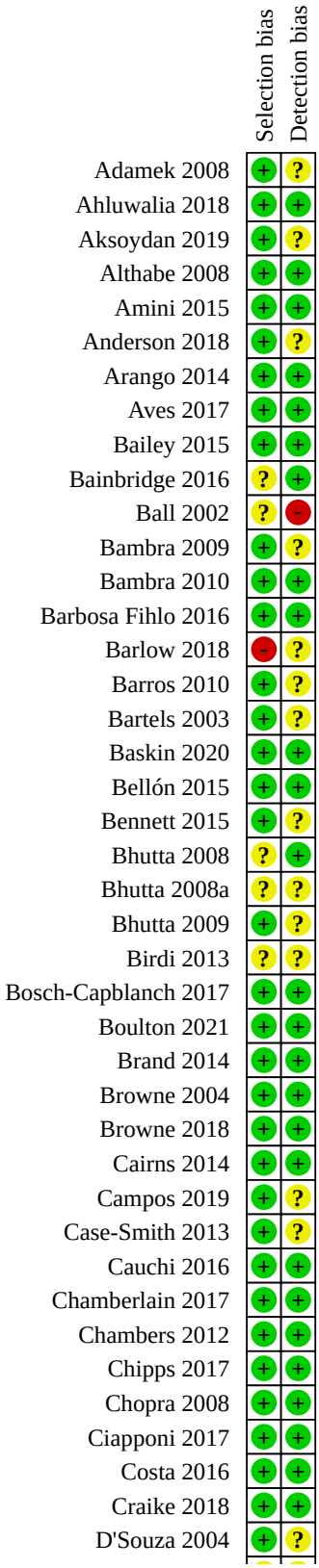


Figure 2. (Continued)

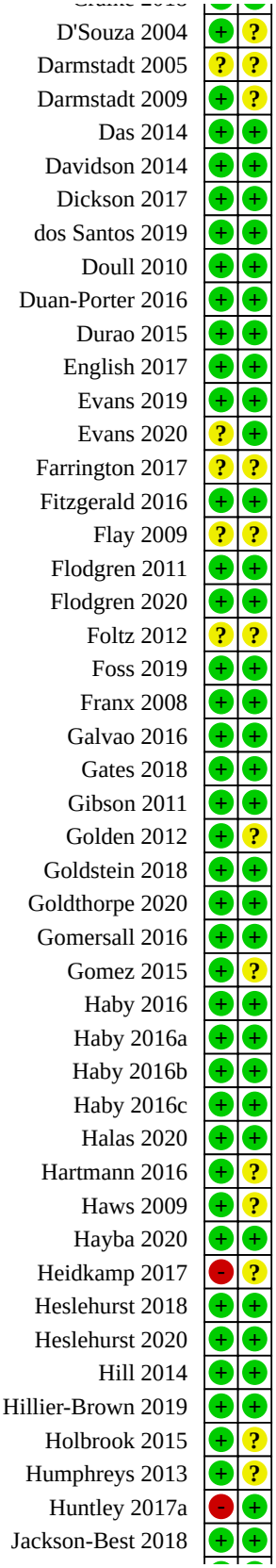


Figure 2. (Continued)

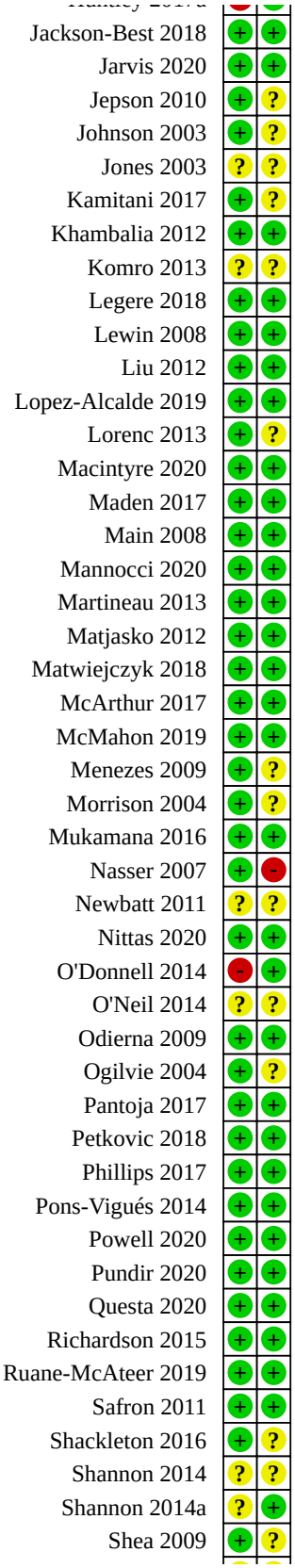
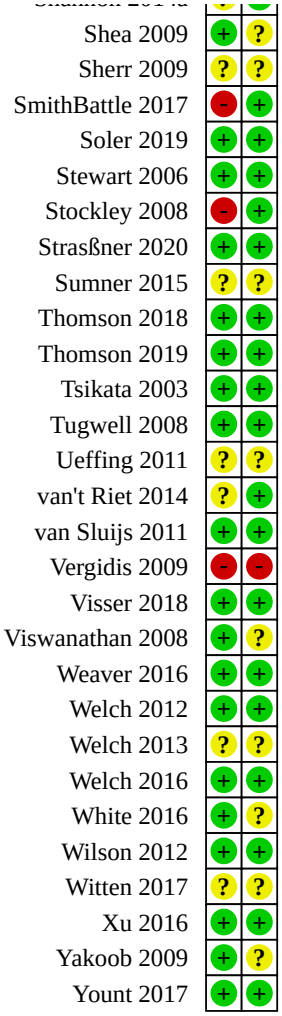


Figure 2. (Continued)



Detection bias was low for 107 out of the 158 included studies which reported explicit methods of data extraction, using forms and data verification. Conversely, detection bias was assessed to be high in three of the 158 included studies. The remaining 48 studies have an unclear risk of bias as the methods for data extraction and verification are not fully reported, so these studies may be subject to a higher risk of bias due to missing relevant information.

Allocation

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Blinding

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Incomplete outcome data

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Selective reporting

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Other potential sources of bias

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Effect of methods

Definition of health equity

Equity was defined in 16 studies, as unfair and avoidable inequalities in health across socioeconomic, demographic, or geographic strata (Bambra 2009; Bosch-Capblanch 2017; Cairns 2014; Evans 2020; Halas 2020; Humphreys 2013; Lopez-Alcalde 2019; Maden 2017; Nittas 2020; Odierna 2009; Tsikata 2003; Tugwell 2008; Welch 2013; O'Neil 2014; Welch 2012; Welch 2016). Seven other studies did not define equity but instead described a group of people that are disadvantaged or a condition that is unavoidable or unfair, for example population groups that are socioeconomically disadvantaged (Craike 2018), people living with HIV, mental illness, and physical disabilities (Jackson-Best 2018), residents in long-term care (McArthur 2017), violence against women and girls (Arango 2014), youth violence (Matjasko 2012), loneliness and social isolation (Boulton 2021), and in one case, described a condition which is necessary for health equity i.e. food security (Visser 2018). None of the studies described making a judgment

about the fairness of differences in health. Thirteen studies describe higher burden of disease in disadvantaged populations as avoidable or preventable, with several other studies explicitly describing the preventability of age-related inequities (Evans 2020; Mukamana 2016; Pundir 2020; Soler 2019), without making a statement about fairness or justice. Two studies described using an "equity lens" (Macintyre 2020; Main 2008) to assess whether systematic reviews could be used to answer questions about reducing health inequalities across SES, ethnicity or education. Three studies used the "SUPPORT equity checklist" (Althabe 2008; Chopra 2008; Lewin 2008) which assesses access to health care across LMIC, gender, age, ethnicity or socioeconomic status (SES) (Appendix 4). One study used an "equity focus" (Phillips 2017) which defines the extent to which an intervention focuses on particular disadvantaged populations. Six studies focused on assessing differences across gender or sex by conducting a gender analysis (Fitzgerald 2016; Johnson 2003; Sherr 2009) or gender and sex based analysis (Doull 2010; Lopez-Alcalde 2019; Petkovic 2018). In one study, the rationale for conducting a gender analysis was due to differences in biological susceptibility to HIV/AIDS as well as the social susceptibility through gender roles and discrimination (Sherr 2009). Twenty-four studies focused on assessing relevance of systematic reviews for decisions about health care in low and middle income countries (LMIC)(Barbosa Fihlo 2016; Bhutta 2009; Chopra 2008; Ciapponi 2017; Darmstadt 2009; Durao 2015; English 2017; Evans 2019; Evans 2020; Foss 2019; Haws 2009; Heidkamp 2017; Menezes 2009; Nasser 2007; Pantoja 2017; Phillips 2017; Pundir 2020; Questa 2020; Tsikata 2003; Tugwell 2008; Visser 2018; Witten 2017; Yakoob 2009; Yount 2017). Two of these studies described differences in access to health care across geography and SES in LMIC as inequitable (Chopra 2008; Lewin 2008).

Methods identified to assess consideration of effects on health inequalities or health inequities

We identified five categories of methods used to assess whether systematic reviews considered effects of interventions on health equity: 1) descriptive assessment of systematic reviews; 2) descriptive assessment of primary studies included in the systematic reviews; 3) analytic approaches, 4) judgment of applicability to disadvantaged populations or settings and 5) engagement of relevant stakeholders with lived experience of inequities to inform the design of systematic reviews or the intervention studies. See Table 4.

1) Descriptive assessment of systematic reviews

All but 18 studies used at least one of the five descriptive approaches described below to assess whether their sample of systematic reviews had considered effects of interventions on health equity.

1a) Mention of PROGRESS-Plus in introduction, objectives, discussion, implications

Only 18 methodology studies included in their objectives the assessment of explicit mention of PROGRESS-Plus in the introduction, objectives or discussion of the included systematic reviews. The dimensions assessed are described in Table 4. This strategy provides information about whether systematic reviews consider health equity in a broad sense, but provides no evidence on potential differences in effects across PROGRESS-Plus factors..

1b) Methodology study to assess whether systematic reviews describe populations in the primary studies across PROGRESS-Plus factors

Description of populations across PROGRESS Plus in primary studies was assessed by 110 out of 158 studies. Sixty-one of these studies were focused on specific populations, thus all systematic reviews described the population characteristic of interest. For the studies which included mixed populations, details on PROGRESS-Plus for people included in the trials were available for 2% to 36% of systematic reviews across PROGRESS-Plus factors. Age distribution (reported in 36%, 155 out of 432 systematic reviews) and sex distribution (reported in 30%, 239 out of 795 systematic reviews) of the population were the most well-reported PROGRESS-Plus factors. The advantage of this approach is that information about the diversity of populations increases confidence in applying results across different populations and settings. The disadvantages are lack of data, and that description of populations does not assess differences in effects across these populations.

1c) Methodology study to assess whether systematic reviews describes primary research as targeted at disadvantaged populations across PROGRESS-Plus

One hundred and eighteen (75%) methodology studies assessed whether systematic reviews described interventions as being evaluated in specific disadvantaged populations. Of these, seven restricted their focus to those systematic reviews examining disadvantaged populations (targeted).

Sixty-five methodology studies selected systematic reviews which focused only on disadvantaged populations. The populations in these methodology studies included low- and middle-income country settings (Nasser 2007, Heidkamp 2017), ethnicity, occupation (healthcare workers), elderly with mental health problems (Adamek 2008; Bartels 2003, Legere 2018), youth with disabilities (Stewart 2006, Bailey 2015), socially disadvantaged mothers (D'Souza 2004), women at risk for low birth weight children (Ball 2002), and minority populations, injection drug users and people with HIV (Vergidis 2009). Dimensions of inequity that were identified in this update included methodology studies focused on Indigenous people (Chamberlain 2017, Gomersall 2016), older people with long-term conditions or their caregivers (Duan-Porter 2016, Boulton 2021, Jarvis 2020), people in relationships leading to inequities such as children in low-income neighbourhoods or school environments (Flay 2009), or temporary situations such as discharge from hospital (Straßner 2020). These methodology studies described these populations as disadvantaged because of avoidable and unfair poorer health outcomes than other people due to lack of evidence, lack of guidelines or lack of resources to access and use preventive and curative interventions. Fifty-three methodology studies reported assessing whether the systematic reviews described at least one study conducted in a specific disadvantaged population. While this descriptive method identifies whether interventions have been evaluated in disadvantaged populations, it does not assess the effects on health inequalities. Furthermore, it can be misleading since systematic reviews with no studies in disadvantaged populations may still be relevant and applicable to disadvantaged populations.

1d) Methodology study to assess whether systematic reviews have outcomes related to equity of access

Twenty-five methodology studies (16%) described whether systematic reviews reported outcomes related to access to care or coverage of health services. For the studies which reported data availability, access to health care across disadvantaged groups (e.g. rural, low SES, LMIC, ethnicity) was reported in 118 out of 346 systematic reviews in these methodology studies. Access to health care is a determinant of both health and health inequalities. This strategy does not measure potential differences in effects across PROGRESS-Plus factors. Evidence on access to care may be affected by the eligibility criteria of the methodology studies. For example, one methodology study required that systematic reviews contain information about access to care in LMICs by the focus of the review (Lewin 2008).

1e) Methodology study to assess whether systematic reviews planned or conducted subgroup analyses across one or more PROGRESS-Plus factors

Fifty-eight methodology studies (37%) assessed whether subgroup analysis was conducted in groups of systematic reviews. Outcomes were analysed using subgroup analysis across one or more PROGRESS-Plus factor in only 22 (8%) out of 262 systematic reviews assessed in these methodology studies. For those that reported details of these subgroup analyses, the most commonly assessed subgroup differences were across gender or sex (145 out of 1365 systematic reviews, 11%), age (36 out of 381 systematic reviews, 9%), SES (90 out of 729 systematic reviews, 12%) and race/ethnicity (35 out of 1104 systematic reviews, 3%). Differences in effects across other factors of PROGRESS-Plus are described in Table 4 (LMIC, place of residence, occupation, religion, social capital, health conditions). The advantage of this strategy is that subgroup analysis summarises the data available in specific populations. However, these subgroup analyses are limited in their ability to detect differences due to statistical issues (e.g. post-hoc analyses, probability of finding a false association, lack of data in the primary studies, or lack of reporting stratified data in primary studies) (Bambra 2010). Furthermore, subgroup analyses that were conducted were not reported in sufficient detail to judge their credibility (Table 5).

2) Descriptive assessment of primary studies included in the systematic reviews

2a) Methodology study to assess whether populations in primary studies are described according to PROGRESS-Plus

Fifty methodology studies (32%) retrieved and evaluated primary studies of included systematic reviews to assess whether data were available from primary studies to conduct subgroup analyses in systematic reviews. Population characteristics were reported in primary studies for sex most frequently (883 out of 1369 studies, 64%), followed by SES (24%), place of residence (18%), education (15%), race/ethnicity (11%),occupation (9%) and social capital (6%). This strategy has the advantage of assessing whether data are available in primary studies, thus assessing whether there is a risk of bias that PROGRESS-Plus characteristics are under-reported in systematic reviews (Bambra 2010; Tugwell 2008). However, this strategy does not assess effects on health inequalities, and data may not be available from the primary studies stratified by PROGRESS-Plus characteristics**.**

2b) Methodology study to assess whether subgroup analyses conducted in primary studies

Twenty-eight of the methodology studies of systematic reviews (18%) assessed whether data were available from the primary studies on population characteristics across PROGRESS-Plus and whether outcomes were analysed using subgroup analysis or another method in the primary studies. In the included primary studies, outcomes were reported separately for sex most commonly (13% of primary studies), followed by age (6%), SES, place of residence, race/ethnicity/culture/language, and education (2% each). Advantages of this approach are that more details are available regarding the methods of subgroup analyses by assessing information in the primary studies than in systematic reviews. Disadvantages of this approach are that it is time-consuming to locate and assess all primary studies (Bambra 2010; Ogilvie 2004b).

3) Analytic approaches

3a) Methodology study to assess association of PROGRESS-Plus factors with size of effect

Nine methodology studies (6%) used a method to assess the association of PROGRESS-Plus factors with the size of effect. Regression analysis was used by one methodology study of systematic reviews on interventions to improve adherence (Morrison 2004). Data were available for age (8 out of 12 systematic reviews), sex (7 out of 12 systematic reviews) and SES (5 out of 12 systematic reviews). One study categorised the effect of gender on outcomes as positive effect, negative effect or no effect (Sherr 2009). Two studies used the harvest plot to assess positive, negative or no gradient in effects across SES, gender and education (Humphreys 2013**,** Nittas 2020). Five other studies used regression or meta-regression to assess relationship of one or more PROGRESS factors with the size of effect (Questa 2020**,** Richardson 2015**,** Matjasko 2012**,** Thomson 2018Thomson 2019). Advantages of assessing association of PROGRESS-Plus factors with size of effect are that it could be used to understand whether some populations do not benefit from or are harmed by interventions and whether there are gradients or dose-response differences (e.g. across SES). The disadvantage of this approach is that data may be unavailable (e.g. in Morrison 2004, one third of systematic reviews lacked data to conduct this analysis) and missing data may bias the findings. While these approaches were applied at the level of systematic reviews in these methodology studies, they could equally be applied at the level of an individual systematic review, for example harvest plots are a tool developed for systematic reviews (Ogilvie 2008).

3b) Methodology study to compare effect size using an odds ratio, relative risk or risk difference between two groups across PROGRESS-Plus (e.g. men versus women)

This analysis corresponds to the relative difference approach in Table 1 where the effect size is assessed in two population groups then the relative difference in size of effect is compared using a difference in mean effects or a relative risk or odds ratio. None of the 158 methodology studies reported this analysis.

3c) Methodology studies to assess effects of interventions targeted at a specific population which is disadvantaged (e.g. older people with depression, youth with disabilities)

One hundred and eight methodology studies (68%) searched for systematic reviews of the effects of interventions targeted at populations which were described by the authors as disadvantaged

by unequal opportunities for optimal health or high-quality health care. The focus of these focused methodology studies was most frequently health conditions associated with stigma, discrimination or limited opportunities for health (e.g. HIV, obesity, disability, multiple long-term conditions); these were assessed as the focus of 19 methodology studies. The next most common focus was place of residence (16 studies), then relationships or environments (six studies) and gender or sex (four studies). Of note, 35 of these methodology studies focused on populations experiencing inequities across more than one PROGRESS-Plus factor (e.g. children with disability).

The advantage of evaluating interventions focused on specific groups of people is that evidence on effectiveness can be directly used to inform decisions about interventions aimed at specific disadvantaged populations (e.g. older people with depression) (Adamek 2008), and to identify gaps in the evidence-base. However, this approach may not be possible for some disadvantaged groups where systematic reviews or primary trials have not been conducted. Furthermore, this approach is limited by the methodological quality of the systematic reviews and whether sufficient details about the process of implementation are reported to replicate the interventions. Also, the gap or gradient between these disadvantaged populations and others is not assessed, so the extent to which interventions generate health inequalities is not assessable (Adams 2005).

4) Judgment of applicability to disadvantaged populations or settings

4a) Methodology studies to assess applicability to different populations across PROGRESS-Plus

Seventeen methodology studies (11%) assessed the applicability and relevance of systematic reviews to improve health of people who experience inequity; eight of these focused on applicability to LMIC settings (Althabe 2008; Bhutta 2009; Chopra 2008; Darmstadt 2009; Lewin 2008; Menezes 2009; Yakoob 2009). Two methodology studies (Althabe 2008, Chopra 2008) used the SUPPORT Collaboration checklists for equity, applicability and scaling up to make judgments about whether the results from systematic reviews could be transferred to LMIC settings and could be expected to confer health benefits (details of SUPPORT checklists available in Appendix 4, and at: http://www.support-collaboration.org/summaries/methods.htm). Four studies (Yakoob 2009, Darmstadt 2009, Menezes 2009, Bhutta 2009) used the SIGN tools to assess quality and strength of the evidence, including the directness of evidence to LMIC settings (see Appendix 5 and Appendix 6 for details about how applicability and generalisability are assessed using considered judgment). One study used absolute risk to extrapolate the impact in low-resource settings (Shannon 2014). Two studies appraised feasibility and relevance to LMIC (Pantoja 2017, Haws 2009). The PRISMA-Equity 2012 reporting guideline provided an example of judging applicability to LMIC settings (Welch 2012). Four studies used the GRADE tools to assess quality of evidence for each outcome. The GRADE assessment also includes an assessment of directness of evidence to the population of interest, which was people in LMIC in three studies (Lewin 2008, Bhutta 2008, Barros 2010) and preventing obesity in adolescents in one methodology study (Flodgren 2020). These studies do not report how this judgment was made, or when the difference between people in the trials included in the systematic reviews would be large enough to downgrade the quality of evidence for indirectness. Two studies used criteria of biological plausibility and feasibility of implementation in LMIC to select interventions. These criteria were judged by a panel of experts using Delphi consensus methods (Jones 2003, Darmstadt 2005). These authors do not report how these judgments were made, nor whether there was discrepancy in opinion in making these judgments. One study reported the use of programme theory or logic models to assess applicability to specific populations, and found that 29 out of 37 systematic reviews on health inequities used programme theory in some way (Maden 2017). Studies which assessed applicability described difficulty in making judgments about applicability of interventions in different settings than the settings where the primary studies were conducted (for example, Althabe 2008 describes difficulty in assessing applicability because the context and setting is different in Argentina than in other low- and middle-income countries). For judging the relevance and applicability to LMIC, there was limited evidence on real-world effectiveness in LMIC, thus the authors relied on efficacy data from systematic reviews as well as expert opinion (Darmstadt 2005). For example, some interventions require access to highly-skilled professionals, equipment or emergency transportation which may not be available in LMIC (Darmstadt 2009). For example, smoking cessation trials have almost all been conducted in high-income countries, and their applicability to low- and middle-income country settings is questioned because risk factors may be different for women in LMIC (Yakoob 2009).

Advantages of judging applicability to disadvantaged populations and/or settings are that it makes use of the best available evidence to make judgments that can be used to inform policies. Disadvantages are that the judgment of applicability and equity are extremely challenging and requires content expertise, knowledge of LMIC settings and methodological knowledge (Althabe 2008). Furthermore, assessing applicability does not assess the likely magnitude of effects and, since LMIC settings are extremely heterogeneous, the judgments required for these checklists need to be framed for specific settings.

5) Stakeholder engagement in methodology studies and systematic reviews to assess health equity questions

Sixteen methodology studies (10%) report stakeholders involvement in the design of the methodology study (e.g. Indigenous people, children with disability, patients with health conditions under study). Twelve methodology studies report stakeholder engagement in their included systematic reviews, for example, in designing or delivering interventions. Advantages of engaging relevant stakeholders with lived experience of health inequity are to bring the perspective and understanding in formulating questions. One methodology study (Ruane-McAteer 2019) proposed that gender-transformative research requires inclusion and engagement of boys, men, women and girls. Possible disadvantages of stakeholder engagement are the time to build authentic partnerships and inclusive process for both researchers and people with lived experience. We used the following 10 categories (Petkovic 2020) to identify the types of stakeholders included in the studies: patients (in eight studies), public (in 10 studies), providers (in 11 studies), policymakers (in six studies), principal investigators (in five studies). No studies included purchasers, payers of health, payers of research, product makers, and press or other media. Some studies included more than one type of stakeholders.

Credibility of subgroup analyses

For the 58 methodology studies which reported subgroup analyses in systematic reviews across a PROGRESS-Plus factor, we assessed whether these analyses met the Oxman and Guyatt seven credibility criteria of when to believe a subgroup analysis (Oxman 1992). We also assessed two additional criteria - suggested by Rothwell - that subgroup analyses should be tested with a subgroup by treatment effect interaction and that randomisation of trials should be stratified across the intended subgroup analyses (Rothwell 2005). We added four items suggested by Sun 2010**:** 1) consideration of baseline characteristics; 2) independence of the subgroup effect (i.e. the subgroup effect is not confounded by association with another factor); 3) *a priori* specification of the direction of effect; and 4) consistency across related outcomes. The methodology studies provided insufficient data to assess these criteria.

The most frequently assessed criteria was statistical significance (mentioned by 22% of the methodology studies), followed by describing an *a priori* hypothesis (14%) and providing indirect evidence to support the hypothesis (9%) (Table 5).

Factors associated with differences in effects

None of the methodology studies described factors that might plausibly be associated with differences in effects across PROGRESS-Plus.

DISCUSSION

Summary of main results

Systematic reviews represent an opportunity for increasing the ability to detect subgroup differences because they include studies conducted in diverse settings and populations (Glasziou 2002). These systematic reviews can increase the confidence in their subgroup analyses by reporting the rationale and methods in sufficient detail (Oxman 1992; Rothwell 2005, Sun 2010). Measurement of effects on health inequalities is a growing field of research, as shown by the preponderance of studies included in this review (80%) that were published in the last 10 years.

We identified five methods to consider health equity in systematic reviews of effectiveness: 1) describe populations in systematic reviews; 2) describe populations in primary studies (e.g. randomised controlled trials or cohort studies); 3) analysis of different effects (benefit or harm); 4) applicability assessment, and 5) stakeholder engagement. However, the poor availability of data, both in primary studies and systematic reviews, for all of these approaches limits their usefulness.

The descriptive and analytic methods used in the included methodology studies (described above) require data on outcomes stratified for specific populations across PROGRESS-Plus to assess effects in these populations. However, a lack of population-specific stratified outcome data does not mean that an intervention will not be effective in other populations (e.g. because primary studies have not been conducted in these populations or data have not been reported in the primary studies or the systematic reviews). For example, vaccination is expected to be effective in diverse populations, across a range of baseline risk and settings. For interventions tested in relatively advantaged populations, clinical epidemiology principles suggest that the relative risk reduction will remain the same across differences in baseline risk (Anderson 2005). Thus, the absolute risk reduction is expected to be larger for populations with a higher baseline risk. For example, therapeutic drug monitoring was shown to be effective at improving adherence to antiretrovirals in clinical trials conducted exclusively in high-income countries. If the relative risk of 1.49 can be applied to low- and middle-income countries (LMIC) with higher HIV endemicity, a greater absolute effect may be achieved on population health (Kredo 2009).The requirement, established in 2014, to include summary of findings tables in Cochrane Reviews (Ghogomu 2014) facilitates the use of absolute risk reduction to judge impact in LMIC. Despite this, only one methodology study reporting using absolute risk to judge impact in a low-resource setting (Shannon 2014).

None of the 158 included studies assessed what factors are associated with differences in differences in effects across PROGRESS-Plus factors. Some studies discussed the use of logic models to understand implementation considerations to evaluate equity questions (Maden 2017, Anderson 2018), and this was also recommended in the PRISMA-Equity 2012 reporting guidelines (Welch 2012). Identifying characteristics of interventions, population, comparison, setting, study design which are associated with differential effects across PROGRESS-Plus factors could be used to inform *a priori* decisions to consider health equity in systematic reviews and primary studies.

Descriptive and analytic approaches used by these methodology studies have the advantage of assessing whether an intervention has been tested in a specific socially-disadvantaged population, which is appealing to practitioners and decision-makers deciding whether to implement an intervention in a specific population and setting.

Analytic approaches have the advantage of providing an estimate of the magnitude of effect in specific socially-disadvantaged populations in comparison with less disadvantaged populations. We found almost one third of our sample of methodology studies assessed whether systematic reviews conducted subgroup analyses. For these 58 methodology studies, subgroup analyses were not described in sufficient detail to assess the credibility of the findings, since they failed to report details on the seven Oxman and Guyatt credibility criteria (Oxman 1992), and the additional four items suggested by Sun 2010: 1) consideration of baseline characteristics; 2) independence of the subgroup effect (i.e. the subgroup effect is not confounded by association with another factor); 3) a priori specification of the direction of effect; and 4) consistency across related outcomes. Without details about these characteristics of subgroup analyses, it is not possible to judge their credibility. For future updates of this review, the Instrument for assessing Credibility of Effect Modification ANalyses (ICEMAN) would be a more parsimonious way to assess credibility of these analyses since it contains only nine items and is based on consensus and empirical user-testing (Schandelmaier 2020). When verifying subgroup claims with additional data from within trials or from meta-analyses, very few subgroup claims are corroborated (Wallach 2017). Subgroup analysis needs to be considered with caution in understanding potential differences in effects for across PROGRESS-Plus factors.

None of the systematic reviews which reported effects on health inequalities described whether these different effects were due to differences in absolute or relative effects. Differences in absolute

effects are expected in groups with a higher baseline risk of the outcome. For example, women from LMIC have a higher rate of maternal mortality, and might achieve a larger benefit in absolute terms from interventions such as having a skilled attendant at the birth than women in high-income countries with a very low maternal mortality. Differences in relative effects suggest that the mechanism of action of an intervention is different. For example, the relative effect of increases in tobacco price is greater in low-income populations (Thomas 2008).

Judgment of applicability of evidence to disadvantaged populations and settings makes use of available evidence to inform decisions. Judging applicability or generalisability is used for making decisions about populations, interventions, comparisons, outcomes or settings beyond those studies in the systematic review and included trials. These methods have the potential to reduce needless replication of studies in different populations. Internationally-recognised tools such as SIGN (SIGN 2008) and GRADE (Guyatt 2008, Guyatt 2008a) have the potential to increase the credibility of these judgments about directness of evidence to specific populations, if the judgments about directness are reported transparently. However, there is limited guidance provided by these tools on when evidence is sufficiently indirect to warrant downgrading quality. Applying these checklists is challenging and requires significant content, methodological and setting-specific expertise to judge whether: 1) the observed differences are true or spurious (e.g. owing to chance alone); 2) there are differences in absolute effects due to different prevalence of the condition, or 3) there are differences in relative effects due to differences in how the intervention is delivered or received. For example, lack of follow-up in settings with barriers to accessing regular care could lead to more serious adverse events if early signs of toxicity are missed. Applying these checklists is also challenging due to lack of data from settings of interest, and lack of data on the differences between settings in the primary studies and the setting to which the results will be applied. For example, the overviews of interventions to reduce stillbirths reported a lack of data from LMIC for most interventions, and raised questions about the differences in LMIC settings such as provider skill, availability of emergency transportation and access to clean delivery sites (Darmstadt 2009, Haws 2009, Yakoob 2009, Menezes 2009, Bhutta 2009). The reporting of how these judgments were made was inconsistent.

There is a lack of conceptual clarity regarding the definition of health equity. Only 16 out of the 158 included studies defined health equity explicitly. Use of the terms gender and sex in these studies conflicted with internationally-accepted definitions, i.e. that sex refers to biological differences and gender refers to cultural and socially-determined roles of males and females (Spitzer 2008).

Eleven out of the 158 studies involved collaboration of the Cochrane Equity Methods Group. These studies analysed cohorts of Cochrane Reviews, which may be limited in their ability to detect subgroup differences because Cochrane Reviews tend to contain fewer trials (median eight studies) than other systematic reviews (Moher 2007). Furthermore, Cochrane Reviews tend to assess efficacy questions where the effect size might be less likely to vary in different populations than for implementation questions which are more likely to be assessed by pragmatic trials (Thorpe 2009).

Unlike the first version of this review, we identified several methodology studies which assessed systematic reviews with a focus on social, educational and legal interventions; such as those covered by the Campbell Collaboration (Matjasko 2012, Phillips 2017, Pundir 2020, Ruane-McAteer 2019, Shackleton 2016). This may indicate an increased interest in the role of systematic reviews in informing equity decisions in the social sciences.

We identified 24 methodology studies which assessed inequalities in health behaviours or determinants of health such as tobacco cessation, sedentary behaviour and uptake of childhood vaccination (Jepson 2010, Bambra 2010, Main 2008, Ogilvie 2004, Shea 2009, Vergidis 2009, dos Santos 2019, Chamberlain 2017, Foltz 2012). It is well known that inequalities in health behaviours do not fully explain inequalities in health status (Marmot 2008). Because the methodological challenges of assessing differences in health behaviours and health outcomes are similar, we included these studies in this review.

Stakeholder engagement was reported as important for assessing health equity in 28 of these 158 methodology studies. There is increasing recognition that engaging stakeholders in systematic reviews is important in defining relevant questions, choosing important outcomes and improving the relevance of research (Haddaway 2017, Cottrell 2015, Langer 2017). Engaging stakeholders with lived experience of inequities may be even more important given the need to understand experiences of people experiencing stigmatisation, discrimination and exclusion which entail trust and cultural safety issues that a research team might otherwise fail to consider (Juando-Prats 2017, Magwood 2019).

Overall completeness and applicability of evidence

Compared with the first version of this review, published in 2010, the most important new finding is the identification of stakeholder engagement as a method for assessing health inequities. Secondly, we also identified two methodology studies using a new method of appraising gradients in effect using the Harvest Plot (Humphreys 2013, Nittas 2020). Thirdly, we found increased assessment of people who experience inequities across multiple dimensions of PROGRESS-Plus (e.g. children with disability, older adults with severe mental illness, and children with obesity in low-income neighbourhoods), and increased recognition of relationship and temporary situations associated with inequities (e.g. discharge from hospital, and asylum seekers). Fourth, we found that 68% of the methodology studies were overviews focused on effects of interventions for specific disadvantaged populations (compared to 23% in the first version of this review). In terms of use of the methods, our findings are comparable. For example, relatively few studies defined health equity, analytic approaches comparing disadvantaged populations and less disadvantaged populations were used infrequently and few methodology studies used judgments of applicability to assess potential effects for disadvantaged populations. We used a team approach for collecting and analysing data. This approach builds capacity for the next generation of systematic review authors interested in health equity.

Quality of the evidence

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Potential biases in the review process

We used a rigorous and transparent process to identify and describe methods for considering health equity in systematic reviews, following up-to-date guidelines from the Cochrane Handbook (Higgins 2021). We used a structured approach to extracting and assessing factors across which health inequity may exist: the acronym PROGRESS-Plus, accepted by the Campbell and Cochrane Equity methods group (O'Neil 2014). We used a team of people to extract data, and each study was assessed by at least two review authors. We used the PRISMA reporting guidelines to facilitate replicability (Moher 2009). There is a risk that we have missed some relevant studies since methodology studies of cohorts of systematic reviews are not well-indexed and also because we applied a geographic filter (Grobler 2008). We addressed this by using a comprehensive search strategy of both health and non-health databases, that imposed no limits on study design based on pilot-testing of the search strategy and review by a librarian scientist (JM) (Sampson 2008). We also searched reference lists and used SCOPUS to identify citations of included studies. We identified 32 of the 158 included studies by contacting authors, checking references or forward searching citations of included studies using SCOPUS.

A limitation of this systematic review is that we did not include individual systematic reviews. We decided *a priori* that their inclusion could lead to bias since they may be less likely to report analyses of effects across PROGRESS-Plus factors if none were found.

Another limitation of this review is that systematic reviews are dependent on the availability of data in primary studies. This systematic review did not assess whether data were available in primary studies nor the different biases which determine the representation and reporting of different populations and stratified analyses in primary research. Some of the authors of this review team are authors on empirical studies included in this review (PT, MP, EK, EU, VW, JM, GW, OD, JP, JT). We sought to minimise the possible bias of analysis and synthesis of these studies by having those studies extracted by a review author who was not a co-author on the methodology study.

Agreements and disagreements with other studies or reviews

No text

AUTHORS' CONCLUSIONS

Implication for systematic reviews and evaluations of healthcare

There is a need for improved clarity regarding definition of health equity in systematic reviews which focus on effects of interventions in disadvantaged populations. The final report of the WHO CSDH (Marmot 2008) provides recommendations on how to assess and define social determinants of health and health equity. Systematic reviews need to improve reporting of population and setting characteristics of primary trials in systematic reviews, to facilitate judgments about applicability, both for disadvantaged populations, as well as other populations not included in the primary trials. Regarding subgroup analyses, there is a need to improve the conduct and reporting of subgroup analyses both in systematic reviews and primary studies to improve their credibility. These include the need for description of the rationale for subgroup analyses, assessment of clinical importance of subgroup differences, description of whether differences between groups are due to differences in absolute effects or relative effects. If systematic reviews discuss applicability, they need to transparently report the details of how these judgments were made, including who made them (e.g. whether a consensus approach was used). Methodological guidance, based on this review and other methodology research, is available from the Cochrane Handbook in the chapter on equity and specific populations (Welch 2021) and how to report equity-focused systematic reviews (Welch 2012). Systematic review authors can consult the Campbell and Cochrane Equity Methods group for further guidance on analytic approaches to assessing differences in effects of interventions in disadvantaged populations.

Implication for methodological research

This systematic review identifies five areas for future research. Firstly, there is a need for methodology research to identify factors associated with differences in absolute and relative effects to improve our understanding of the rationale for exploring subgroup effects. Secondly, there is a need for methodology studies to assess the extent to which subgroup analyses can be used to assess intervention-generated inequalities. For example, individual patient data meta-analysis of individual level factors can be compared with study-level subgroup analyses to assess consistency of the findings across and within studies (Sutton 2008). Thirdly, there is a need for methodology studies to assess differences in absolute and relative effects between advantaged and disadvantaged populations, and specifically, how socioeconomic factors may drive the effects of interventions across groups. Fourthly, there is a need for methodology research on how to make judgments about applicability (e.g. to assess effects of providing structured guidance) on both the replicability of the judgments as well as their relationship to actual examples of applying interventions in different populations and settings. Fifthly, methodology research on how to consider the role of local context at different levels would be useful in considering contextual factors such as sociopolitical climate when judging applicability.

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REFERENCES

References to studies included in this review

Adamek 2008 *{published data only}*

Adamek ME, Slater GY. Depression and anxiety. *Journal of Gerontological Social Work* 2008;**50 Suppl 1**:153-89.

Ahluwalia 2018 *{published data only}*

Ahluwalia SC, Chen C, Raaen L, Motala A, Walling AM, Chamberlin M, et al. A systematic review in support of the National Consensus Project Clinical Practice Guidelines for Quality Palliative Care, Fourth Edition. *Journal of Ppain and Symptom Management* 2018;**56**(6):831-70.

Aksoydan 2019 *{published data only}*

Aksoydan E, Aytar A, Blazeviciene A, van Bruchem -Visser RL, Vaskelyte A, Mattace-Raso F, et al. Is training for informal caregivers and their older persons helpful? A systematic review. *Archives of Gerontology and Geriatrics* 2019;**83**:66-74.

Althabe 2008 *{published data only}*

Althabe F, Bergel E, Cafferata ML, Gibbons L, Ciapponi A, Aleman A, et al. Strategies for improving the quality of health care in maternal and child health in low- and middle-income countries: an overview of systematic reviews. *Paediatric and Perinatal Epidemiology* 2008;**22 Suppl 1**:42-60.

Amini 2015 *{published data only}*

Amini M, Djazayery A, Majdzadeh R, Taghdisi M-H, Jazayeri S. Effect of school-based interventions to control childhood obesity: a review of reviews. *International Journal of Preventive Medicine* 2015;**6**:68.

Anderson 2018 *{published data only}*

Anderson P, Jané-Llopis E, Hasan OS, Rehm J. City-based action to reduce harmful alcohol use: Review of reviews. *F1000Research* 2018;**7**:120.

Arango 2014 *{published data only}*

Arango DJ, Morton M, Gennari F, Kiplesund S, Ellsberg M. Interventions to prevent or reduce violence against women and girls: a systematic review of reviews. Women's Voice and Agency Research Series 2014;**10**:1-61.

Aves 2017 *{published data only}*

Aves T, Kredo T, Welch V, Mursleen S, Ross S, Zani B, et al. Equity issues were not fully addressed in Cochrane human immunodeficiency virus systematic reviews. *Journal of Clinical Epidemiology* 2017;**81**:96-100.

Bailey 2015 *{published data only}*

Bailey S, Boddy K, Briscoe S, Morris C. Involving disabled children and young people as partners in research: a systematic review. *Child: Care, Health & Development* 2015;**41**(4):505-14.

Bainbridge 2016 *{published data only}*

Bainbridge D, Seow H, Sussman J. Common components of efficacious in-home end-of-life care programs: a review of systematic reviews. *Journal of the American Geriatrics Society* 2016;**64**(3):632-9.

Ball 2002 *{published data only}*

Ball L, Kirkham M. Low birth weight in Sheffield. A review of interventions and their effectiveness. New England journal of medicine 2002;**346**(3):149-57.

Ball L. Low birth weight: exploring an enigma of failure. *British Journal of Midwifery* 2004;**12**(6):374-9.

Bambra 2009 *{published data only}*

Bambra C, Gibson M, Sowden AJ, Wright K, Whitehead M, Petticrew M. Working for health? Evidence from systematic reviews on the effects on health and health inequalities of organisational changes to the psychosocial work environment. *Preventive Medicine* 2009;**48**(5):454-61.

Bambra 2010 *{published data only}*

Bambra C, Gibson M, Sowden A, Wright K, Whitehead M, Petticrew M. Tackling the wider social determinants of health and health inequalities: evidence from systematic reviews. *Journal of Epidemiology & Community Health* 2010;**64**:284-91.

Barbosa Fihlo 2016 *{published data only}*

Barbosa Filho VC, Minatto G, Mota J, Silva KS, de Campos W, et al. Promoting physical activity for children and adolescents in low- and middle-income countries: an umbrella systematic review: a review on promoting physical activity in LMIC. *Preventive Medicine* 2016;**88**:115-26.

Barlow 2018 *{published data only}*

Barlow J, Coren E. The effectiveness of parenting programs: a review of Campbell reviews. *Research on Social Work Practice* 2018;**28**(1):99-102.

Barros 2010 *{published data only}*

Barros FC, Bhutta ZA, Batra M, Hansen TN, Victora CG, Rubens CE, et al. Global report on preterm birth and stillbirth (3 of 7): evidence for effectiveness of interventions. *BMC Pregnancy and Childbirth* 2010;**10**(Suppl 1):S3.

Bartels 2003 *{published data only}*

Bartels SJ, Dums AR, Oxman TE, Schneider LS, Areán PA, Alexopoulos GS. Evidence-based practices in geriatric mental health care: an overview of systematic reviews and meta-analyses. *Psychiatric Clinics of North America* 2003;**26**(4):971-90.

Baskin 2020 *{published data only}*

Baskin C, Zijlstra G, McGrath M, Lee C, Duncan F, Oliver E, et al. Community interventions improving mental health in minority ethnic adults in the UK: a scoping review. *European Journal of Public Health* 2020;**30**:1046.

Bellón 2015 *{published data only}*

Bellón JA, Moreno-Peral P, Motrico E, Rodríguez-Morejón A, Fernández A, Serrano-Blanco A, et al. Effectiveness of psychological and/or educational interventions to prevent the onset of episodes of depression: a systematic review of systematic reviews and meta-analyses. *Preventive Medicine* 2015;**76**:S22-32.

Bennett 2015 *{published data only}*

Bennett K, Rhodes AE, Duda S, Cheung AH, Manassis K, Links P, et al. A youth suicide prevention plan for Canada: a systematic review of reviews. *Preventive Medicine* 2015;**60**(6):245-57.

Bhutta 2008 *{published data only}*

Bhutta ZA, Ali S, Cousens S, Ali TM, Haider BA, Rizvi A, et al. Alma-Ata: Rebirth and Revision 6 Interventions to address maternal, newborn, and child survival: what difference can integrated primary health care strategies make? *Lancet* 2008;**372**(9642):972-89.

Bhutta 2008a *{published data only}*

Bhutta ZA, Ahmed T, Black RE, Cousens S, Dewey K, Giugliani E, et al. What works? Interventions for maternal and child undernutrition and survival. *Lancet* 2008;**371**(9610):417-40.

Bhutta 2009 *{published data only}*

Bhutta ZA, Darmstadt GL, Haws RA, Yakoob MY, Lawn JE. Delivering interventions to reduce the global burden of stillbirths. *Neonatal Intensive Care* 2009;**22**(7):39-43.

Birdi 2013 *{published data only}*

Birdi K, Beach J. Management of sensitizer-induced occupational asthma: avoidance or reduction of exposure? *Current Opinion in Allergy & Clinical Immunology* 2013;**13**(2):132-7.

Bosch-Capblanch 2017 *{published data only}*

Bosch-Capblanch X, Zuske MK, Auer C. Research on subgroups is not research on equity attributes: evidence from an overview of systematic reviews on vaccination. *International Journal for Equity in Health* 2017;**16**:1-10.

Boulton 2021 *{published data only}*

Boulton E, Kneale D, Stansfield C, Heron P, Sutcliffe K, Hayanaga B, et al. Rapid systematic review of systematic reviews: what befriending, social support and low intensity psychosocial interventions, delivered remotely, may reduce social isolation and loneliness among older adults and how? [version 2; peer review: 2 approved with reservations]. F1000Research 2021.

Brand 2014 *{published data only}*

Brand T, Pischke CR, Steenbock B, Schoenbach J, Poettgen Sa, Samkange-Zeeb F, et al. What works in community-based interventions promoting physical activity and healthy eating? a review of reviews. *International Journal of Environmental Research and Public Health* 2014;**11**(6):5866-88.

Browne 2004 *{published data only}*

Browne G, Gafni A, Roberts J, Byrne C, Majumdar B. Effective/ efficient mental health programs for school-age children: a synthesis of reviews. *Social Science and Medicine* 2004;**58**(7):1367-84.

Browne 2018 *{published data only}*

Browne J, Adams K, Atkinson P, Gleeson D, Hayes R. Food and nutrition programs for Aboriginal and Torres Strait Islander Australians: an overview of systematic reviews. *Australian Hhealth Review* 2018;**42**(6):689-97.

Cairns 2014 *{published data only}*

Cairns J, Warren J, Garthwaite K, Greig G, Bambra C. Go slow: an umbrella review of the effects of 20 mph zones and limits on health and health inequalities. *Journal of Public Health* 2014;**37**(3):515-20.

Campos 2019 *{published data only}*

Campos PM, Polman K, Roos N, Wieringa FT, Berger J, Doak CM. What approaches are most effective at addressing micronutrient deficiency in children 0-5 years? A review of systematic reviews. *Maternal and Child Health Journal* 2019;**23**:4-17.

Case-Smith 2013 *{published data only}*

Case-Smith J. Systematic reviews of the effectiveness of interventions used in occupational therapy early childhood services. *American Journal of Occupational Therapy* 2013;**67**(4):379-82.

Cauchi 2016 *{published data only}*

Cauchi D, Glonti K, Petticrew M, Knai C. Environmental components of childhood obesity prevention interventions: an overview of systematic reviews. *Obesity Reviews* 2016;**17**(11):1116-30.

Chamberlain 2017 *{published data only}*

Chamberlain C, Perlen S, Brennan S, Rychetnik L, Thomas D, Maddox R, et al. Evidence for a comprehensive approach to Aboriginal tobacco control to maintain the decline in smoking: an overview of reviews among Indigenous peoples. *Systematic Reviews* 2017;**6**:135.

Chambers 2012 *{published data only}*

Chambers LA, Wilson MG, Rueda S, Gogolishvili D, Shi M Qiyun, R et al. Evidence informing theiIntersection of HIV, aging and health: a scoping review. *AIDS and Behavior* 2014;**18**(4):661-75.

Chipps 2017 *{published data only}*

Chipps J, Jarvis MA, Ramlall S. The effectiveness of e-interventions on reducing social isolation in older persons: a systematic review of systematic reviews. *Journal of Telemedicine and Telecare* 2017;**23**(10):817-27.

Chopra 2008 *{published data only}*

Chopra M, Munro S, Lavis JN, Vist G, Bennett S. Effects of policy options for human resources for health: an analysis of systematic reviews. *Lancet* 2008;**371**(9613):668-774.

Ciapponi 2017 *{published data only}*

Ciapponi A, Lewin S, Herrera CA, Opiyo N, Pantoja T, Paulsen E, et al. Delivery arrangements for health systems in low-income countries: an overview of systematic reviews. *Cochrane Database of Systematic Reviews* 2017, Issue 9. Art. No: CD011083. [DOI: 10.1002/14651858.CD011083.pub2]

Costa 2016 *{published data only}*

Costa MB, Melnik T. Effectiveness of psychosocial interventions in eating disorders: an overview of Cochrane systematic reviews. *Einstein* 2016;**14**(2):235-77.

Craike 2018 *{published data only}*

Craike M, Wiesner G, Hilland TA, Bengoechea EG. Interventions to improve physical activity among socioeconomically disadvantaged groups: An umbrella review. *International Journal of Behavioral Nutrition and Physical Activity* 2018;**15**(1):43.

D'Souza 2004 *{published data only}*

D'Souza L, Garcia J. Improving services for disadvantaged childbearing women. *Child: Care, Health & Development* 2004;**30**(6):599-611.

Darmstadt 2005 *{published data only}*

Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, de Bernis L. Evidence-based, cost-effective interventions: how many newborn babies can we save? *Lancet* 2005;**365**(9463):977-88.

Darmstadt 2009 *{published data only}*

Darmstadt G, Yakoob M, Haws R, Menezes E, Soomro T, Bhutta Z. Reducing stillbirths: interventions during labour. *BMC Pregnancy and Childbirth* 2009;**9**(Suppl 1):S6.

Das 2014 *{published data only}*

Das JK, Kumar R, Salam RA, Lassi ZS, Bhutta ZA. Evidence from facility level inputs to improve quality of care for maternal and newborn health: interventions and findings. *Reproductive Health* 2014;**11**:S4.

Davidson 2014 *{published data only}*

Davidson E, Liu JJ, Yousuf U, Bhopal R, Johnson M, White M, et al. P48 Modifying health promotion interventions for ethnic minority groups: systematic overview of guidelines and reviews. *Journal of Epidemiology and Community Health* 2010;**64**:A52-A52.

* Davidson EM, Liu JJ, Bhopal RS, White M, Johnson MR, Netto G, et al. Consideration of ethnicity in guidelines and systematic reviews promoting lifestyle interventions: a thematic analysis. *European Journal of Public Health* 2014;**24**(3):508-13.

Dickson 2017 *{published data only}*

Dickson K, Sutcliffe K, Rees R, Thomas J. Gaps in the evidence on improving social care outcomes: findings from a meta-review of systematic reviews. *Health and Social Care in the Community* 2017;**25**(4):1287–303.

dos Santos 2019 *{published data only}*

dos Santos PC, Barbosa Filho VC, da Silva JA, Bandeira AS, Minatto G, da Silva KS. What works in sedentary behavior interventions for youth: a review of reviews. *Adolescent Research Review* 2019;**4**(3):267-92.

Doull 2010 *{published data only}*

Doull M, Runnels V, Tudiver S, Boscoe M. Appraising the evidence: applying sex- and gender-based analysis (SGBA) to Cochrane systematic reviews on cardiovascular diseases. *Journal of Women's Health* 2010;**19**(5):997-1003.

Duan-Porter 2016 *{published data only}*

Duan-Porter W, Goldstein KM, McDuffie JR, Hughes JM, Clowse ME, Klap RS, et al. Reporting of sex effects by systematic reviews on interventions for depression, diabetes, and chronic pain. *Annals of Internal Medicine* 2016;**165**:184-93.

Durao 2015 *{published data only}*

Durao S, Ajumobi O, Kredo T, Naude C, Levitt NS, Steyn K, et al. Evidence insufficient to confirm the value of population screening for diabetes and hypertension in low- and-middle-income settings. *South African Medical Journal* 2015;**105**(2):98-102.

English 2017 *{published data only}*

English R, Peer N, Honikman S, Tugendhaft A, Hofman K J. 'First 1000 days' health interventions in low- and middle-income countries: alignment of South African policies with high-quality evidence. *Global health Action* 2017;**10**(1):1340396.

Evans 2019 *{published data only}*

Evans CJ, Ison L, Ellis-Smith C, Nicholson C, Costa A, Oluyase AO, et al. Service delivery models to maximize quality of life for older people at the end of life: a rapid review. *The Milbank Quarterly* 2019;**97**(1):113-75. [DOI: 10.1111/1468-0009.12373]

Evans 2020 *{published data only}*

Evans J, Mwangi N, Burn H, Ramke J. Equity was rarely considered in Cochrane Eyes and Vision systematic reviews and primary studies on cataract. *Journal of Clinical Epidemiology* 2020;**125**:57-63.

Farrington 2017 *{published data only}*

Farrington DP, Gaffney H, Lösel F, Ttofi MM. Systematic reviews of the effectiveness of developmental prevention programs in reducing delinquency, aggression, and bullying. *Aggression and Violent Behavior* 2017;**33**:91-106.

Fitzgerald 2016 *{published data only}*

Fitzgerald N, Angus K, Emslie C, Shipton D, Bauld L. Gender differences in the impact of population-level alcohol policy interventions: evidence synthesis of systematic reviews. *Society for the Study of Addiction* 2016;**111**(10):1735-47. [DOI: 10.1111/add.13452]

Flay 2009 *{published data only}*

Flay BR. The promise of long-term effectiveness of school-based smoking prevention programs: a critical review of reviews. *Tobacco Induced Diseases* 2009;**5**(1):1-12.

Flodgren 2011 *{published data only}*

Flodgren G, Eccles MP, Shepperd S, Scott A, Parmelli E, Beyer FR. An overview of reviews evaluating the effectiveness of financial incentives in changing healthcare professional behaviours and patient outcomes. *Cochrane Database of Systematic Reviews* 2011, Issue 7. Art. No: CD009255. [DOI: 10.1002/14651858.CD009255]

Flodgren 2020 *{published data only}*

Flodgren GM, Helleve A, Lobstein T, Rutter H, Klepp K-I. Primary prevention of overweight and obesity in adolescents: an overview of systematic reviews. *Obesity Reviews* 2020;**21**:54.

Foltz 2012 *{published data only}*

Foltz JL, May AL, Belay B, Hihiser AJ, Dooyema CA, Blanck HM. Population-level intervention strategies and examples for obesity prevention in children. *Annual Review of Nutrition* 2012;**32**:391-415.

Foss 2019 *{published data only}*

Foss HS, Oldervoll A, Fretheim A, Glenton C, Lewin S. Communication around HPV vaccination for adolescents in low- and middle-income countries: a systematic scoping overview of systematic reviews. *Systematic Reviews* 2019;**8**(1):190.

Franx 2008 *{published data only}*

Franx G, Kroon H, Grimshaw JM, Drake RE, Grol R, Wensing M. Organizational change to transfer knowledge and improve quality and outcomes of care for patients with severe mental illness: a systematic overview of reviews. *Canadian Journal of Psychiatry* 2008;**53**(5):294-305.

Galvao 2016 *{published data only}*

Galvao L, Haby MM, Chapman E, Clark R, Camara VM, Luiz RR, et al. The new United Nations approach to sustainable development post-2015: findings from four overviews of systematic reviews on interventions for sustainable development and health. *Pan American Journal of Public Health* 2016;**39**(3):157-65.

Gates 2018 *{published data only}*

Gates M, Elliott S A, Johnson C, Thomson D, Williams K, Fern, et al. A descriptive analysis of non-Cochrane child-relevant systematic reviews published in 2014. *BMC Mdical Research Methodology* 2018;**18**(1):99.

Gibson 2011 *{published data only}*

Gibson M, Petticrew M, Bambra C, Sowden AJ, Wright KE, Whitehead M. Housing and health inequalities: a synthesis of systematic reviews of interventions aimed at different pathways linking housing and health. *Health & Place* 2011;**17**(1):175-84.

Golden 2012 *{published data only}*

Golden S H, Brown A, Cauley JA, Chin MH, Gary-Webb TL, Kim C, et al. Health disparities in endocrine disorders: biological, clinical, and nonclinical factors--an Endocrine Society scientific statement. *Journal of Clinical Endocrinology and Metabolism* 2012;**97**(9):E1579-639.

Goldstein 2018 *{published data only}*

Goldstein KM, Zullig LL, Dedert EA, Alishahi Tabriz A, Brearly TW, Raitz G, et al. Telehealth interventions designed for women: an evidence map. *Journal of General Internal Medicine* 2018;**33**(12):2191-200. [DOI: 10.1007/s11606-018-4655-8]

Goldthorpe 2020 *{published data only}*

Goldthorpe J, Epton T, Keyworth C, Calam R, Armitage C J. Are primary/elementary school-based interventions effective in preventing/ameliorating excess weight gain? A systematic review of systematic reviews. *Obesity Reviews* 2020;**21**(6):e13001.

Gomersall 2016 *{published data only}*

Gomersall JS, Canuto K, Aromataris E, Braunack-Mayer A, Brown A. Systematic review to inform prevention and management of chronic disease for Indigenous Australians: overview and priorities. *Australian and New Zealand Journal of Public Health* 2016;**40**(1):22-9.

Gomez 2015 *{published data only}*

Gomez LF, Sarmiento R, Ordoñez MF, Pardo CF, de Sá TH, Mallarino CH, et al. Urban environment interventions linked to the promotion of physical activity: a mixed methods study applied to the urban context of Latin America. *Social Science & Medicine* 2015;**131**:18-30.

Haby 2016 *{published data only}*

Haby MM, Chapman E, Clark R, Galvão LA. Interventions that facilitate sustainable jobs and have a positive impact on workers' health: an overview of systematic reviews. *Pan American Journal of Public Health* 2016;**40**(5):332-40.

Haby 2016a *{published data only}*

Haby MM, Chapman E, Clark R, Galvão LA. Agriculture, food, and nutrition interventions that facilitate sustainable food production and impact health: an overview of systematic reviews. *Pan American Journal of Public Health* 2016;**40**(1):48-56.

Haby 2016b *{published data only}*

Haby MM, Soares A, Chapman E, Clark R, Korc M, Galvão Luiz AC. Interventions that facilitate sustainable development by preventing toxic exposure to chemicals: an overview of systematic reviews. *Pan American Journal of Public Health* 2016;**39**(6):378-86.

Haby 2016c *{published data only}*

Haby MM, Chapman E, Clark R, Galvão A, Luiz AC. Energy interventions that facilitate sustainable development and impact health: an overview of systematic reviews. *Pan American Journal of Public Health* 2016;**39**(4):200-7.

Halas 2020 *{published data only}*

Halas G, Schultz AS, Rothney J, Wener P, Holmqvist M, Cohen B, et al. A scoping review of foci, trends, and gaps in reviews of tobacco control research. *BMJ Open* 2020;**22**(5):599-612.

Hartmann 2016 *{published data only}*

Hartmann M, Khosla R, Krishnan S, George A, Gruskin S, Amin A. How are gender equality and human rights interventions included in sexual and reproductive health programmes and policies: a systematic review of existing research foci and gaps. *PLOS One* 2016;**11**(12):e0167542.

Haws 2009 *{published data only}*

Haws Rl, Yakoob M, Soomro T, Menezes E, Darmstadt G, Bhutta Z. Reducing stillbirths: screening and monitoring during pregnancy and labour. *BMC Pregnancy and Childbirth* 2009;**9**(Suppl 1):S5.

Hayba 2020 *{published data only}*

Hayba N, Rissel C, Allman Farinelli M. Effectiveness of lifestyle interventions in preventing harmful weight gain among adolescents: a systematic review of systematic reviews. *Obesity Reviews* 2020;**22**(2):e13109.

Heidkamp 2017 *{published data only}*

Heidkamp RA. Evidence for the effects of complementary feeding interventions on the growth of infants and young children in low- and middle-income countries. *Nestlé Nutrition Institute Workshop Series* 2017;**87**:89-102.

Heslehurst 2018 *{published data only}*

Heslehurst N, Brown H, Pemu A, Coleman H, Rankin J. Perinatal health outcomes and care among asylum seekers and refugees: a systematic review of systematic reviews. *BMC Medicine Volume* 2018;**16**:89.

Heslehurst 2020 *{published data only}*

Heslehurst N, Hayes L, Jones D, Newham J, Olajide J, McLeman L, et al. The effectiveness of smoking cessation, alcohol reduction, diet and physical activity interventions in changing behaviours during pregnancy: a systematic review of systematic reviews. *PLOS One* 2020;**15**(5):e0232774.

Hill 2014 *{published data only}*

Hill S, Amos A, Clifford D, Platt S. Impact of tobacco control interventions on socioeconomic inequalities in smoking: review of the evidence. *Tobacco Control* 2014;**23**(S1):e89-97.

Hillier-Brown 2019 *{published data only}*

Hillier-Brown F, Thomson K, McGowan V, Cairns J, Eikemo TA, Gil-GonzÃ¡le D, et al. The effects of social protection policies on health inequalities: evidence from systematic reviews. *Scandinavian Journal of Public Health* 2019;**47**(6):655-65.

Holbrook 2015 *{published data only}*

Holbrook AM, Nguyen VH. Medication-assisted treatment for pregnant women: A systematic review of the evidence and implications for social work practice. *Journal of the Society for Social Work and Research* 2015;**6**(1):1-19.

Humphreys 2013 *{published data only}*

Humphreys DK, Ogilvie D. Synthesising evidence for equity impacts of population-based physical activity interventions: a pilot study. *International Journal of Behavioral Nutrition and Physical Activity* 2013;**10**(1):1-9.

Huntley 2017a *{published data only}*

Huntley AL, King AJ, Moore TH, Paterson C, Persad R, Sharp D, et al. Methodological exemplar of integrating quantitative and qualitative evidence - supportive care for men with prostate cancer: what are the most important components? *Journal of Advanced Nursing* 2017;**73**(1):5-20.

Jackson-Best 2018 *{published data only}*

Jackson-Best F, Edwards N. Stigma and intersectionality: a systematic review of systematic reviews across HIV/AIDS, mental illness, and physical disability. *BMC Public Health* 2018;**18**(1):1-19.

Jarvis 2020 *{published data only}*

Jarvis MA, Padmanabhanunni A, Balakrishna Y, Chipps J. The effectiveness of interventions addressing loneliness in older persons: an umbrella review. *International Journal of Africa Nursing Sciences* 2020;**12**:100177.

Jepson 2010 *{published data only}*

Jepson RG, Harris FM, Platt S, Tannahill C. The effectiveness of interventions to change six health behaviours: a review of reviews. *BMC Public Health* 2010;**10**:538.

Johnson 2003 *{published data only}*

Johnson SM, Karvonen CA, Phelps CL, Nader S, Sanborn BM. Assessment of analysis by gender in the Cochrane reviews as related to treatment of cardiovascular disease. *Journal of Women's Health* 2003;**12**(5):449-57.

Jones 2003 *{published data only}*

Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS. How many child deaths can we prevent this year? *Lancet* 2003;**362**(9377):65-71.

Kamitani 2017 *{published data only}*

Kamitani E, Sipe TA, Higa DH, Mullins MM, Soares J. Evaluating the effectiveness of physical exercise interventions in persons living with HIV: overview of systematic reviews. *AIDS Education and Prevention* 2017;**29**(4):347–63.

Khambalia 2012 *{published data only}*

Khambalia AZ, Dickinson S, Hardy LL, Gill T, Baur LA. A synthesis of existing systematic reviews and meta-analyses of school-based behavioural interventions for controlling and preventing obesity. *Obesity Reviews* 2012;**13**(3):214-33.

Komro 2013 *{published data only}*

Komro KA, Tobler AL, Delisle AL, O'Mara RJ, Wagenaar AC. Beyond the clinic: improving child health through evidence-based community development. *BMC Pediatrics* 2013;**13**:172.

Legere 2018 *{published data only}*

Legere LE, McNeill S, Schindel Martin L, Acorn M, An D. Nonpharmacological approaches for behavioural and psychological symptoms of dementia in older adults: a systematic review of reviews. *Journal of Clinical Nursing* 2018;**27**:1360-76.

Lewin 2008 *{published data only}*

Lewin S, Lavis JN, Oxman AD, Bastias G, Chopra M, Ciapponi A, et al. Supporting the delivery of cost-effective interventions in primary health-care systems in low-income and middle-income countries: an overview of systematic reviews. *Lancet* 2008;**372**(9642):928-39.

Liu 2012 *{published data only}*

Liu JJ, Davidson E, Bhopal RS, White M, Johnson MR, Netto G, et al. Adapting health promotion interventions to meet the needs of ethnic minority groups: mixed-methods evidence synthesis. *Health Technology Assessment* 2012;**16**(44):1-469.

Lopez-Alcalde 2019 *{published data only}*

Lopez-Alcalde J, Stallings E, Cabir Nunes S, Fernandez Chavez A, Daheron M, Bonfill Cosp X, et al. Consideration of sex and gender in Cochrane reviews of interventions for preventing healthcare-associated infections: a methodology study. *BMC Health Services Research* 2019;**19**:169.

Lorenc 2013 *{published data only}*

Lorenc T, Petticrew M, Welch V, Tugwell P. What types of interventions generate inequalities? Evidence from systematic reviews. *Journal of Epidemiology & Community Health* 2013;**67**(2):190-3.

Macintyre 2020 *{published data only}*

Macintyre AK, Torrens C, Campbell P, Maxwell M, Pollock A, Biggs H, et al. Socioeconomic inequalities and the equity impact of population-level interventions for adolescent health: an overview of systematic reviews. *Public Health* 2020;**180**:154-62.

Maden 2017 *{published data only}*

Maden M, Cunliffe A, McMahon N, Booth A, Carey GM, Paisley S, et al. Use of programme theory to understand the differential effects of interventions across socio-economic groups in systematic reviews-a systematic methodology review. *Systematic Reviews* 2017;**6**:266.

Main 2008 *{published data only}*

Main C, Thomas S, Ogilvie D, Stirk L, Petticrew M, Whitehead M, et al. Population tobacco control interventions and their effects on social inequalities in smoking: placing an equity lens on existing systematic reviews. *BMC Public Health* 2008;**8**:178. [DOI: 10.1186/1471-2458-8-178]

Mannocci 2020 *{published data only}*

Mannocci A, D'Egidio V, Backhaus I, Federici A, Sinopoli A, Varela A R, et al. Are there effective interventions to increase physical activity in children and young people? An umbrella review. *International Journal of Environmental Research and Public Health* 2020;**17**(10):3528.

Martineau 2013 *{published data only}*

Martineau F, Tyner E, Lorenc T, Petticrew M, Lock K. Population-level interventions to reduce alcohol-related harm: an overview of systematic reviews. *Preventive Medicine* 2013;**57**(4):278-96.

Matjasko 2012 *{published data only}*

Matjasko JL, Vivolo-Kantor AM, Massetti GM, Holland KM, Holt MK, Cruz JD. A systematic meta-review of evaluations of youth violence prevention programs: Common and divergent findings from 25 years of meta-analyses and systematic reviews. *Aggression and Violent Behavior* 2012;**17**(6):540-52.

Matwiejczyk 2018 *{published data only}*

Matwiejczyk L, Mehta K, Scott J, Tonkin E, Coveney J. Characteristics of effective interventions promoting healthy eating for pre-schoolers in childcare settings: an umbrella review. *Nutrients* 2018;**10**(3):293.

McArthur 2017 *{published data only}*

McArthur C, Gibbs JC, Patel R, Papaioannou A, Neves P, , Killingbeck J, et al. A scoping review of physical rehabilitation in long-term care: interventions, outcomes, tools. *Canadian Journal on Aging* 2017;**36**(4):435-52.

McMahon 2019 *{published data only}*

McMahon N, Thomson K, Kaner E, Bambra C. Effects of prevention and harm reduction interventions on gambling behaviours and gambling related harm: an umbrella review. *Addictive Behaviors* 2019;**90**:380-8.

Menezes 2009 *{published data only}*

Menezes EV, Yakoob MY, Soomro T, Haws RA, Darmstadt GL, Bhutta ZA. Reducing stillbirths: prevention and management of medical disorders and infections during pregnancy. *BMC Pregnancy and Childbirth* 2009;**9**(SUPPL. 1):S4.

Morrison 2004 *{published data only}*

Morrison A, Wertheimer AI. Compilation of quantitative overviews of studies of adherence. *Drug Information Journal* 2004;**38**(2):197-210.

Mukamana 2016 *{published data only}*

Mukamana O, Johri M. What is known about school-based interventions for health promotion and their impact in developing countries? A scoping review of the literature. *Health Education Research* 2016;**31**(5):587-602.

Nasser 2007 *{published and unpublished data}*

Nasser M Ortiz Z, Berenstein G, Garcìa Dieguez M, Angel Exposito J, Pardo J. Guidelines for preparing Cochrane Reviews relevant to Developing Countries. In: XV Cochrane Colloquium 23-27 October. Sao Paulo, Brazil: Cochrane Collaboration, 2007.

Newbatt 2011 *{published data only}*

Newbatt E, Gholitabar M, McGuire H, Ullman R. Using 'Implications for practice' from Cochrane reviews to promote worldwide improvements in healthcare. Poster presentation at the 19th Cochrane Colloquium; 2011 Oct 19-22; Madrid, Spain [abstract]. Abstracts of the 19th Cochrane Colloquium 2011.

Nittas 2020 *{published data only}*

Nittas V, Ameli V, Little M, Humphreys D K. Exploring the equity impact of mobile health-based human immunodeficiency virus interventions: a systematic review of reviews and evidence synthesis. *Digit Health* 2020;**6**:2055207620942360.

O'Donnell 2014 *{published data only}*

O'Donnell A, AndersonP, Newbury-Birch D, Schulte B, Schmidt C, Reimer J, et al. The impact of brief alcohol interventions in primary healthcare: a systematic review of reviews. *Alcohol and Alcoholism* 2014;**49**(1):66-78.

O'Neil 2014 *{published data only}*

O'Neill J, Tabish H, Welch V, Petticrew M, Pottie K, Clarke M, et al. Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. *Journal of Clinical Epidemiology* 2014;**7**(1):56-64.

Odierna 2009 *{published data only}*

Odierna DH, Bero LA. Systematic reviews reveal unrepresentative evidence for the development of drug formularies for poor and nonwhite populations. *Journal of Clinical Epidemiology* 2009;**62**(12):1268-78.

Ogilvie 2004 *{published data only}*

Ogilvie D, Petticrew M. Reducing social inequalities in smoking: can evidence inform policy? A pilot study. *Tobacco Control* 2004;**13**(2):129-31.

Pantoja 2017 *{published data only}*

Pantoja T, Opiyo N, Lewin S, Paulsen EJ, Ciapponi A, Wiysonge CS, et al. Implementation strategies for health systems in low-income countries: an overview of systematic reviews. *Cochrane Database of Systematic Reviews* 2017, Issue 9. Art. No: CD011086. [DOI: 10.1002/14651858.CD011086.pub2]

Petkovic 2018 *{published data only}*

Petkovic J, Trawin J, Dewidar O, Yoganathan M, Tugwell P, Welch V. Sex/gender reporting and analysis in Campbell and Cochrane systematic reviews: a cross-sectional methods study. *Systematic Reviews* 2018;**7**(1):1-11.

Phillips 2017 *{published data only}*

Phillips D, Coffey C, Gallagher E, Villar PF, Stevenson J, Tsoli S, et al. State-society Relations in Low- and Middle-income Countries: an Evidence Gap Map. 3ie Evidence Gap Map 7. London: International Initiative for Impact Evaluation (3ie), 2017.

Pons-Vigués 2014 *{published data only}*

Pons-Vigués M, Diez E, Morrison J, Salas-Nicás S, Hoffmann R, Burstrom B, et al. Social and health policies or interventions to tackle health inequalities in European cities: a scoping review. *BMC Public Health* 2014;**14**:198.

Powell 2020 *{published data only}*

Powell RM, Parish SL, Mitra M, Rosenthal E. Role of family caregivers regarding sexual and reproductive health for women and girls with intellectual disability: a scoping review. *Journal of Intellectual Disability Research* 2020;**64**(2):131-57.

Pundir 2020 *{published data only}*

Pundir P, Saran A, White H, Subrahmanian R, Adona J. Interventions for reducing violence against children in low- and middle-income countries: an evidence and gap map. *Campbell Systematic Reviews* 2020;**16**(4):1-37.

Questa 2020 *{published data only}*

Questa K, Das M, King R, Everitt M, Rassi C, Cartwright C, et al. Community engagement interventions for communicable disease control in low- and lower- middle-income countries: evidence from a review of systematic reviews. *International Journal for Equity in Health* 2020;**19**(1):1-20.

Richardson 2015 *{published data only}*

Richardson M, Moore DA, Gwernan-Jones R, Thompson-Coon J, Ukoumunne O, Rogers M, et al. Non-pharmacological interventions for attention-deficit/hyperactivity disorder (ADHD) delivered in school settings: systematic reviews of quantitative and qualitative research. *Health Technology Assessment* 2015;**19**(45):1-470.

Ruane-McAteer 2019 *{published data only}*

Ruane-McAteer E, Amin A, Hanratty J, Lynn F, Van Willenswaard KC, Reid E, et al. Interventions addressing men, masculinities, and gender equality in sexual and reproductive health and rights: an evidence and gap map and systematic review of reviews. *BMJ Global Health* 2019;**37**(5):10.

Safron 2011 *{published data only}*

Safron M, Cislak A, Gaspar T, Luszczynska A. Effects of school-based interventions targeting obesity-related behaviors and body weight change: a systematic umbrella review. *Behavioral Medicine* 2011;**37**(1):15-26.

Shackleton 2016 *{published data only}*

Shackleton N, Jamal F, Viner RM, Dickson K, Patton GC, Bonell C. School- based interventions going beyond health education to promote adolescent health: systematic review of reviews. *Journal of Adolescent Health* 2016;**58**(4):382-96.

Shannon 2014 *{published data only}*

Shannon G, Alberg C, Nacul L, Pashayan N. Preconception healthcare delivery at a population level: construction of public health models of preconception care. *Maternal and Child Health Journal* 2014;**18**(6):1512-31.

Shannon 2014a *{published data only}*

Shannon G, Alberg C, Nacul L, Pashayan N. Preconception healthcare and congenital disorders: systematic review of the effectiveness of preconception care programs in the prevention of congenital disorders. *Maternal and Child Health Journal* 2014;**18**(6):1354-79.

Shea 2009 *{published data only}*

Shea B, Andersson N, Henry D. Increasing the demand for childhood vaccination in developing countries: a systematic review. *BMC International Health and Human Rights* 2009;**9**(Suppl 1):S5.

Sherr 2009 *{published data only}*

Sherr LM. Evidence-based gender findings for children affected by HIV and AIDS - A systematic overview. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV* 2009;**21**(SUPPL. 1):2009.

SmithBattle 2017 *{published data only}*

SmithBattle L, Loman DG, Chantamit-O-Pas C, Schneider JK. An umbrella review of meta-analyses of interventions to improve maternal outcomes for teen mothers. *Journal of Adolescence* 2017;**59**:97-111.

Soler 2019 *{published data only}*

Soler O, Barreto JO. Community-level pharmaceutical interventions to reduce the risks of polypharmacy in the elderly: Overview of systematic reviews and economic evaluations. *Frontiers in Pharmacology* 2019;**10**:302.

Stewart 2006 *{published data only}*

Stewart D, Stavness C, King G, Antle B, Law M, Stewart D, et al. A critical appraisal of literature reviews about the transition to adulthood for youth with disabilities. *Physical & Occupational Therapy in Pediatrics* 2006;**26**(4):5-24.

Stockley 2008 *{published data only}*

Stockley L, Lund V. Use of folic acid supplements, particularly by low-income and young women: a series of systematic reviews to inform public health policy in the UK. *Public Health Nutrition* 2008;**11**(8):807-21.

Strasßner 2020 *{published data only}*

StrasßnerC, Hoffmann M, Forstner J, Roth C, Szecsenyi J, Wensing M. Interventions to improve hospital admission and discharge management: an umbrella review of systematic reviews. *Quality Management in Health Care* 2020;**29**(2):67-75.

Sumner 2015 *{published data only}*

Sumner SA, Mercy JA, Dahlberg LL, Hillis SD, Klevens J, Houry D. Violence in the United States: status, challenges, and opportunities. *JAMA* 2015;**4**(5):478-88.

Thomson 2018 *{published data only}*

Thomson K, Hillier-Brown F, Todd A, McNamara C, Huijts T, Bambra C. The effects of public health policies on health inequalities in high-income countries: an umbrella review. *BMC Public Health* 2018;**18**:869.

Thomson 2019 *{published data only}*

Thomson K, Hillier-Brown F, Walton N, Bilaj M, Bambra C, Todd A. The effects of community pharmacy-delivered public health interventions on population health and health inequalities: a review of reviews. *Preventive Medicine* 2019;**124**:98-109.

Tsikata 2003 *{published data only}*

Tsikata S, Robinson V, Petticrew M, Kristjansson B, Moher D, McGowan J, et al. Do Cochrane systematic reviews contain useful information about health equity? [abstract]. In: XI.Cochrane Colloquium.Evidence, Health Care and Culture; Oct 26-31;. Barcelona., Spain: Cochrane Collaboration, 2003:77.

Tugwell 2008 *{published data only}*

Tugwell P, Maxwell L, Welch V, Kristjansson E, Petticrew M, Wells G, et al. Is health equity considered in systematic reviews of the Cochrane Musculoskeletal Group? *Arthritis Care and Research* 2008;**59**(11):1603-10.

Ueffing 2011 *{published data only}*

Ueffing E, Pardo Pardo J, Welch V, Borkhoff C M, Krisjansson E, Petticrew M, et al. Sex- and gender-based analyses in Cochrane Reviews: methods and lessons learned. Poster presentation at the 19th Cochrane Colloquium; 2011 Oct 19-22; Madrid, Spain [abstract]. Abstracts of the 19th Cochrane Colloquium 2011:71-2.

van't Riet 2014 *{published data only}*

van't Riet J, Crutzen R, Lu AS. How effective are active videogames among the young and the old? Adding meta-analyses to two recent systematic reviews. *Games for Health Journal* 2014;**3**(5):311-8.

van Sluijs 2011 *{published data only}*

van Sluijs EM, Kriemler S, McMinn AM. The effect of community and family interventions on young people's physical activity levels: a review of reviews and updated systematic review. *British Journal of Sports Medicine* 2011;**45**(11):914-22.

Vergidis 2009 *{published data only}*

Vergidis PI, Falagas ME. Meta-analyses on behavioral interventions to reduce the risk of transmission of HIV. *Infectious Disease Clinics of North America* 2009;**23**(2):309-14.

Visser 2018 *{published data only}*

Visser J, McLachlan MH, Fergusson P, Volmink J, Garner P Art . Supplementary feeding for food insecure, vulnerable and malnourished populations - an overview of systematic reviews.. *Cochrane Database of Systematic Reviews* 2013, Issue 6. Art. No: CD010578. [DOI: 10.1002/14651858.CD010578]

Visser J, McLachlan MH, Maayan N, Garner P. Community-based supplementary feeding for food insecure, vulnerable and malnourished populations - an overview of systematic reviews. *Cochrane Database of Systematic Reviews* 2018, Issue 11. Art. No: CD010578. [DOI: 10.1002/14651858.CD010578.pub2]

Viswanathan 2008 *{published data only}*

Viswanathan M, Viswanathan M. Tailoring systematic reviews to meet critical priorities in maternal health in the intrapartum period. *Paediatric and Perinatal Epidemiology* 2008;**22**(Suppl 1):10-7.

Weaver 2016 *{published data only}*

Weaver MS, Heinze KE, Bell CJ, Weiner L, Garee AM, Kelly KP, et al. Establishing psychosocial palliative care standards for children and adolescents with cancer and their families: an integrative review. *Palliative Medicine* 2016;**30**(3):212-23.

Welch 2012 *{published data only}*

Welch V, Petticrew M, Ueffing E, Jandu MB, Brand K, Dhaliwal B, et al. Does consideration and assessment of effects on health equity affect the conclusions of systematic reviews? A methodology study. *PLOS One* 2012;**7**(3):e31360.

Welch 2013 *{published data only}*

Welch V, Petticrew M, Tugwell P, Moher D, O'Neill J, Waters E, et al. PRISMA-Equity 2012 extension: reporting guidelines for systematic reviews with a focus on health equity. *PLOS Medicine* 2013;**34**(1):60-7.

Welch 2016 *{published data only}*

Welch V, Petkovic J, Pardo Pardo J, Rader T, Tugwell P. Interactive social media interventions to promote health equity: an overview of reviews. *Health Promotion and Chronic Disease Prevention in Canada : Research, Policy and Practice* 2016;**36**(4):63-75.

White 2016 *{published data only}*

White MI, Dionne CE, Warje O, Koehoorn M, Wagner S L, Schultz IZ, et al. Physical activity and exercise interventions

in the workplace impacting work outcomes: a stakeholder-centered best evidence synthesis of systematic reviews. *International Journal of Occupational and Environmental Medicine* 2016;**7**(2):61-74.

Wilson 2012 *{published data only}*

Wilson MG, Husbands W, Makoroka L, Rueda S, Greenspan NR, Eady A, et al. Counselling, case management and health promotion for people living with HIV/AIDS: an overview of systematic reviews. *AIDS and Behavior* 2012;**17**(5):1612-25.

Witten 2017 *{published data only}*

Witten CB, Kruger S, Taljaard C, Kahler B, Verstraeten R, Booth A. A systematic review of reviews on effective home, family and community based interventions from low-and middle-income countries to inform the breastfeeding action plan for South Africa. *Annals of Nutrition and Metabolism* 2017;**71**:872.

Xu 2016 *{published data only}*

Xu J, Lombardi G, Jiao W, Banfi G. Effects of exercise on bone status in female subjects, from young girls to postmenopausal women: an overview of systematic reviews and meta-analyses. *Sports Medicine* 2016;**46**(8):1165-82.

Yakoob 2009 *{published data only}*

Yakoob MY, Menezes EV, Soomro T, Haws RA, Darmstadt GL, Bhutta ZA. Reducing stillbirths: behavioural and nutritional interventions before and during pregnancy. *BMC Pregnancy and Childbirth* 2009;**9**(SUPPL. 1):S3.

Yount 2017 *{published data only}*

Yount KM, Krause KH, Miedema SS. Preventing gender-based violence victimization in adolescent girls in lower-income countries: systematic review of reviews. *Social Science & Medicine* 2017;**192**:1-13.

References to studies excluded from this review

Ahmad 2010 *{published data only}*

Ahmad N, Boutron I, Dechartres A, Durieux P, Ravaud P. Applicability and generalisability of the results of systematic reviews to public health practice and policy: a systematic review. *Trials* 2010;**11**:20.

AHRQ 2010 *{published data only}*

West SL, Gartlehner G, Mansfield AJ, Poole C, Tant E, Lenfestey N, et al. Comparative effectiveness methods: clinical heterogeneity. Prepared for Agency of Healthcare Research and Quality, US Department of Health and Human Services 2010;**Contract No. 290-2007-10056-I and Part II**(AHRQ Publication No. 10-EHC-070-EF).

Barlow 2004 *{published data only}*

Barlow JH, Ellard DR, Barlow JH, Ellard DR. Psycho-educational interventions for children with chronic disease, parents and siblings: an overview of the research evidence base. *Child: Care, Health & Development* 2004;**30**(6):637-45.

Craig 2003 *{published data only}*

Craig LA, Browne KD, Stringer I. Treatment and sexual offense recidivism. *Trauma & Abuse: a Review Journal* 2003;**4**(70):89-95.

Espinosa-Aguilar 2007 *{published data only}*

Espinosa-Aguilar A, Caraveo-Anduaga J, Zamora-Olvera M, Arronte-Rosales A, Krug-Llamas E, Olivares-Santos R, et al. Clinical guideline for diagnosis and treatment of depression in elderly. *Salud Mental* 2007;**30**(6):Nov-Dec.

Gaes 1999 *{published data only}*

Gaes GG, Flanagan TJ, Motiuk LL. Adult correctional treatment. In: Michael Tonry and Joan Petersilia, editors(s). Crime and Justice. Prisons edition. Vol. **26**. Chicago: University of Chicago Press, 1999:361-426.

Gulmezoglu 1997 *{published data only}*

Gulmezoglu M, de Onis M, Villar J. Effectiveness of interventions to prevent or treat impaired fetal growth. *Obstetrical & Gynecological Survey* 1997;**52**(2):139-49.

Huntley 2017 *{published data only}*

Huntley AL, King AJ, Moore TH, Paterson C, Persad R, Sharp D, et al. Methodological exemplar of integrating quantitative and qualitative evidence – supportive care for men with prostate cancer: what are the most important components? *Journal of Advanced Nursing* 2017;**73**(1):5-20.

Krishnaratne 2016 *{published data only}*

Krishnaratne S, Hensen B, Cordes J, Enstone J, Hargreaves JR. Interventions to strengthen the HIV prevention cascade: a systematic review of reviews. *Lancet* 2016;**3**(7):e307-17.

Lee 2016 *{published data only}*

Lee H, McCullough C. The effectiveness of interventions to address childhood asthma: a scan of the literature and current approaches. MDRC working paper. MDRC 2016.

Maden 2018 *{published data only}*

Maden M, McMahon N, Booth A, Dickson R, Paisley S, Gabbay M. Toward a theory-led metaframework for considering socioeconomic health inequalities within systematic reviews. *Journal of Clinical Epidemiology* 2018;**104**:84-94.

Newman 2020 *{published data only}*

Newman TV, San-Juan-Rodriguez A, Parekh N, Swart EC, Klein-Fedyshin M, Shrank WH, et al. Impact of community pharmacist-led interventions in chronic disease management on clinical, utilization, and economic outcomes: an umbrella review. *Research in Social and Administrative Pharmacy* 2020;**16**(9):1155-65.

Nguyen 2020 *{published data only}*

Nguyen P, Le LK, Nguyen D, Gao L, Dunstan DW, Moodie M. The effectiveness of sedentary behaviour interventions on sitting time and screen time in children and adults: an umbrella review of systematic reviews. *Journal of Behavioral Nutrition and Physical Activity* 2020;**17**(1):1-11.

Panteli 2015 *{published data only}*

* Panteli D, Kreis J, Busse R. Considering equity in health technology assessment: an exploratory analysis of agency practices. *International Journal of Technology Assessment in Health Care* 2015;**31**(5):314-23.

Panteli D, Zentner A, Busse R. Equity and health technology assessment: a systematic review of the literature. In: www.mig.tu-berlin.de/fileadmin/a38331600/2010.lectures/Poster_equity_2010.pdf. Dublin, Ireland: Health Technology Internatonal (HTAi) Annual Meeting (6-9 Jun 2010), 2010.

Prabhakaran 2018 *{published data only}*

Prabhakaran D, Anand S, Watkins D, Gaziano T, Wu Y, Mbanya JC, e al. Cardiovascular, respiratory, and related disorders: key messages from Disease Control Priorities, 3rd edition. *Lancet* 2017;**391**(10126):1224-36.

Proper 2019 *{published data only}*

Proper KI, van Oostrom SH. The effectiveness of workplace health promotion interventions on physical and mental health outcomes - a systematic review of reviews. *Scandinavian Journal of Work, Environment & Health* 2019;**45**(6):546-59.

Skelton 2020 *{published data only}*

Skelton KR, Lowe C, Zaltz DA, Benjamin-Neelon SE. Garden-based interventions and early childhood health: an umbrella review. *International Journal of Behavioral Nutrition and Physical Activity* 2020;**17**(1):1-9.

Thomas 2008 *{published data only}*

Thomas S, Fayter D, Misso K, Ogilvie D, Petticrew M, Sowden A, et al. Population tobacco control interventions and their effects on social inequalities in smoking: systematic review. *Tobacco Control* 2008;**17**(4):230-7.

References to ongoing studies

Avşar 2018 *{published data only}*

Avşar TS, McLeod H, Jackson L. Health outcomes of maternal smoking during pregnancy and postpartum period for the mother and infant: protocol for an umbrella review. *Systematic Reviews* 2018;**7**(1):1-4.

Besnier 2019 *{published data only}*

Besnier E, Thomson K, Stonkute D, Mohammad T, Akhter N, Todd A, et al. Which public health interventions are effective in reducing morbidity, mortality and health inequalities from infectious diseases amongst children in low-income and middle-income countries (LMICs): protocol for an umbrella review. *BMJ Open* 2019;**9**(12):e032981.

Additional references

58th World Health Assembly Resolution

58th World Health Assembly Resolution. World Health Organization 2008.

Adams 2005

Adams J, White M. When the population approach to prevention puts the health of individuals at risk. *International Journal of Epidemiology* 2005;**34**(1):40-3.

Anderson 2005

Anderson GM, Bronskill SE, Mustard CA, Culyer A, Alter DA, Manuel DG. Both clinical epidemiology and population health perspectives can define the role of health care in reducing health disparities. *Journal of Clinical Epidemiology* 2005;**58**(8):757-62.

Arblaster 1996

Arblaster L, Lambert M, Entwistle V, Forster M, Fullerton D, Sheldon T, et al. A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research & Policy* 1996;**1**(2):93-103.

Berlin 1997

Berlin JA, Miles CG, Crigliano MD. Does blinding of readers affect the results of meta-analyses? Results of a randomized trial. *Lancet* 1997;**350**(9072):185-6.

Boutron 2021

Boutron I, Page MJ, Higgins JP, Altman DG, Lundh A, Hróbjartsson A. Chapter 7: Considering bias and conflicts of interest among the included studies. In: Higgins JP, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al, editors(s). Cochrane Handbook for Systematic Reviews of Interventions version 6.2 (updated February 2021). Cochrane, 2021. Cochrane Bias Methods Group, Available from www.training.cochrane.org/handbook.

Chan 2004

Chan AW, Hrobjartsson A, Haahr MT, Gotzsche PC, Altman DG. Empirical evidence for selective reporting of outcomes in randomized trials: comparison of protocols to published articles. *JAMA* 2004;**291**(20):2457-65.

Chao 2018

Chao F, You D, Pedersen J, Hug L, Alkema L. National and regional under-5 mortality rate by economic status for low-income and middle-income countries:a systematic assessment. *Lancet Global Health* 2018;**6**(5):e535-47. [DOI: https://doi.org/10.1016/S2214-109X(18)30059-7]

Cottrell 2015

Cottrell EK, Whitlock EP, Kato E, Uhl S, Belinson S, Chang C, et al. Defining the benefits and challenges of stakeholder engagement in systematic reviews. Comparative Effectiveness Research 2015;**5**:13-9.

Curran 2006

Curran M, MacLehose HG. Community animal health services for improving household wealth and health status of low income farmers. *Cochrane Database of Systematic Reviews* 2006, Issue 2. Art. No: CD003049. [DOI: 10.1002/14651858.CD003049.pub2]

European Organization for Nuclear Research 2003

European Organization for Nuclear Research (CERN). The Role of Science in the Information Society [conference]. 2003 December 8-9; Geneva. http://rsis.web.cern.ch/rsis/00Themes/01Health/Health.html (accessed 15 April 2009).

Evans 2003

Evans T, Brown H. Road traffic crashes: operationalizing equity in the context of health sector reform. *Injury Control and Safety Promotion* 2003;**10**:11-2.

Gakidou 2010

Gakidou E, Cowling K, Lozano R, Murray CJL. Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: a systematic analysis. *Lancet* 2010;**376**:959-74.

Gastwirth 1972

Gastwirth JL. The estimation of the Lorenz curve and Gini index. *Review of Economics and Statistics* 1972;**54**:306-16.

Gepkens 1996

Gepkens A, Gunning-Schepers LJ. Interventions to reduce socioeconomic health differences: a review of the international literature. *European Journal of Public Health* 1996;**6**(3):218-26.

Ghogomu 2014

Ghogomu EA, Maxwell LJ, Buchbinder R, Rader T, Pardo JP, Johnston RV, et al. Updated method guidelines for cochrane musculoskeletal group systematic reviews and metaanalyses. *Journal of Rheumatology* 2014;**41**(2):194-205.

Glasziou 2002

Glasziou PP, Sanders SL. Investigating causes of heterogeneity in systematic reviews. *Statistics in Medicine* 2002;**21**(11):1503-11.

Grobler 2008

Grobler L, Pienaar E, Siegfried N, Eisinga A. Challenges of developing a geographic search filter to identify randomized controlled trials in Africa: finding the optimal balance between sensitivity and precision. In: 16th International Cochrane Colloquium. Freiburg, Germany: Cochrane Collaboration, 3-7 October 2008.

Guyatt 2008

Guyatt GH, Oxman AD, Kunz R, Falck-Ytter Y, Vist GE, Liberati A, et al. Going from evidence to recommendations. *BMJ* 2008;**336**(1468-5833 (Electronic), 0959-535X (Linking), 7652):1049-51.

Guyatt 2008a

Guyatt GH, Oxman AD, Kunz R, Vist GE, Falck-Ytter Y, Schunemann HJ. What is "quality of evidence" and why is it important to clinicians? *BMJ* 2008;**336**(1468-5833 (Electronic), 0959-535X (Linking), 7651):995-8.

Haddaway 2017

Haddaway NR, Kohl C, Rebelo da Silva N, Schiemann A, Spök A, Stewart JB, et al. A framework for stakeholder engagement during systematic reviews and maps in environmental management. Environmental Evidence 2017;**6**(11):DOI 10.1186/s13750-017-0089-8.

Higgins 2021

Higgins JP, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al (editors). Cochrane Handbook for Systematic Reviews of Interventions version 6.2 (updated February 2021). Cochrane, 2021. Available from www.training.cochrane.org/handbook.

Juando-Prats 2017

Juando-Prats C. Health Care Access and Utilization by Young Mothers Experiencing Homelessness: a Bourdieusian Analysis with an Arts-Based Approach. PhD Thesis, Lawrence Bloomberg Faculty of Nursing 2017:279.

Kavanagh 2008

Kavanagh J, Oliver S, Lorenc T. Reflections in developing and using PROGRESS-Plus. Equity Update 2008;**2**:1-3.

Kawachi 1999

Kawachi I. Social capital and community effects on population and individual health. *Annals of the New York Academy of Sciences* 1999;**896**:120-30.

Kayabu 2013

Kayabu B, Clarke M. The use of systematic reviews and other research evidence in disasters and related areas: preliminary report of a needs assessment survey. *PLOS Currents* 2013;**January 22**(5):online, available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3556506/, accessed Aug 7, 2021.

Keppel 2005

Keppel K, Pamuk E, Lynch J, Carter-Pokras O, Kim I, Mays V, et al. Methodological issues in measuring health disparities. Washington DC: National Center for Health Statistics; 2005. Vital Health Statistics Series 2, Number 141.

Koolman 2004

Koolman X, van Doorslaer E. On the interpretation of a concentration index of inequality. *Health Economics* 2004;**13**(7):649-56.

Kredo 2009

Kredo T, Van der Walt JS, Siegfried N, Cohen K. Therapeutic drug monitoring of antiretrovirals for people with HIV. *Cochrane Database of Systematic Reviews* 2009, Issue 3. Art. No: CD007268. [DOI: 10.1002/14651858.CD007268.pub2]

Langer 2017

Langer L, Erasmus Y, Tannous N, et al. How stakeholder engagement has led us to reconsider definitions of rigour in systematic reviews. Environmental Evidence 2017;**6**(20):none.

Lavis 2005

Lavis JN, Davies H, Oxman A, Denis JL, Golden-Biddle K, Ferlie E. Towards systematic reviews that inform health care management and policy-making. *Journal of Health Services Research & Policy* 2005;**10**(Suppl 1):35-48.

Lavis 2006

Lavis JN, Davies HTO, Gruen RL. Working within and beyond the Cochrane Collaboration to make systematic reviews more useful to healthcare managers and policy makers. *Healthcare Policy* 2006;**1**(2):21-33.

Lavis 2009

Lavis JN. How can we support the use of systematic reviews in policymaking? *PLOS Medicine* 2009;**6**(11):e1000141.

Magwood 2019

Magwood O, Leki VY, Kpade V, Saad A, Alkhateeb Q, Gebremeskel A, et al. Common trust and personal safety issues: a systematic review on the acceptability of health and social interventions for persons with lived experience of homelessness. PLOS One 2019;**14**(12):e0226306.

Marmot 2008

Marmot M, Friel S, Bell R, Houweling TA, Taylor S, Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. *Lancet* 2008;**372**(9650):1661-9.

McGowan 2003

McGowan J, Robinson V, Kristjansson B, Petticrew M, Tugwell P. Identifying studies that include issues of equity for inclusion in Cochrane Reviews . In: XI Cochrane Colloquium: Evidence, Health Care and Culture. Barcelona, Spain: Cochrane Collaboration, 2003:71. [CENTRAL: 5122]

Moher 2007

Moher D, Tetzlaff J, Tricco AC, Sampson M, Altman DG. Epidemiology and reporting characteristics of systematic reviews. *PLOS Medicine* 2007;**4**(3):e78.

Moher 2009

Moher D, Liberati A, Tetzlaff J, Altman DG, PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;**339**:b2535.

Ogilvie 2008

Ogilvie D, Fayter D, Petticrew M, Sowden A, Thomas S, Whitehead M, et al. The harvest plot: a method for synthesising evidence about the differential effects of interventions. *BMC Medical Research Methodology* 2008;**8**(8):https://doi.org/10.1186/1471-2288-8-8.

Oxman 1992

Oxman AD, Guyatt GH. A consumer's guide to subgroup analyses. *Annals of Internal Medicine* 1992;**116**(1):78-84.

Petkovic 2020

Petkovic J, Riddle A, Akl EA, Khabsa J, Lytvyn L, Atwere P, et al. Protocol for the development of guidance for stakeholder engagement in health and healthcare guideline development and implementation. *Systematic Reviews* 2020;**9**(1):1-11.

Petticrew 2004

Petticrew M, Whitehead M, Macintye SJ, Graham H, Egan M. Evidence for public health policy on inequalities: 1: the reality according to policymakers. *Journal of Epidemiology and Community Health* 2004;**58**(10):811-6.

Pope 2006

Pope C, Mays N, Popay J. Informing policy making and management in healthcare: the place for synthesis. *Healthcare Policy* 2006;**1**(2):43-8.

Role of Science in the Information Society

Role of Science in the Information Society. Role of Science in Information Society 2008.

Rothwell 2005

Rothwell PM. Treating individuals 2. Subgroup analysis in randomised controlled trials: importance, indications, and interpretation. *Lancet* 2005;**365**(9454):176-86.

Sachs 2001

Sachs JD. Macroeconomics and health: investing in health for economic development. Geneva, Switzerland: World Health Organization; 2001. http://whqlibdoc.who.int/publications/2001/924154550X.pdf (accessed 15 April 2009).

Sampson 2008

Sampson M, McGowan J, Lefebvre C, Moher D, Grimshaw J. PRESS: peer review of electronic search strategies. Ottawa: Canadian Agency of Drugs and Technology for Health; 2008.

Schandelmaier 2020

Schandelmaier S, Briel M, Varadhan R, Sauerbrei W, Devasenapathy N, Hayward RA, et al. Development of a new Instrument to assess the Credibility of Effect Modification ANalyses (ICEMAN) in randomized controlled trials and meta-analyses.. *CMAJ* 2020;**192**(32):E901-E906.

SIGN 2008

Scottish Intercollegiate Guidelines Network. SIGN 50: A guideline developer's handbook, Available at http://www.sign.ac.uk/pdf/sign50.pdf. Edinburgh: Scottish Intercollegiate Guidelines Network, 2008.

Spitzer 2008

Spitzer DL. Gender and Sex-Based Analysis in Health Research: A Guide for CIHR Researchers and Reviewers. Ottawa: Canadian Institutes of Health Research, 2008.

Sun 2010

Sun X, Briel M, Walter SD, Guyatt GH. Is a subgroup effect believable? Updating criteria to evaluate the credibility of subgroup analyses. *BMJ* 2010;**340**:c117.

Sutton 2008

Sutton AJ, Kendrick D, Coupland CA. Meta-analysis of individual- and aggregate-level data. *Statistics in Medicine* 2008;**27**(5):651-69.

Thompson 2005

Thompson SG, Higgins JP. Treating individuals 4: can meta-analysis help target interventions at individuals most likely to benefit? *Lancet* 2005;**365**(9456):341-6.

Thorpe 2009

Thorpe KE, Zwarenstein M, Oxman AD, Treweek S, Furberg CD, Altman DG, et al. A pragmatic-explanatory continuum indicator summary (PRECIS): a tool to help trial designers. *Journal of Clinical Epidemiology* 2009;**62**(5):464-75.

Tugwell 2006

Tugwell P, Petticrew M, Robinson V, Kristjansson E, Maxwell L, Cochrane Equity Field Editorial Team. Cochrane and Campbell Collaborations, and health equity. *Lancet* 2006;**367**(9517):1128-30.

Tugwell 2010

Tugwell P, Petticrew M, Kristjansson E, Welch V, Ueffing E, Waters E, et al. Assessing equity in systematic reviews: realising the recommendations of the Commission on Social Determinants of Health. *BMJ* 2010;**341**(c4739; doi: https://doi.org/10.1136/bmj.c4739):online.

UN IGME 2018

United Nations Interagency Group for Child Mortality Estimation. Levels and trends in child mortality report 2018. https://data.unicef.org/wp-content/uploads/2018/10/Child-Mortality-Report-2018.pdf September 2018.

United Nations Development Programme 2015

United Nations Development Programme. Sustainable Development Goals. https://www.undp.org/content/undp/en/home/librarypage/corporate/sustainable-development-goals-booklet.html 2015.

Vogel 2013

Vogel JP, Oxman AD, Glenton C, Rosenbaum S, Lewin S, Gülmezoglu AM. Policymakers' and other stakeholders' perceptions of key considerations for health system decisions and the presentation of evidence to inform those considerations: an international survey. Health Research andPolicy Systems 2013;**11**(19):online, available at: https://doi.org/10.1186/1478-4505-11-19, accessed Aug 7, 2021.

Wagstaff 2005

Wagstaff A, Waters H. How were the reaching the poor studies done? In: Gwatkin DR, Wagstaff A, Yazbeck AS, editors(s). Reaching the Poor with Health, Nutrition and Population Services: What Works, What Doesn't and Why. Washington DC: The World Bank, 2005:27-46.

Wallach 2017

Wallach JD, Sullivan PG, Trepanowski JF, Sainani KL, Steyerberg EW, Ioannidis JP. Evaluation of evidence of statistical support and corroboration of subgroup claims in randomized clinical trials. *JAMA Internal Medicine* 2017;**177**(4):554-60.

Welch 2012a

Welch V, Petticrew M, Tugwell P, Moher D, O'Neill J, Waters E, et al. PRISMA-Equity 2012 Extension: Reporting Guidelines for Systematic Reviews with a Focus on Health Equity. *PLOS Medicine* 2012;**9**(10):e1001333, https://doi.org/10.1371/journal.pmed.1001333.

Welch 2021

Welch VA, Petkovic J, Jull J, Hartling L, Klassen T, Kristjansson E, et al. Chapter 16: Equity and specific populations. In: Higgins JP, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al (editors), editors(s). Cochrane Handbook for Systematic Reviews of Interventions. version 6.2 (updated February 2021) edition. Available from www.training.cochrane.org/handbook.: Cochrane, 2021.

White 2019

White H. The twenty-first century experimenting society: the four waves of the evidence revolution. *Nature Palgrave Communications* 2019;**5**(Article number 47):Available at: https://www.nature.com/articles/s41599-019-0253-6, Accessed Aug 7, 2021.

Whitehead 1992

Whitehead M. The concepts and principles of equity and health. *International Journal of Health Services* 1992;**22**(3):429-45.

World Bank

The Concentration Index. Washington DC: The World Bank. Quantitative techniques for health equity analysis - Technical note #7. http://siteresources.worldbank.org/EXTEDSTATS/Resources/3232763-1171296378756/concentration.pdf (accessed 15 April 2009).

References to other published versions of this review

Welch 2009

Welch V, Tugwell P, Wells GA, Kristjansson B, Petticrew M, McGowan JL, et al. How effects on health equity are assessed in systematic reviews of interventions. *Cochrane Database of Systematic Reviews* 2009, Issue 3. Art. No: MR000028. [DOI: 10.1002/14651858.MR000028]

Welch 2010

Welch V, Tugwell P, Petticrew M, de Montigny J, Ueffing E, Kristjansson B, et al. How effects on health equity are assessed in systematic reviews of interventions. *Cochrane Database of Systematic Reviews* 2010, Issue 12. Art. No: MR000028. [DOI: 10.1002/14651858.MR000028.pub2]

* Indicates the major publication for the study

CHARACTERISTICS OF STUDIES

Characteristics of included studies *[ordered by study ID]*

Adamek 2008

Study characteristics	
Methods	Targeted (elderly)
Data	16 SRs of effectiveness of psychosocial interventions for late-life depression and anxiety

Adamek 2008 *(Continued)*

Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Misdiagnosis of mental health and addiction disorders in older people due to discrimination based on age
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Comprehensive search for reviews focusing on psychosocial or psychological interventions for people 50 years of age or older
Detection bias	Unclear	Methods for extracting details from SRs were not described

Ahluwalia 2018

Study characteristics

Methods	Targeted
Data	139 SRs to provide a synthesis of the evidence in palliative care to inform the fourth edition of the National Consensus Project Clinical Practice Guidelines for Quality Palliative Care.
Comparisons	Not Applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There is a growing body of research on the use and effectiveness of symptom management approaches, palliative care delivery models, and psychosocial, spiritual, and grief support services that can help to guide clinical practice and improve quality. As our understanding of what works in palliative and end-of-life care is growing, there is a need to usefully synthesise evidence across key areas about which interventions work, for whom, and under what conditions, to more directly guide clinical practice, quality measurement, and training/education, and to help make evidence-based policy decisions
Notes	Funding: Government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	An experienced evidence-based practice centre librarian designed and executed all searches. Multiple online databases were searched. Experienced literature reviewers screened citations identified in the literature searches and trained a machine learning algorithm to identify relevant citations. One reviewer screened all citations; citations identified by the algorithm as potentially relevant were screened by two independent literature reviewers. Full-text

Ahluwalia 2018 *(Continued)*

		publications were reviewed by two independent reviewers against the explicit eligibility criteria to minimize reviewer errors and bias. Discrepancies were resolved through discussion with the review team.
Detection bias	Yes	Data were abstracted in an online database for SRs, using a pilot-tested form with detailed reviewer instructions to ensure standardiSed and accurate data extraction. Data were abstracted by one literature reviewer and checked for accuracy by an experienced second reviewer. Discrepancies were resolved by team discussion

Aksoydan 2019

Study characteristics		
Methods	Targeted	
Data	4 SRs to identify effect of different types of training on informal caregivers and their older persons	
Comparisons	Not applicable	
Outcomes	Occupation	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Many studies indicate the negative effects of care on informal caregivers: quality of life decreases, there is an aspect of increased costs, feelings of depression, loneliness and economic problems which tend to increase. This is a consequence of insufficient support and unmet needs	
Notes	Funding: government	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	MEDLINE (PubMed), CINAHL and Ovid were searched from December 2016 and April 2017. The following keywords were used; "informal caregiver", "training" "elderly", older persons". Identified publications were screened by using the following inclusion criteria; SRs, randomised controlled trials, prospective cohort and multicentre studies, English language full-text journals, samples or interventions that included caregivers of older persons and published in last 10 years
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided.

Althabe 2008

Study characteristics	
Methods	Targeted (LMIC)
Data	23 SRs of effectiveness of strategies for improving the quality of care, where these strategies are relevant to maternal and child health (MCH) in developing countries

Althabe 2008 *(Continued)*

Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined, but authors used the SUPPORT equity checklist
Rationale for assessing PROGRESS-Plus dimension	Few studies have been undertaken in LMIC or that assess applicability of quality improvement strategies to LMIC for MCH
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	2 independent reviewers assessed SRs against explicit inclusion criteria
Detection bias	Yes	2 independent reviewers extracted data using explicit extraction form

Amini 2015

Study characteristics

Methods	Targeted
Data	4 SRs to prevent or control overweight and obesity among school children
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Overweight and obesity among children and adolescents have become increasing health problems worldwide.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	All titles and abstracts generated from the searches were reviewed by a reviewer (Phase 1). To determine if they met eligibility criteria, an evaluation of the full texts was then conducted by two reviewers separately. Any disagreements were resolved by discussion until consensus was reached. For the second phase, two reviewers re-evaluated 61 full-text articles against new selection criteria (mentioned in eligibility criteria, Phase 2) separately. Any disagreements were resolved by discussion.
Detection bias	Yes	Two of the reviewers, independently, evaluated validity of all the 61 references by Critical Appraisal Skills Programs focusing on methodology. Disagreements

Amini 2015 *(Continued)*

	were resolved by discussion until reaching consensus. The results were derived based on the frequency of original findings

Anderson 2018

Study characteristics	
Methods	Targeted
Data	5 SRs to study the city's policies for the reducing of harmful alcohol use
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	If alcohol policy is to be most efficient in reducing the harmful use of alcohol, it should preferentially address adult drinkers, and, in particular, those who drink heavily.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic literature search on OVID Medline, Healthstar, Embase, PsycINFO, AMED, Social Work Abstracts, CAB Abstracts, Mental Measurements Yearbook, Health and Psychosocial Instruments, International Pharmaceutical Abstracts, International Political Science Abstracts, NASW Clinical Register, and Epub Ahead of Print databases to identify reviews that addressed community and municipal alcohol interventions. Two authors independently reviewed titles and abstracts for selecting papers for full text review and selecting papers to include.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided.

Arango 2014

Study characteristics	
Methods	Targeted
Data	23 SRs to the extent feasible, this review seeks to present operational recommendations from the available international evidence in order to enable the World Bank Group and other multilateral, bilateral, government, and non-governmental institutions to inform their decision making when it comes to investing in interventions to prevent and reduce VAW
Comparisons	Not applicable

Arango 2014 *(Continued)*

Outcomes	Gender/sex, socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Violence against women and girls includes, but is not limited to, physical violence, such as slapping, kicking, hitting, or the use weapons; emotional abuse, such as systematic humiliation, controlling behaviour, degrading treatment, insults, and threats; sexual violence, which includes any form of non-consensual sexual contact—female genital mutilation/cutting (FGM/C) is an act of violence that impacts sexual organs and as such is included under this category of violence; forced marriage, one which is the marriage of an individual against her or his will; and denial of resources, services, and opportunities, also known as economic abuse, such as restricting access to financial, health, educational, or other resources with the purpose of controlling or subjugating a person.
Rationale for assessing PROGRESS-Plus dimension	Violence against women and girls (VAWG)—also referred to as violence against women, gender-based violence, or sexual- and gender-based violence—is a widespread and pervasive infringement on human rights and well-being that has no social or economic boundaries.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The literature for the review was identified by implementing a preplanned search strategy in relevant databases and supplemental sources, including outreach to over 60 experts in the field of VAWG. Two reviewers (one at the World Bank Group and one at the Global Women's Institute) independently screened all abstracts using an inclusion screening form, and recommended exclusion or pass for further review. At this initial stage, reviewers were blinded of the publisher, journal, and authors; only the titles, years of publication, and abstracts were screened. Any discrepancies were discussed in a meeting with all authors from both institutions for a final decision. Full papers were reviewed for all abstracts passed for further review. The full papers were all reviewed independently by the same two reviewers, and any discrepancies were discussed in a meeting with all authors from both institutions for a final decision.
Detection bias	Yes	Data for all categories were then extracted by the two reviewers for the eligible SRs. Data were extracted according to a standardised coding and extraction form. Any concerns with data extraction decisions were discussed in a meeting with all authors from both institutions prior to final decisions being made.

Aves 2017

Study characteristics

Methods	Targeted
Data	103 SRs to describe and summarise equity reporting in human immunodeficiency virus (HIV) SRs and explore the extent to which equity issues are addressed and reported in HIV reviews using the PROGRESS Plus framework
Comparisons	Not applicable
Outcomes	Across all PROGRESS-Plus factors
Equity definition	Not defined

Aves 2017 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	Cochrane advocates for the consideration of equity issues in its systematic re- views and recommends the use of the PROGRESS Plus framework to identify population and individual factors across which health inequities may exist
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Bibliometric analysis, known as the application of quantitative analysis to publications, was conducted of all SRs published by the Cochrane HIV/AIDS group (now the Cochrane Infectious Diseases Group) as of March 2014
Detection bias	Yes	Plus items were identified and recorded by any pair of the seven reviewers using a standardized data extraction form. Disagreements were resolved by discussion and consensus

Bailey 2015

Study characteristics

Methods	Targeted (disabled children and young people)
Data	7 SRs to 1) find out how DCYP have been accessed, recruited or selected for involvement in research projects, 2) investigate how the practicalities of involving DCYP in research have been addressed, 3) identify the challenges of involving DCYP in research and how have these been overcome, 4) describe the impacts of involving DCYP in research on the disabled children themselves, and 5) describe the impacts of involving DCYP in research on the research.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Involving disabled children in research can present challenges; many of these can be overcome with sufficient time, planning and resources. More needs to be done to find ways to involve those with non-verbal communication
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Titles and abstracts were screened by two authors. Full-text articles were retrieved for 61 papers. These results were assessed for inclusion independently by the same two authors; where there was uncertainty or disagreement, a third author was consulted.
Detection bias	Yes	Data were extracted using a standardised data extraction form by one reviewer and checked by another. Authors were contacted for clarification where certain details of involvement were missing.

Bainbridge 2016

Study characteristics	
Methods	Targeted
Data	17SRs to determine which components of in-home end-of-life (EOL) care programs are most commonly associated with better quality, effectiveness, or cost outcomes than usual care.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The end of life care programs reviewed vary considerably in the service components they offer, provider availability, and model characteristics. Thus, the gap in knowledge is an analysis of what components of these interventions are associated with positive outcomes.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	To identify relevant reviews, MEDLINE, CINAHL, and the Cochrane Library databases were searched. Reference lists of all included reviews and articles were also searched manually for further relevant reviews. The searches were limited to review type articles (systematic and nonsystematic) as determined according to each database. No protocol was made publicly available for this review. Returned reviews were imported into Reference Manager 12 (Thomson Reuters, New York, NY), and one researcher (DB) electronically coded them against the inclusion criteria. Potentially eligible reviews were then retrieved and the hard copy screened again for relevance. Each original study included in the selected reviews was imported into Reference Manager, and one researcher (DB) electronically coded it against the study inclusion criterion. Potentially eligible reviews were then retrieved and the hard copy screened again for relevance.
Detection bias	Yes	Included studies and supporting documents were retrieved, and a content analysis was conducted on these materials to identify the defining components of each study program. One researcher extracted data, and a second researcher verified them. Two researchers independently identified and categorised the defining components of each program and then compared them. These researchers discussed and resolved any discrepancies in identification.

Ball 2002

Study characteristics	
Methods	Targeted (low SES)
Data	19 SRs of effectiveness of interventions to prevent low birth weight in socially disadvantaged women in low- and middle-income countries

Ball 2002 *(Continued)*

Comparisons	Not applicable
Outcomes	Race/ethnicity, occupation, socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Inequalities in health are deeply entrenched among families who live in poverty and deprivation. Families are vulnerability to low birth weight due to SES, ethnicity, stress, and employment
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Inclusion criteria not clear - article described as review of reviews- papers related to low birth weight
Detection bias	No	No description of how articles were selected

Bambra 2009

Study characteristics

Methods	Gap
Data	7 SRs to (1) identify what types of organisational level changes to the psychosocial work environment have been previously systematically reviewed, to describe what the SRs concluded about health effects and to highlight what gaps there are in the existing review literature; (2) assess to what extent existingSRs have considered the impacts of such interventions on socioeconomic inequalities in health, what the reviews concluded, what gaps exist, and what this means for tackling socioeconomic inequalities in health amongst the working age population; (3) explore to what extent existing SRs have considered the differential impacts of such interventions by age, gender, or ethnicity, what the reviews found, and what this might mean for future research.
Comparisons	Differential impacts by age, gender, ethnicity
Outcomes	Ethnicity, gender, socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Health inequalities refer to the differences in health or well-being outcomes by SES (e.g. income, occupational class, education, employment grade), or differences in health or well-being outcomes by demographic characteristics (age, gender, ethnicity).
Rationale for assessing PROGRESS-Plus dimension	Although much of the psychosocial work environment research base is observational and available only in primary studies, there is a growing quasi-experimental literature which examines the effects of organisational interventions, some of which has been synthesised in SRs. Much of this review level evidence lies outside the traditional boundaries of public health research, for example in the human resources, management economics or nursing literature. It is therefore under-used in public health policy.
Notes	Funding: Government

Risk of bias

Bambra 2009 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers independently screened all titles
Detection bias	Unclear	In terms of outcomes, we were particularly interested in the impacts on inequalities in health or well-being (primarily by SES, but also in terms of age, gender or ethnicity) although we also addressed the overall health effect. Based on descriptive epidemiological studies of the relationship between the psychosocial work environment and various health and well-being indicators, a wide range of outcomes was considered relevant.

Bambra 2010

Study characteristics	
Methods	Gap analysis
Data	30 SRs assessed effects on health inequalities by assessing health effects of any intervention on wider determinants of health (water, agriculture, access to care, unemployment, welfare, housing, work, environment, education, transport)
Comparisons	Differences in health outcomes bySES, gender and ethnicity
Outcomes	Socioeconomic status, gender/sex, race/ethnicity/culture/language
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Need to identify evidence on interventions to reduce health inequalities by acting on social determinants of health
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Systematic search of electronic databases + handsearching
Detection bias	Yes	2 independent reviewers screened titles and extracted specific data

Barbosa Fihlo 2016

Study characteristics	
Methods	Targeted (children in LMIC)
Data	50 SRs to 1) analyse the previously published reviews of the PA promotion interventions for children and adolescents and discuss the inclusion of low and middle income country studies in these reviews, and 2) analySe the characteristics and the level of evidence of the effect of PA promotion interventions for children and adolescents specifically from LMIC

Barbosa Fihlo 2016 *(Continued)*

Comparisons	Not applicable
Outcomes	Place of residence, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Several reviews have discussed on PA interventions in children and adolescents. However, it is questionable whether and how much previous evidence take into account studies from LMIC
Notes	Funding: No funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two independent reviewers carried out the selection process and disagreements were resolved by consensus. The initial analysis was performed based on the titles and abstract of the manuscripts. After this analysis, full-text versions of the studies were analysed. Subsequently, the screening of the reference list and contact authors was made. A comprehensive and representative coverage of the gray literature cannot be guaranteed. Thus, we considered only peer-reviewed SRs and intervention studies.
Detection bias	Yes	The data extraction was performed by one author and revised by four co-authors

Barlow 2018

Study characteristics

Methods	Targeted (teenage parents, parents with intellectual disabilities)
Data	6 SRs to summarise the findings of SRs published in the Campbell Library on parenting programs and to examine objective outcomes for both parents and children
Comparisons	Not applicable
Outcomes	Gender/sex, Plus 1 - personal characteristics associated with discrimination (age, disability)
Equity definition	Not Defined
Rationale for assessing PROGRESS-Plus dimension	Not reported
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	Authors took all SRs on parenting programs from the Campbell Library only.

Barlow 2018 *(Continued)*

Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Barros 2010

Study characteristics	
Methods	Targeted (LMIC)
Data	43 SRs of effectiveness of interventions directed towards mothers before and during pregnancy and childbirth to prevent preterm birth and stillbirth
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Highest burden of stillbirth and preterm birth is in LMIC
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searched electronic databases for meta-analyses, trials and observational evidence. Then, interventions included if there was: 1) evidence available, 2) evidence of impact, 3) requires low or no technology, 4) can be or is used in LMICs and 5) applicable to wide group of pregnant women
Detection bias	Unclear	32 interventions excluded due to: (a) the available evidence was very limited; (b) there was no evidence of an impact; (c) the intervention requires high technology; (d) the intervention is seldom used; (e) the intervention was applicable to a small subgroup of pregnant women. Number of SRs excluded is not reported

Bartels 2003

Study characteristics	
Methods	Targeted (older adults with mental illness)
Data	23 SRs of efficacy and tolerability of geriatric-specific evidence-base for mental health care
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined

Bartels 2003 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	Older adults with mental illness receive poorer quality of care (relative to younger people with mental illness and older people without mental illness) due to likelihood of more adverse effects and smaller magnitude of benefit for older adults with mental illness because of cognition, physiological and social functioning changes
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic search of three electronic databases, with specific inclusion criteria (geriatric specific guidelines, evidence reviews and meta-analyses)
Detection bias	Unclear	No description of how data was extracted or by whom

Baskin 2020

Study characteristics

Methods	Targeted
Data	13 SRs to summarise evidence from up-to-date reviews of the effectiveness of interventions aimed at preventing overweight and obesity in adolescents aged 10 to 19 years.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age and weight)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	High and increasing prevalence of overweight and obesity in adolescents is a major global public health problem. Adolescents affected by obesity are at higher risk of poor health in adolescence and in later life than adolescents with a normal weight.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	We searched nine databases from January 2008 up to November 2019, using standard Cochrane methods19: PROSPERO, Epistemonikos, Cochrane Library of Systematic Reviews of Interventions, MEDLINE, Embase, PsychInfo, ERIC, HTA database, and Web of Science. We searched reference lists and contacted experts in the field. The search had no language restrictions, but due to our strict timelines, we included only papers in English.
Detection bias	Yes	Two reviewers independently assessed the methodological quality of each review that met our initial inclusion criteria using the AMSTAR instrument. Rated the overall confidence in the results of reviews according to the instruments' four levels: high, moderate, low, or critically low quality. Excluded reviews judged to be of 'critically low' quality, that is, reviews with major methodological limitations. Resolved any disagreements through discussion, but we did not experience substantial differences in classification between authors. Two reviewers assessed the certainty of the included evidence using the Grading of

Baskin 2020 *(Continued)*

	Recommendations Assessment, Development and Evaluation (GRADE) tool if this was not reported by the authors of the original reviews. Assessed the certainty of evidence according to five items (inconsistency, imprecision, indirectness, quality, and publication bias) for the primary outcomes (BMI/BMI z-score, dietary behaviour, and PA behaviour) according to the tool's four levels: high, moderate, low, and very low. Resolved any disagreements through discussion.

Bellón 2015

Study characteristics	
Methods	Targeted (children & adolescents; women of low SES; postpartum women; traumatic physical injuries or stroke)
Data	12 SRs to determine the effectiveness of psychological and/or educational interventions to prevent the onset of episodes of depression in all types of patients
Comparisons	Not applicable
Outcomes	Socioeconomic status, Gender/sex, Plus 1 - personal characteristics associated with discrimination, Plus 3 - time-dependent relationships
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Despite effective interventions, burden of depression remains high in select populations
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Search criteria defined and two screeners.
Detection bias	Yes	Data extracted by a single researcher and checked by a second researcher. Disagreements resolved by discussion between both authors; if disagreement remained, a third researcher was consulted

Bennett 2015

Study characteristics	
Methods	Targeted (children and youth)
Data	21 SRs to facilitate evidence-informed decision making concerning youth suicide prevention, specifically school-based strategies and nonschool-based interventions designed to prevent repeat attempts
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination, Plus 3 - time-dependent relationships (discharge from hospital)

Bennett 2015 *(Continued)*

Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Suicide-related behaviours in children and youth are a global public health problem. In Canada, death by suicide is the second leading cause of mortality among 15-to 24-year-olds. The need for strengthened policies and programs to prevent SRB and reduce the associated high cost and burden of suffering has received increased attention in Canada. Specifically, the recent passage of Bill C-300 calls for evidence-informed guidelines that identify when, where, and how to intervene to reduce suicide risk across the life-course, and a mechanism to make them available to regional, provincial, and federal decision makers. The goal is to break down barriers that limit decision maker access to and use of research about effective prevention interventions.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers completed these tasks independently in duplicate following training. Disagreements were resolved through consultation with the principal investigator
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Bhutta 2008

Study characteristics

Methods	Targeted (LMIC)
Data	52 SRs to deliver on MDGS for maternal and child health and to identify interventions that could be implemented through existing workers and to make cases for new approaches
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	75% of the 68 countries with the greatest burden of maternal, newborn, and child deaths are off target to achieve MDG 4 and 5 goals, scaling up community-based primary care on the basis of what we know, is a moral imperative
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, unpublished reports, UN agencies
Detection bias	Yes	Data were independently extracted by 3 reviewers using pre-designed forms

Bhutta 2008a

Study characteristics		
Methods	Targeted (LMIC)	
Data	26 SRs to identify effective interventions and the preventable burden if these interventions were available in LMIC	
Comparisons	Not applicable	
Outcomes	Place of residence	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	To identify effective interventions and the preventable burden if these interventions were available in LMIC	
Notes	Funding: government	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data not described

Bhutta 2009

Study characteristics		
Methods	Targeted (LMIC)	
Data	11 SRs to improve evidence base of recognised MNCH and nutrition interventions reported in recent reviews and to identify additional feasible and cost-effective interventions	
Comparisons	Not applicable	
Outcomes	Place of residence	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	In low-resource settings, cost, distance and time needed to access care are major barriers to uptake of antenatal and intrapartum services	
Notes	Funding: non for profit	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**

Bhutta 2009 *(Continued)*

Selection bias	Yes	Selected according to specified inclusion criteria that it reported rate of still births and was a biologically plausible intervention identified by systematic search of multiple databases
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Birdi 2013

Study characteristics		
Methods	Targeted (people at risk of occupational asthma)	
Data	2 SRs to understand how current evidence supports complete avoidance of further exposure to the causative agent, in the management of occupational asthma or whether reduction in exposure is sufficient to control asthma and less likely to result in loss of income or job loss	
Comparisons	Not applicable	
Outcomes	Socioeconomic status, occupation	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Workers are unfairly and avoidably exposed to asthma causing agents through their employment and complete removal from exposure potentially entails loss of income, or even unemployment	
Notes	Funding: No funding	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Bosch-Capblanch 2017

Study characteristics	
Methods	Targeted
Data	54 SRs to describe how globally research on the effects of interventions on vaccination coverage has targeted vulnerable populations, and particularly which research exists on interventions to reduce inequity gaps.
Comparisons	Not applicable
Outcomes	Across all PROGRESS-plus dimensions

Bosch-Capblanch 2017 *(Continued)*

Equity definition	Equity in health is a fundamental moral and ethical commitment to reduce and eliminate unfair and unjust disparities in health and its determinants. One of the six guiding principles in the Global Vaccine Action Plan (GVAP) is equity: quote: "equitable access to immunisation is a core component of the right to health"; reducing disparities in immunisation, typically measured with vaccination rates, means that every eligible individual is vaccinated
Rationale for assessing PROGRESS-Plus dimension	Systematic reviews on the effects of interventions to improve vaccination outcomes should portray a comprehensive picture of past and current research on the topic. As such vaccinations (and health care in general) have to be seen as social and human assets which move in the direction of justice and equity
Notes	Funding: Government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The tasks of deciding on relevance, applying the inclusion criteria and data extraction were singly done and distributed among co-authors of this article. Co-authors regularly cross-checked the decisions made in a subsample of SR, especially when potential inconsistencies were identified in the data extracted
Detection bias	Yes	The tasks of deciding on relevance, applying the inclusion criteria and data extraction were singly done and distributed among co-authors of this article. Co-authors regularly cross-checked the decisions made in a subsample of SR, especially when potential inconsistencies were identified in the data extracted

Boulton 2021

Study characteristics

Methods	Targeted
Data	5 SRs to: (i) Identify existing Srs on befriending, social support, and low-intensity psychosocial interventions delivered remotely for older adults. (ii) Synthesise review-level findings on the nature and effectiveness of these interventions.(iii) Generate new understandings on how interventions work and which core components and processes are associated with successful interventions, using the innovative methods of Intervention Component Analysisand Qualitative Comparative Analysis.(iv) Map the review-level and study-level evidence to better understand evidence gaps.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	What works to prevent or mitigate loneliness is less clear. The requirement for older adults to restrict their activities during the COVID-19 pandemic has put a spotlight on the need to understand how to minimise the impact of loneliness and isolation.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement

Boulton 2021 *(Continued)*

Selection bias	Yes	Searches of 11 bibliographic databases and online resources across the fields of health, social care, psychology and social science were carried out. We exported search records to EPPI-Reviewer web26 and de-duplicated the records. Title and abstract screening was undertaken independently by three reviewers (DK, EB, PH) following joint screening of 204 citations (10%) to ensure consistency (with levels of agreement reached 93%). For records included for full-text screening, each record was examined in duplicate, and reviewers met online to reconcile any differences.
Detection bias	Yes	Data were extracted by two reviewers and any differences agreed in online reconciliation meetings. We extracted the following data from reviews: • Lead author and team; • Year of publication; • Number of primary studies included in the review; • Primary study design(s) (e.g., RCT studies, qualitative studies); • Aims of review and main topic focus; (e.g. if focused on social isolation/loneliness); • Target population (e.g. if focused on particular group e.g. bereaved older adults); • Participant characteristics (e.g. age, gender); • Intervention approaches in primary studies (e.g., type of remote intervention); • Synthesised outcomes/key findings relating to social isolation and/or loneliness; secondary outcomes relating to implementation and adverse effects; • Quality assessment characteristics and rating

Brand 2014

Study characteristics

Methods	Targeted
Data	18 SRs to assess the effectiveness of community-based interventions to promote physical activity and healthy eating.
Comparisons	Not applicable
Outcomes	Place of residence, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Due to the great heterogeneity of community-based approaches (to promote PA and healthy eating), differences in study designs employed in various studies and populations targeted by these interventions, results of existing reviews are still inconclusive. Chronic diseases such as type II diabetes are on the rise worldwide.
Notes	Funding: industry

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	We searched the following databases: Cochrane Library, PubMed, Campbell Collaboration, Database of Abstracts of Reviews of Effects (DARE, via NICE). In addition, we searched the database of the National Institute for Health and Clinical Excellence (NICE) for evidence summaries...Two authors selected relevant reviews from the identified full text publications and independently assessed the quality of all selected reviews according to the AMSTAR criteria, an 11-item questionnaire developed to assess the methodological quality of SRs.

Brand 2014 *(Continued)*

		They compared their quality assessment results, discussed the differences and consulted TB where they could not reach consensus
Detection bias	Yes	Two authors selected relevant reviews from the identified full text publications and independently assessed the quality of all selected reviews according to the AMSTAR criteria, an 11-item questionnaire developed to assess the methodological quality of SRs. They compared their quality assessment results, discussed the differences and consulted TB where they could not reach consensus. Studies were excluded from this review if they scored ≤4 on the AMSTAR checklist.

Browne 2004

Study characteristics		
Methods	Gap analysis	
Data	23 SRs of effectiveness of interventions to improve mental health for children	
Comparisons	Targeted programs versus universal programs	
Outcomes	Socioeconomic status, sex/gender, race/ethnicity/culture/language, Plus 1 - personal characteristics associated with discrimination	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Exposure to accumulating risk factors increases the likelihood of mental health, developmental or behavioural problems, yet protective factors lessen the effect of risk factors as long as some degree of balance is maintained	
Notes	Funding: not stated	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	All SRs identified by systematic search using predefined inclusion criteria: mental health promotion initiatives for children
Detection bias	Yes	Used critical appraisal tool to extract data

Browne 2018

Study characteristics	
Methods	Targeted
Data	11 SRs to provide an overview of previous reviews of programs that aimed to improve nutritional status or diet-related health outcomes for Aboriginal and Torres Strait Islander peoples, in order to determine what programs are effective and why
Comparisons	Not applicable

Browne 2018 *(Continued)*

Outcomes	Race/ethnicity/culture/language
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Food and nutrition evidence is required to inform policies and programs that draw on existing strengths of Aboriginal and Torres Strait Islander communities for health gains. Mobilising inherent strengths such as culture, community networks, organisational capacity and individual skills promotes empowerment and resilience rather than merely focusing on behaviour change.10 Identifying and fostering such approaches will enhance the capacity of policymakers to implement food and nutrition initiatives that are effective and appropriate to the context.This paper provides a synthesis of evidence from previous review articles concerning programs aimed at improving nutritional status or diet-related health outcomes for Aboriginal and Torres Strait Islander peoples
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Pairs of reviewers, including one Aboriginal reviewer, then independently applied the inclusion criteria to each article to assess them for eligibility. Discrepancies were resolved through discussion or by consulting a third reviewer
Detection bias	Yes	One Aboriginal and one non-Aboriginal reviewer independently extracted information from each of the included studies using a predefined data extraction form, which included each review's objective, years searched, outcomes assessed, number of studies included and key findings

Cairns 2014

Study characteristics

Methods	Targeted
Data	5 SRs to identify SRs of the effects of 20 mph zones (including speed limits and road humps) and 20 mph limits on health and SES inequalities in health amongst adults and children
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Health inequalities were defined as differences by income, education or occupational class, including area measures, e.g. area-level deprivation.
Rationale for assessing PROGRESS-Plus dimension	Examining evidence from SRs (an umbrella review) regarding the effects of 20 mph zones and limits on health and health inequalities is thereby an important first step in establishing an easily accessible and policy-relevant evidence base for local authorities considering different types of traffic calming measures. It will also identify any evidence gaps for researchers planning to conduct primary evaluation studies or new SRs.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement

Cairns 2014 *(Continued)*

Selection bias	Yes	Twelve electronic databases were searched using a search strategy. To complement these searches, grey literature was also searched as well as the following websites: ROSPA, NICE, Department for Transport. One reviewer screened all titles and abstracts identified from the literature search for relevance. Full paper manuscripts of any titles/abstracts considered relevant were obtained and assessed against the inclusion criteria.
Detection bias	Yes	Only those studies meeting all aspects of the inclusion criteria were data extracted and quality appraised using standardized forms. Extracted data on study authors, objectives, study designs for primary study articles, participants, interventions, comparators and outcome as well as the countries and regions where the interventions took place using a standardized template in Microsoft Excel.

Campos 2019

Study characteristics	
Methods	Targeted
Data	4325 SRs to summarise the evidence published in SRs on intervention strategies that aim at improving micronutrient status in children under the age of five
Comparisons	Not applicable
Outcomes	Socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	It is still unclear which is most effective in improving micronutrient status, and how it should be provided, e.g. via supplementation, fortification of foods, or treatment of underlying infections
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Searched the literature on SRs and meta-analyses systematically using the search engine Pubmed, Embase and the Cochrane databases. Subsequently, abstracts were reviewed and selected by two authors, after which the full text was read to make the final selection based on the inclusion criteria.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Case-Smith 2013

Study characteristics	
Methods	Targeted

Case-Smith 2013 *(Continued)*

Data	5 SRs to present five SR articles that examine the effectiveness of early childhood interventions used by occupational therapy practitioners
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not Defined
Rationale for assessing PROGRESS-Plus dimension	Occupational therapists have a long history of working with infants and young children with disabilities and developmental delays and have had leadership roles in providing interventions to children across hospital, home, community, and school settings
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	We performed a pilot SR to assess the availability of information on the social distribution of intervention effects, the targeting or allocation of interventions, and the baseline characteristics of participants
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Cauchi 2016

Study characteristics

Methods	Targeted
Data	63 SRs to summarise the evidence reported in SRs on the effectiveness of population-level childhood obesity prevention interventions that have an environmental component.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age and obesity)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Childhood obesity is a global public health challenge due to concerns about increasing prevalence, the likelihood of obesity tracking into adolescence and adulthood and its association with a range of adverse health outcomes.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers independently examined titles, abstracts and full-text articles, and extracted data, resolving any disagreement through discussion with a third author

Cauchi 2016 *(Continued)*

Detection bias	Yes	Two reviewers independently examined titles, abstracts and full-text articles, and extracted data, resolving any disagreement through discussion with a third author. Any disagreement was resolved through consensus.

Chamberlain 2017

Study characteristics	
Methods	Targeted (Indigenous populations)
Data	21 SRs to synthesise evidence about reducing tobacco consumption among Indigenous peoples using a comprehensive framework for Indigenous tobacco control in Australia comprised of the National Tobacco Strategy (NTS) and National Aboriginal and Torres Strait Islander Health Plan (NATSIHP) principles and priorities
Comparisons	Not applicable
Outcomes	Race/ethnicity, place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	In Australia, the average life expectancy of Indigenous people born in 2010–2012 is approximately 10.6 years lower than that of non-Indigenous people. Tobacco smoking was the single largest risk factor accounting for approximately 12% of the total burden of disease for Indigenous Australians and 23% of the 'health gap' in 2011 [2]. Thus, sustaining the decline in tobacco smoking is critical to improving healthy equity between Indigenous and non-Indigenous Australians
Notes	Funding:government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Bibliographic databases, collections of SRs and websites of institutes and organisations dedicated to Indigenous Health were searched. Two reviewers independently screened titles and abstracts for potentially relevant reviews. The full texts of remaining reviews were independently screened by two reviewers and selected if they met the inclusion criteria.
Detection bias	Yes	A data extraction tool was developed in Microsoft Excel. The tool was piloted by two reviewers on two reviews and modified. Data were extracted independently by two reviewers, and any discrepancies or uncertainties discussed with a third reviewer.

Chambers 2012

Study characteristics	
Methods	Targeted
Data	2 SRs to 1) identify all existing SRs related to HIV and aging, 2) assess the quality and local applicability of said SRs, and 3) map the primary studies related to the identified health domains (i.e. physical health, mental health, access to health services, social participation) for older people living with HIV

Chambers 2012 *(Continued)*

Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age, discriminatory disease - HIV),
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The prevalence of HIV in older adults combined with the potential health concerns of aging, demands a more comprehensive understanding of the health impacts of HIV in older individuals to inform health-related policies, practices and programming. The need for knowledge on HIV and aging has been echoed by the research of the National Institutes of Health who identify the “critical need” for evidence on HIV and aging
Notes	Funding: overnment

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The title, abstract and full text of each reference was independently assessed for inclusion by two reviewers using a predefined criteria. One reviewer then categorised each included reference using a coding framework identifying key features of the literature, which was checked for accuracy and consistency by another reviewer. Any disagreements between reviewers at each stage of the process were resolved by consensus and, if that failed, a third independent reviewer resolved the disagreement
Detection bias	Yes	Included studies have been organised and conceptually mapped using coding framework to assess the state of the literature.

Chipps 2017

Study characteristics

Methods	Targeted
Data	8 SRs to synthesise high-quality evidence on the effectiveness of e-Interventions to decrease social isolation/loneliness for older people living in community/residential care
Comparisons	Not Applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	As the older adult population group has been increasing in size, there has been evidence of growing social isolation and loneliness in their lives
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Three independent reviewers, screened, selected the data

Chipps 2017 *(Continued)*

Detection bias	Yes	Three independent reviewers, screened, selected the data and two reviewers extracted data during the review process

Chopra 2008

Study characteristics		
Methods	Targeted (LMIC)	
Data	28 SRs on effects of policy options on equitable distribution of health workers in LMIC	
Comparisons	Not applicable	
Outcomes	Socioeconomic status, place of residence	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Inequitable distribution of health workers limits quality health care. Quality health care depends on sufficient health workers to deliver the care (e.g. in remote areas), policy makers need evidence on effects of policy options on equitable health care	
Notes	Funding: not stated	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Systematic search of electronic databases with inclusion criteria + hand-searching
Detection bias	Yes	Used structured forms, 2 reviewers extracted data

Ciapponi 2017

Study characteristics		
Methods	Targeted (low-income countries)	
Data	51 SRs to provide an overview of the available evidence from up-to-date SRs about the effects of delivery arrangements for health systems in low-income countries. Secondary objectives include identifying needs and priorities for future evaluations and SRs on delivery arrangements and informing refinements of the framework for delivery arrangements outlined in the review.	
Comparisons	Not applicable	
Outcomes	Place of residence; SES	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	How services are delivered can have impacts on the effectiveness efficiency and equity of health systems	

Ciapponi 2017 *(Continued)*

Notes	Funding: government and non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two of the overview authors independently screened the titles and abstracts found in PDQ-Evidence to identify reviews that appeared to meet the inclusion criteria. Two other authors screened all of the titles and abstracts that could not be confidently included or excluded after the first screening to identify any additional eligible reviews. One of the overview authors screened the reference lists. One of the overview authors applied the selection criteria to the full text of potentially eligible reviews and assessed the reliability of reviews that met all of the other selection criteria. Two other authors independently checked these judgments.
Detection bias	Yes	Reliability of SRs that met inclusion criteria was assessed using criteria developed by the SUPPORT and SURE collaborations. Standardised forms used to extract data on the background of the review (interventions, participants, settings and outcomes), the key findings; and considerations of applicability, equity, economic considerations, and monitoring and evaluation

Costa 2016

Study characteristics

Methods	Targeted (people with eating disorders)
Data	30 SRs to compile findings of relevant scientific papers, such as RCTs, SRs, meta-analysis, guidelines and narrative reviews of literature, in order to promote knowledge about effectiveness of psychosocial interventions in eating disorders along time, in addition to showing the need for further research in specific areas
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Eating disorders are psychiatric conditions originated from and perpetuated by individual, family and sociocultural factors
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The two authors independently assessed the titles and abstracts found in the Cochrane Database of Systematic Reviews of The Cochrane Library and at PubMed. Differences were resolved by discussion to reach consensus.
Detection bias	Yes	Data were independently extracted and qualitatively analysed. Differences were resolved by discussion to reach consensus

Craike 2018

Study characteristics	
Methods	Gradient
Data	17 SRs to: (1) examine the effectiveness of interventions to improve participation in physical activity among socio-economically disadvantaged groups, (2) examine the characteristics of effective interventions, and (3) provide recommendations for future research.
Comparisons	Across age groups
Outcomes	Socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Socioeconomically-disadvantaged population groups are generally defined as those described as low SES, low income, low education, or from areas defined as socio-economically disadvantaged (often characterised by low income levels)
Rationale for assessing PROGRESS-Plus dimension	Most interventions aimed at improving physical activity have been developed and evaluated in the general population with little regard for their impact across social strata...Several SRs have examined the effectiveness of interventions to improve physical activity among socioeconomically disadvantaged groups. However, to date, there has been no synthesis of the findings of these reviews.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	PubMed/MEDLINE and Scopus with groups of thesaurus terms and free terms for 'physical activity' (e.g. sport, walking, exercise), 'interventions' (e.g. trial, program, implementation), 'social disadvantage' (e.g. low SES, low income, underserved) and publication type (e.g. meta-analysis, review) having been used to create the search strategy. Reference lists of all included papers were manually checked to identify additional relevant articles. Titles and abstracts of the identified articles were reviewed by two authors to exclude articles out of scope. Subsequently, two authors independently reviewed the full text of all potentially relevant articles for eligibility. Disagreements between reviewers were resolved by consensus approach with a third reviewer.
Detection bias	Yes	Data extraction was conducted by one researcher, with all data checked by two other researchers. Where reviews covered multiple populations, intervention foci and behavioural outcomes, the extracted data were based on and limited to the key inclusion criteria stated above. Where possible, data were extracted based on age groupings and we also attempted to extract data on the characteristics of interventions that were related to effectiveness

D'Souza 2004

Study characteristics	
Methods	Targeted (socially disadvantaged women)
Data	5 SRs to review evidence on improving perinatal outcomes for disadvantaged women

D'Souza 2004 *(Continued)*

Comparisons	Not applicable
Outcomes	Socioeconomic status, sex/gender
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Differences are noted in access to and uptake of services, satisfaction with services, breastfeeding rates, smoking in pregnancy, teenage pregnancy rates, mental health and social support. The worst of these outcomes appear to be concentrated in subgroups of socially disadvantaged women
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic search in 8 electronic databases for SRs and studies on 10 different subgroups of disadvantaged women
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Darmstadt 2005

Study characteristics

Methods	Targeted (LMIC)
Data	12 SRs to identify interventions with the potential to reduce perinatal or neonatal mortality, or both for use in low-income and middle-income countries
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Most neonatal deaths occur at home in low-income and middle-income countries against a backdrop of poverty, suboptimum care seeking, and weak health systems
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Searches for SRs, trials and observational studies in electronic databases, search terms not provided, selection criteria provided. No description of who screened the titles or how it was done
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Darmstadt 2009

Study characteristics	
Methods	Targeted (LMIC)
Data	26 SRs of effectiveness of eight interventions delivered during labour reporting stillbirth and perinatal mortality outcomes
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Stillbirth rates are higher in LMIC compared to HIC, and these disparities apply within countries since economically deprived communities have higher stillbirth rates due to disparities in risk factors and inequalities in access and quality of care. 98% of stillbirths occur in LMIC
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Selected according to specified inclusion criteria that it report rate of still births and was a biologically plausible intervention identified by systematic search of multiple databases
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Das 2014

Study characteristics	
Methods	Targeted
Data	12 SRs to systematically review and summarise the available evidence from relevant SRs on the impacts of the outlined facility level inputs (Table 2) to improve the quality of care for maternal and newborn health (MNH).
Comparisons	Not applicable
Outcomes	Plus 3 - time-dependent relationships
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Most of the maternal and newborn deaths occur at birth or within 24 hours of birth; therefore essential lifesaving interventions need to be delivered at basic or comprehensive emergency obstetric and newborn care (BEmONC /CEmONC) facilities
Notes	Funding: government

Risk of bias

Das 2014 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Search was conducted in the Cochrane library and Pubmed. Considered all available SRs on the predefined facility level interventions published before May 2013 as outlined in our conceptual framework.
Detection bias	Yes	Quality assessment of the included reviews was done using Assessment of Multiple Systematic Reviews (AMSTAR) criteria as detailed in the paper 1 of this series. Any disagreements between the primary abstractors were resolved by the third author. For the pre-identified interventions, which did not specifically report MNH outcomes, we have reported the impacts on other health outcomes as reported by the review authors. Estimates are reported as relative risks (RR), risk ratios (RR), risk differences (RD) or mean differences (MD) with 95 % confidence intervals (CI) where available.

Davidson 2014

Study characteristics	
Methods	Targeted
Data	111 SRs to assess the degree of consideration of ethnicity in SRs and guidelines for lifestyle interventions
Comparisons	Not applicable
Outcomes	Race/ethnicity/culture/language
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There remains a lack of guidance on the extent to which generic recommendations are applicable to, and how best to promote lifestyle changes in, ethnic minority populations. There is a growing body of evidence supporting lifestyle interventions for the prevention of chronic disease. However, it is unclear to what extent these evidence-derived recommendations are applicable to ethnic minority populations
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Two reviewers systematically searched seven databases to identify SRs (n = 111) and UK evidence-based guidelines (n = 15) on smoking cessation, increasing physical activity and promoting healthy diet
Detection bias	Yes	The data bases were scrutinised for ethnicity-related considerations

Dickson 2017

Study characteristics	
Methods	Targeted (vulnerable adults)

Dickson 2017 *(Continued)*

Data	43 SRs to analyse and summarise systematic review-level evidence on the impact of interventions on the four outcomes set out in the ASCOF: quality of life, delaying and reducing the need for services, satisfaction with services and safeguarding of vulnerable adults
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Need to identify and measure outcomes that can sensitively capture the differences between social care populations, interventions and intended impacts in the short and long term...Looks at the extent to which the outcomes set out in the ASCOF can be improved and which interventions are most effective for doing this. and to identify significant gaps in the evidence
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Paired independent screeners then a single screener after 90% agreement
Detection bias	Yes	Independent data extraction by two reviewers following a set form. Disagreements were resolved through discussion and arbitration of a third party where required

dos Santos 2019

Study characteristics

Methods	Targeted
Data	29 SRs to synthesise evidence from previous reviews on interventions aimed at reducing sedentary behavior among youth. In particular, the analyses focused on two topics. First, were interventions effective in reducing sedentary behaviour? Second, which intervention strategies and characteristics were more effective in reducing sedentary behaviour?
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age - children and adolescents)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The high prevalence of excessive screen time and other sedentary behaviour among children and adolescents is worrisome because these activities are associated with health problems as obesity, decreased fitness and lowered scores for self-esteem.
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement

dos Santos 2019 *(Continued)*

Selection bias	Yes	A systematic search was carried out in the following electronic databases: MEDLINE (PubMed), Web of Science, LILACS, PsycINFO, Embase, Scopus, SPORTDiscus and Cochrane database of SRs. The search strategy included four groups of descriptors. The search of the electronic databases was supplemented by a screening of the reference list of retrieved articles and the personal libraries of the authors in order to find potentially relevant titles. The initial analysis was performed based on the reading of the titles and abstract. After this step, articles were obtained in full-text version and subsequently screened according to established selection criteria. Subsequently, the screening of the reference list was carried out. All mentioned steps were performed by trained authors (PCS and AB) independently, and a third author (JAS) helped when there were disagreements.
Detection bias	Yes	The data extraction was performed by one author and reviewed by two co-authors who were trained for the data extraction.

Doull 2010

Study characteristics	
Methods	Gap
Data	38 SRs to examine the use of sex- and gender-based analysis (SGBA) in SRs of cardiovascular health in order to strengthen the evidence base for clinical practice and policy.
Comparisons	Gender and sex
Outcomes	Sex/gender
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Research shows sex and gender are relevant in cardiovascular disease risk factors, but quality of evidence remains weak for many
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Random sample of 1/3 of reviews from Cochrane heart, hypertension and peripheral vascular disease review groups
Detection bias	Yes	Data extracted using pre-tested form by 1 research assistant

Duan-Porter 2016

Study characteristics	
Methods	Gap analysis

Duan-Porter 2016 *(Continued)*

Data	269 SRs to describe the reporting of sex effects by SRs on interventions for depression, type 2 diabetes mellitus, and chronic pain conditions (chronic low back pain, knee osteoarthritis, and fibromyalgia)
Comparisons	Gender/sex
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	To advance the clinical evidence base and improve health outcomes for women, clinical research must include adequate numbers of women, appropriately conduct sex-specific analyses, and consistently report sex effects
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Comprehensive search strategy used and two investigators screened each study for eligibility. Full-text articles were reviewed by 2 investigators, and disagreements were resolved through discussion or adjudicated by a third person.
Detection bias	Yes	Data was abstracted by 1 investigator and reviewed by a second person. Disagreements were resolved by discussion or by a third reviewer

Durao 2015

Study characteristics

Methods	Targeted (LMIC)
Data	3 SRs to assess the evidence fromSRs on the effect on morbidity and mortality of blanket screening for hypertension or diabetes mellitus compared with targeted, opportunistic or no screening
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There is insufficient evidence from currently available SRs to confirm a beneficial effect of blanket screening for hypertension and/or diabetes compared with other types of screening methods in low- and middle-income settings. Scarce resources are being mobilised to implement mass screening intervention for diabetes and hypertension without adequate evidence of its effects
Notes	Funding: Non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Selection criteria defined. Two independent screeners and disagreements resolved by a third reviewer

Durao 2015 *(Continued)*

Detection bias	Yes	Criteria defined and two independent extractors. The methodological quality of included reviews was evaluated using AMSTAR, an 11-item validated tool

English 2017

Study characteristics	
Methods	Targeted
Data	32 SRs to identify interventions in low- and middle-income countries, with a high-quality evidence base, that improve MNC morbidity and mortality outcomes within the first 1000 days of life; and to assess the incorporation of the evidence into local strategies, guidelines and documents.
Comparisons	Not applicable
Outcomes	Place of residence, gender/sex, SES, Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Decision makers should constantly review the strength of the existing evidence base and its applicability to the local setting, and how well the evidence is translated into written local documents, and to identify some of the 'know-do' gaps
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	For the initial screening done by two reviewers, only the abstracts and titles were used. Using a structured approach, they independently assessed the full texts of selected articles, and then independently examined the selected studies (not blinded to authors or journals) and applied the eligibility criteria for selecting studies. Reviewers discussed each other's selections, and resolved disagreements through discussion, and consulted a third reviewer when no consensus was reached
Detection bias	Yes	A data extraction sheet, developed and piloted by the study authors, contained the following headings: author and publication year; journal; study design; objectives; number and type of participants; intervention (description of the intervention, setting, who conducted it, training, etc.); summary measures; outcome(s) (mortality, morbidity)

Evans 2019

Study characteristics	
Methods	Targeted
Data	72 SRs to (1) describe the context, components, and target outcomes of the over- arching service delivery models; (2) summarise their reported impacts on quality of life, function, and dignity; (3) appraise the scalability and sustainability of service delivery models with respect to implementation require-

Evans 2019 *(Continued)*

	ments, workforce implications, and population coverage; and (4) identify priorities for policy, practice, and research
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	The use of person-centred outcome measures in routine care is advocated to assess systematically individual needs, priorities, and goals; to direct the provision of care; and to measure the outcomes of care from the perspectives of the patients and their families
Rationale for assessing PROGRESS-Plus dimension	To provide a comprehensive systematic synthesis of the available evidence regarding service delivery models that optimise quality of life for older people at the end of life
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Devised an electronic search strategy with an information specialist using a combination of MeSH and full-text search terms developed for MEDLINE and adapted for other databases as necessary. A calibration process took place in which two reviewers independently reviewed 50 random citations to test the application of the eligibility criteria. Once an agreement of more than 90% was confirmed, 4 groups of 2 or 3 reviewers screened all the titles and abstracts.
Detection bias	Yes	22 of 72 (31%) reviews detailed the status of publication in the inclusion criteria (e.g, gray literature), and 21 of 72 (29%) included a conflict of interest and assessed the likelihood of publication bias

Evans 2020

Study characteristics

Methods	Gap
Data	23 SRs to understand the extent to which Cochrane Eyes and Vision systematic reviews of interventions for cataract, and primary studies, consider equity
Comparisons	Socioeconimic status
Outcomes	Place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, education,SES and Social capital, Plus 1 - personal characteristics associated with discrimination (age, cataracts), Plus 2
Equity definition	Health inequalities are defined as quote: ‘‘differences in health status or in the distribution of health determinants between different population groups’’. In some circumstances, health inequalities cannot be avoided, such as differences in health linked to age. However, when health inequalities arise because of avoidable circumstances, such as poverty or access to health care, these differences are avoidable and unfair and can be described as inequity in health. These inequities are a function of the environment in which people are born, where they live, what jobs they do, how much they earn, and the position they have in society (including gender roles).

Evans 2020 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	Cochrane Eyes and Vision aims to prepare and promote access to systematic reviews of interventions for preventing or treating eye conditions and/or vision impairment and helping people adjust to vision impairment or blindness.... A consideration of equity in systematic reviews may therefore be important for two reasons. Firstly, to ensure that evidence-based recommendations do not increase inequity and secondly, to assess interventions that may reduce inequity.
Notes	Funding: No funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Identified all Cochrane Eyes and Vision systematic reviews on cataract published on the Cochrane Library up to the end of March 2019. From each included Cochrane Eyes and Vision systematic review we identified a sample of 5 most recently published primary studies. Who performed the screening and the screening process not described.
Detection bias	Yes	We developed an online form (Google forms) for data collection which we pilot tested. We collected quantitative and qualitative data on authorship, methods, results, and discussion relevant to equity and low- and middle-income countries (LMICs). We classified countries as either a high-income country or LMIC in accordance with the classification by the World Bank (https://datahelpdesk. worldbank.org/knowledgebase/articles/906519, accessed October 7th, 2019). We had separate but similar forms for reviews and primary studies. We checked our data extraction for consistency with duplicate data extraction in 10% of records.

Farrington 2017

Study characteristics

Methods	Targeted
Data	50 SRs to identify systematic reviews of the effects of developmental prevention programs.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Over the last decades, numerous developmental prevention programs have been implemented in families, kindergartens, schools,family education centres, child guidance clinics and other contexts to reduce risk factors and strengthen protective factors in child development. Many programs focus on individual children or youth by providing training in social competencies, interpersonal problem solving, and other behavioral or cognitive skills. Other programs concentrate on the family by providing training in parenting skills, counselling on child-rearing, or coping with family stress. Schooloriented programs address issues of school and class climate, the origins of bullying, and authoritative teacher behavior.
Notes	Funding: not stated

Risk of bias

Farrington 2017 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Searched GoogleScholar, PsycINFO, Web of Science, Education Resources Information Center (ERIC), Criminal Justice Abstracts, and Scopus from 2012 to the end of March 2016, using predetermined key words. Screening process not described in detail.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided.

Fitzgerald 2016

Study characteristics	
Methods	Targeted and gap
Data	63 SRs to 1) examine the extent to which sex/gender data and analyses were considered in, and are available from, SRs of population-level alcohol policy interventions, and 2) conduct a narrative synthesis of findings from SRs relating to sex/gender differences in effectiveness or potential effectiveness of such interventions
Comparisons	Gender/sex
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Published umbrella alcohol policy reviews have not focused on how well-represented females are in studies, or the potential role of gender differences in influencing overall policy effectiveness
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two screeners selected studies based on reported inclusion/exclusion criteria. Conflcits resolved by a third reviewer
Detection bias	Yes	Data were extracted by 3 reviewers using a reported extraction framework

Flay 2009

Study characteristics	
Methods	Targeted and gap
Data	Systematic reviews to provide a review and critique of meta-analyses and SRs of school-based smoking prevention programs that focus on long-term effects. (number not reported)
Comparisons	Low-risk and high-risk adolescents

Flay 2009 *(Continued)*

Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Findings in the field are sometimes confusing to practitioners and policy makers because some early or short psychosocial programs reported promising short-term effects that did not last. In addition, some tested programs simply were not effective.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Flodgren 2011

Study characteristics

Methods	Targeted
Data	4 SRs to conduct an overview of systematic reviews that evaluates the impact of financial incentives on healthcare professional behaviour and patient outcomes.
Comparisons	Not applicable
Outcomes	Plus: health care equitable (which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status); type of insurance specific population (people being treated for substance abuse, mental health...). e.g., one included RS, outcome: equity of care
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The ultimate goal of using financial incentives to change healthcare professionals' behaviours should be increased quality of care and, by extension, improved patient outcomes, reduced costs, or improved access to care. The World Health Organization (WHO) describes six dimensions of the quality of care....It is unclear whether financial incentives will influence all, or any, of these areas in a positive way.
Notes	Funding: Not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searched the multiple electronic databases for reviews. Two review authors working independently examined the remaining references. Two review authors independently assessed the eligibility of retrieved papers. Two review authors independently applied the inclusion criteria. Discussion between review authors resolved disagreements.

Flodgren 2011 *(Continued)*

Detection bias	Yes	Two review authors independently extracted the data from reviews into a data extraction form. Discussion between review authors resolved disagreements. We contacted the authors of reviews, and in some cases the authors of individual studies, for missing data. When we were reviewing the studies included within the identified reviews, two review authors independently extracted data into a data extraction form. Discussion between review authors resolved disagreements. We extracted and reported any relevant data within the trials that were not reported in the review.

Flodgren 2020

Study characteristics	
Methods	Targeted
Data	13 SRs to summarise recent evidence from SRs, published after 2008, of the effects of interventions aimed at preventing overweight and obesity in adolescents aged 10 to 19 years
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Adolescence is a time of physical, cognitive, and social development. It is also a period of increasing autonomy, and as such, a period during which health behaviours may be more susceptible to change. Preventive interventions applied in this 'window of opportunity' may be more effective in promoting change to a healthy behaviour and thus in improving health throughout life
Notes	Funding: Government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Two authors independently assessed the eligibility of titles and abstracts for inclusion using the EPPI reviewer software and assessed full texts for inclusion.
Detection bias	Yes	Data extraction was performed by one author and checked by a second author using a standardised and piloted data extraction form. We resolved any disagreements through discussion.

Foltz 2012

Study characteristics	
Methods	Targeted (children, low-income families)
Data	Multiple SRs to provide a summary of population-level intervention strategies and specific intervention examples that illustrate ways to help prevent and control obesity in children through improving nutrition and physical activity behaviours
Comparisons	Not applicable

Foltz 2012 *(Continued)*

Outcomes	Race/ethnicity/culture/language, Socioeconomic status, Plus 1- personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Policies can be levers to alter multiple environments…These systems, or environmental changes, can alter social norms, attitudes, and motivations as well as seek to improve equitable access, resources, and supports for healthy eating and active living... Both policy and environmental changes may also help to reduce disparities by improving access to and the availability of healthy food and physical activity outlet
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Foss 2019

Study characteristics

Methods	Targeted
Data	12 SRs to provide a broad scoping overview of the available evidence on communication with adolescents, parents, and other stakeholders around HPV vaccination for adolescents, with a specific focus on LMICs.
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Communication interventions are able to change how people think about vaccination and are instrumental in addressing vaccine hesitancy. Findings can be used to prioritise areas where new or updated SRs are needed on communication around HPV vaccination for adolescents, especially in LMICs.To our knowledge, no overviews of reviews have been conducted that summarise the available evidence on this topic
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searched for relevant SRs in the Epistemonikos database of systematic reviews. The following databases are searched to populate the Epistemonikos database, with no language or publication status restrictions: Cochrane Database of Systematic Reviews (CDSR), PubMed, Embase, CINAHL (The Cumu-

Foss 2019 *(Continued)*

		lative Index to Nursing and Allied Health Literature), PsycINFO, LILACS (Literatura Latinoamericana y del Caribe en Ciencias de la Salud), Database of Abstracts of Reviews of Effects (DARE), The Campbell Collaboration online library, JBI Database of Systematic Reviews and Implementation, and EPPI-Centre Evidence Library. Two overview authors independently screened titles and abstracts to identify potentially eligible reviews. Conducted a pilot screening of 20 full-text reviews to ensure agreement on our interpretation of the inclusion and exclusion criteria. Two overview authors examined potentially eligible reviews in full text to make a final decision on inclusion. Discrepancies were resolved either by a third overview author deciding on inclusion or through discussion between the two overview authors.
Detection bias	Yes	Search conducted using the most comprehensive and up-to-date global database of systematic reviews that is, in turn, based on searches of a very large number of other health study databases

Franx 2008

Study characteristics	
Methods	Targeted
Data	21 SRs to provide a comprehensive overview of research on organisational changes aimed at improving health care for patients with severe mental illness and to lean lessons for mental health practice from the results.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The challenges posed by chronic illnesses are especially pertinent to mental health care, as the prevalence and costs of chronic mental illness are growing and a clear perspective on their management is lacking.
Notes	Funding: honorarium from the journal

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Three reviewers independently assessed the eligibility of studies, based on a screening of titles and abstracts
Detection bias	Yes	All selected reviews were appraised by 2 reviewers independently, using a structured data extraction form containing questions about the focus of the review, the search strategy, the methodological quality, and the main results.

Galvao 2016

Study characteristics	

Galvao 2016 *(Continued)*

Methods	Unclear
Data	47 SRs to identify reported interventions that facilitate sustainable development and have had a positive impact on health in four areas: sustainable food production; sustainable energy use; sustainable jobs ("decent work"); and prevention of toxic exposure to chemicals
Comparisons	Unclear
Outcomes	Place of residence, occupation, SES
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The social and environmental determinants of health are closely related to sustainable development—they are the societal conditions in which people are born, grow, live, work, play, and age
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The pre-specified inclusion criteria were applied against these papers by two reviewers. Disagreements were resolved by discussion and consensus
Detection bias	Yes	One reviewer extracted all relevant data from included papers and a second reviewer verified the extracted data

Gates 2018

Study characteristics

Methods	Targeted
Data	1598 SRs to characterise the epidemiologic, methodological, and reporting qualities of non-Cochrane child-relevant SRs published in 2014
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	To guide decision-making in child health, consumers, clinicians, policymakers and researchers require high-quality evidence
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement

Gates 2018 *(Continued)*

Selection bias	Yes	Strict inclusion criteria was applied and numerous records to identify those that met the minimum standards required to be considered 'true SRs were searched meaning that the poorest quality reviews would have been excluded
Detection bias	Yes	Methodological and reporting deficits among the items that we assessed were prevalent. In the absence of a central repository for high quality child-relevant SR evidence, efforts to ensure that unbiased and accurate child-relevant SRs are readily available and easily identifiable by decision makers are required

Gibson 2011

Study characteristics	
Methods	Targeted
Data	5 SRs to (1) identify what types of housing and neighbourhood interventions have been reviewed systematically and how these relate to the different pathways between housing and health; (2) establish what gaps exist in the systematic review evidence base on housing interventions; and (3) consider what existing reviews can tell us about the impact of housing and neighbourhood interventions on health and health inequalities
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Health inequalities persist in developed countries, despite general improvements in health outcomes across the population. The unequal distribution of health has led to a growing awareness that health is socially determined by factors originating in different levels of society, ranging from the individual to the structural, as represented by models such as Dahlgren and Whitehead's well-known 'rainbow' mode
Notes	Funding:government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	The searches were designed and conducted by an experienced Information Scientist from the Centre for Reviews and Dissemination. We searched the CRD Wider Public Health database manually from 2000–2002. In addition, we conducted electronic searches of the Cochrane Database of Systematic Reviews, the Criminal Justice Abstracts database (2000–2007) and the Database of Abstracts of Reviews of Effects (DARE; 2002–2007), and hand searched the Campbell Collaboration Database and the Evidence for Policy and Practice Information and Coordinating Centre database (2002–2007). All titles and abstracts (n¼1694) were independently screened by two reviewers, and relevant reviews (n¼84) were retrieved and assessed for inclusion.
Detection bias	Yes	Discrepancies were resolved by consensus, or referred to a third reviewer if necessary. Data relating to the review methods (search strategy, inclusion criteria, synthesis) were extracted along with information about the intervention, participants, outcomes, results (including number of studies and study design), authors' conclusions and research recommendations. Each systematic review was critically appraised using a checklist list adapted from DARE.

Golden 2012

Study characteristics	
Methods	Targeted
Data	Systematic reviews (the number of SRs is not included) to provide a scholarly review of the published literature on biological, clinical, and non-clinical contributors to race/ethnic and sex disparities in endocrine disorders and to identify current gaps in knowledge as a focus for future research needs
Comparisons	Not applicable
Outcomes	Ethnicity
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions among specific population groups exist throughout the world, in developed and developing nations alike. Such disparities in disease burden, comorbidities, and outcomes are a feature of many of the world's most prevalent disorders, including endocrine diseases. Disparities due to income, education, geography, and other measures of SES that may influence access to care will be discussed, where relevant, because these vulnerabilities often co-occur, making it difficult to disentangle potential biological contributions from other social influences on health disparities
Notes	Funding: no funding

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	The primary sources of data on global disease prevalence are from the World Health Organization. A comprehensive literature search of PubMed identified U.S. population-based studies.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Goldstein 2018

Study characteristics	
Methods	Targeted (women)
Data	3 SRs to describe the current landscape of telehealth interventions designed specifically for women using an evidence mapping approach
Comparisons	Not applicable
Outcomes	Sex/gender
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Women are one population that may benefit from individualised tailoring offered by telehealth approaches. They have gender-specific healthcare needs due to biological and sociocultural characteris-

Goldstein 2018 *(Continued)*

	tics, are high utilisers of health care, and are more likely than men to use mobile applications or search for health information online
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two independent reviewers screened studies. Inclusion and exclusion criteria stated.
Detection bias	Yes	Data from primary studies meeting inclusion criteria were abstracted into a customised DistillerSR database by one investigator, and a random sample of 10% was over-read by one of three senior investigators. Data from SRs were abstracted into an Excel database and over-read by senior investigators. Disagreements were resolved by consensus or arbitrated by the study team

Goldthorpe 2020

Study characteristics

Methods	Targeted
Data	10 SRs to address limitations in the current literature by synthesising findings from studies relating to interventions set in primary/elementary schools targeting diet or physical activity, or a combination of diet and physical activity.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age and weight)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Intervention with school-age children should take place as early as possible, and the primary school setting offers a key opportunity to intervene early, at a crucial time in children's development.
Notes	Funding: industry

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	A comprehensive search was carried out using eight databases. The primary review author screened all identified papers based on titles and abstracts, and two co-authors screened half of the identified papers each, ensuring each reference was double-reviewed. The primary author obtained the full text of potentially eligible articles which were re-assessed for eligibility against the specified inclusion and exclusion criteria by three reviewers. Any discordance in decision-making was resolved through discussion between the three reviewers.
Detection bias	Yes	Data were extracted by a single reviewer using structured data extraction forms based on the research questions: (a) How effective are primary/elementary school-based interventions at preventing/ameliorating excess weight gain? (b) How effective are primary/elementary school-based interventions

Goldthorpe 2020 *(Continued)*

	at promoting health behaviours associated with preventing/ameliorating excess weight gain? (c) What are the most effective intervention components? (d) What sample characteristics are associated with effectiveness? Descriptive characteristics of the reviews, interventions, and samples were also extracted

Gomersall 2016

Study characteristics

Methods	Targeted
Data	14 SRs to describe the main characteristics of SRs addressing questions of chronic disease and related risk factors for Indigenous Australians
Comparisons	Not applicable
Outcomes	Ethnicity
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Providing decision makers working in policy formulation and health services with the best available evidence about opportunities to prevent, and enhance treatment and management of, chronic disease for Indigenous Australians is important to promote health equality. The intent is to assist in building a program of systematic review research that synthesises evidence the right way and generates valid, relevant findings that help improve chronic disease and other health outcomes for Indigenous Australians.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers screened titles and abstracts of records independently to identify studies matching the inclusion criteria. The same reviewers retrieved full text of potentially relevant studies and assessed them against the inclusion criteria. Disagreements were resolved through discussion or by consulting a third reviewer.
Detection bias	Yes	Two reviewers extracted data using a predefined data extraction tool developed specifically for this review and designed to extract data on key characteristics of systematic reviews. Each reviewer cross-checked data extraction for 20% of the studies (randomly selected) for completeness and accuracy

Gomez 2015

Study characteristics

Methods	Targeted (urban environments)
Data	8 SRs to 1) summarise the evidence from quantitative systematic reviews and meta-analysis that assessed the associations between urban environment attributes and physical activities; and 2) conduct

Gomez 2015 *(Continued)*

	a documentary analysis of the sociopolitical facilitators and barriers involved in the interventions identified in the review of the urban context of Latin America
Comparisons	Not applicable
Outcomes	Place of residence, SES
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Difference in access to urban features that assist physical fitness based on SES
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two authors compiled a list of potentially relevant studies. During the entire screening process, eligibility of publications was discussed with a third author until consensus was reached.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Haby 2016

Study characteristics

Methods	Gap analysis
Data	14 SRs to identify interventions that facilitate sustainable jobs and have a positive impact on the health of workers in health sector workplaces
Comparisons	Sustainable vs non-sustainable jobs
Outcomes	Race/ethnicity, gender, place of residence, SES
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Protecting human health is a key aspect of the “inclusive social development” dimension of the integrated framework for sustainable development and an outcome of, and precondition for, the other three dimensions (inclusive economic development, environmental sustainability, and peace and security)
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Search and initial screening was done by one reviewer. Full-text screening done independently by two reviewers

Haby 2016 *(Continued)*

Detection bias	Yes	Data extraction was done by one reviewer and corroborated by a second reviewer

Haby 2016a

Study characteristics		
Methods	Targeted (LMICs)	
Data	15 SRs to identify the agriculture, food, and nutrition security interventions that facilitate sustainable food production and have a positive impact on health	
Comparisons	Not applicable	
Outcomes	Place of residence	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Different levels of access to food and nutrition security affect health outcomes.	
Notes	Funding: non for profit	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Searches were conducted and screened according to the selection criteria, by one review author. Full-text articles were screened by two reviewers and discrepancies were resolved through consensus
Detection bias	Yes	Data was extracted by two reviewers

Haby 2016b

Study characteristics		
Methods	Targeted	
Data	13 SRs to identify interventions that 1) facilitate sustainable development by prevent- ing toxic exposure to chemicals, including pesticides, and 2) have a positive impact on health	
Comparisons	Not applicable	
Outcomes	Place of residence, gender/sex, SES, Plus 1 - personal characteristics associated with discrimination (age)	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Toxic exposure to chemicals could also contribute to health inequalities and compromise inclusive economic development, as the risk of being exposed is disproportionally concentrated in populations	

Haby 2016b *(Continued)*

	already in a situation of increased socioeconomic vulnerability. The potential impact on health inequalities must be considered and measured in future primary studies and SRs.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	A comprehensive search of 16 databases and eight websites was conducted. Searches were conducted and screened according to the selection criteria by one review author. The full text of any potentially relevant papers was retrieved for closer examination. The inclusion criteria were applied to the papers independently by two reviewers. Disagreements regarding eligibility of studies were resolved by discussion and consensus.
Detection bias	Yes	One reviewer extracted all relevant data from the included reports using a standard form. A second reviewer verified the extracted data. Differences were resolved by discussion and consensus.

Haby 2016c

Study characteristics

Methods	Targeted
Data	5 SRs to inform policy by providing an overview of SRs on interventions that facilitate sustainable energy use and have a positive impact on health
Comparisons	Not applicable
Outcomes	Gender/sex, SES, place of residence, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	The framework includes the core values of human rights, equality, and sustainability, and four key dimensions: inclusive social development; inclusive economic development; environmental sustainability; and peace and security
Rationale for assessing PROGRESS-Plus dimension	This overview of the SR and economic evaluation literature (along with three related overviews) was developed by the Pan American Health Organization (PAHO) to inform the development of the new SDGs, and particularly, to provide Member States with evidence for the possible impact that policies and programs in other sectors (e.g. agriculture, environment, international development, economic) might have on health.
Notes	Funding: Non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searches were conducted and screened according to the selection criteria, by one review author. The full text of any potentially relevant papers was retrieved for closer examination. The inclusion criteria were applied against

Haby 2016c *(Continued)*

		these papers independently by two reviewers. Disagreements regarding eligibility of studies were resolved by discussion and consensus
Detection bias	Yes	One reviewer extracted all relevant data from included papers using a standard form. A second reviewer verified the extracted data. Differences were resolved by discussion and consensus

Halas 2020

Study characteristics	
Methods	Gap
Data	681 SRs to examine the extent, range, and nature of research covering tobacco control within the domain of primary prevention and within the timeframe following the FCTC entry into force in February 2005.5
Comparisons	Age
Outcomes	Across PROGRESS
Equity definition	Health inequities are related to terms such as “marginalized” or “vulnerable,” or reference to a specific disadvantaged population subgroup.
Rationale for assessing PROGRESS-Plus dimension	Given the persistence of the tobacco epidemic, and preventable tobacco-related inequities, in particular, it was important to incorporate an equity lens into the analysis. Tobacco-related health consequences are world-wide and one of the earliest examples of a global noninfectious disease epidemic.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The following electronic databases were searched systematically: PubMed, Scopus, Cochrane Library, the Cumulative Index to Nursing and Allied Health Literature, PsycInfo, and Educational Resources Information Centre covering literature from January 2004 to June 2018. A sample search strategy is appended to the published protocol, including search terms and limits applied. Second, an abstract review was performed by two of the authors to assess the abstracts that met our defined inclusion and exclusion criteria. When the abstract provided insufficient details for agreement between two reviewers, the full article was reviewed.
Detection bias	Yes	The abstracts provided key pieces of information, which informed the development of a data extraction table. The categories are detailed in the protocol and further developed as we became more familiar with the data and consulted with our research team. The equity category considered the characteristics of the targeted population (e.g, age, gender, ethnicity, and SES) and was further analysed based on whether the review simply identified one or more disparities, or whether equity was integrated into the research objective by addressing societal and structural mechanisms contributing to disparities.

Hartmann 2016

Study characteristics	
Methods	Targeted
Data	10 SRs to identify research gaps as part of a broader priority setting exercise on integrating gender equality and human rights approaches in sexual and reproductive health (SRH) programmes and policies
Comparisons	Not applicable
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	While progress has been made in understanding how some dimensions of gender inequalities and violations of human rights shape SRH outcomes, as well as in developing and evaluating interventions that promote gender equality in the context of some SRH programmes and policies, much remains to be done to address these issues systematically.
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Search results from each of the three priority databases were exported into Excel and titles and abstracts were reviewed by the primary author to identify articles that merited full-text review.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Haws 2009

Study characteristics	
Methods	Targeted (LMIC)
Data	24 SRs to review available published evidence for the impact of 14 screening and monitoring interventions in pregnancy on stillbirth, including identification and management of high-risk pregnancies, advanced monitoring techniques, and monitoring of labour
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Stillbirth rates are higher in LMIC compared to HIC, and these disparities apply within countries since economically deprived communities have higher stillbirth rates due to disparities in risk factors and inequalities in access and quality of care. 98% of stillbirths occur in LMIC
Notes	Funding: non for profit

Risk of bias

Haws 2009 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Selected according to specified inclusion criteria that it report rate of still births and was a biologically plausible intervention identified by systematic search of multiple databases
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Hayba 2020

Study characteristics	
Methods	Targeted
Data	9 SRs (i) to synthesise the evidence on the effectiveness of lifestyle programme for adolescents and (ii) to identify study variables needed to enable translation and implementation in the wider population of adolescents.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The failure to decrease rates of obesity and overweight worldwide calls for nuanced and equity-based responses to the obesity pandemic that was declared more than 20 years ago...Integration of available evidence is needed to translate interventions beyond the research setting into practice and policies. Reporting of external validity components such as attrition, cost and programme sustainability is essential. Due consideration must be given to reaching and engaging vulnerable populations such as those from socio-economically disadvantaged and ethnic minority backgrounds who have exhibited increased risk for overweight and obesity.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Once duplicates were removed, all titles and abstracts were assessed according to the eligibility criteria by the author. The full texts were then retrieved, and screened by two reviewers independently. For full texts with conflicting decisions regarding eligibility, judgement was resolved by further discussion.
Detection bias	Yes	A data extraction form was developed, informed by the PRISMA statement for reporting systematic reviews. This form was piloted on a subsample of included reviews and refined before being used by one author to extract the following data: review details (authors, year, country of publication, aim, search strategy, inclusion criteria, number of studies reviewed, countries represented), participants (characteristics), Interventions (theory, setting), outcome, measures (BMI z-scores, BMI for age, BMI and/or weight), duration, lifestyle (physical activity levels and dietary changes) and their method of assessment and analysis methods. A second reviewer checked the data extractions. Conflicting judgements were discussed to reach agreement.

Heidkamp 2017

Study characteristics	
Methods	Targeted and Gap (differential effects)
Data	3 SRs to review the current state of the evidence for the impact of two categories of interventions (nutrition education alone and provision of food or nutrient supplements with or without education) on linear and ponderal growth of children aged 6-23 months in LMIC.
Comparisons	Nutrition education alone vs food/nutrient supplements with or without education
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	In the 2008 and 2013 Lancet Nutrition series, interventions to improve complementary feeding of children 6–23 months of age through caregiver education and/or provision of food supplements were cited among 10 effective nutrition interventions that, if implemented together at scale in high-burden countries, could reduce stunting by 20% and deaths in children under 5 years of age by 15% globally
Notes	Funding: not stated

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	No	Manually selected 3 studies
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Heslehurst 2018

Study characteristics	
Methods	Targeted
Data	145 SRs to report the effectiveness of interventions delivered during pregnancy on changing women's behaviour across multiple behavioural domains.
Comparisons	Not applicable
Outcomes	Gender/sex, Plus 1 - personal characteristics associated with discrimination (pregnant women)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The increasing need for multiple interventions, and development of a plethora of referral systems, pathways and guidelines, can ultimately present a significant burden to women, healthcare professionals and services trying to manage complex pregnancies
Notes	Funding: government

Risk of bias

Heslehurst 2018 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Yes	All stages of screening were done using a specific inclusion criteria and were carried out by two reviewers independently with any disagreements discussed and a third reviewer available for arbitration if required.
Detection bias	Yes	All data extraction and quality assessments were carried out by one reviewer and validated by a second reviewer.

Heslehurst 2020

Study characteristics	
Methods	Targeted
Data	29 SRs to updated and expanded a previous systematic literature review examining the impact of tobacco control interventions on socioeconomic inequalities in smoking.
Comparisons	Not applicable
Outcomes	Gender/sex, Plus 3 - time-dependent relationships (asylum seekers/refugees)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Vulnerable pregnant women, including women with asylum seeker and refugee status, face barriers to accessing healthcare including maternity care... There is a lack of published SRs that explicitly address pregnancy among asylum seeker and refugee populations, and there is a tendency to group all migrant populations together in syntheses.
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two authors independently screened titles, abstracts and full texts for inclusion in the review. Disagreements regarding eligibility for inclusion were resolved through discussion; a third independent reviewer was available where no agreement could be reached.
Detection bias	Yes	Data extraction and quality assessments were carried out in duplicate for all included systematic reviews. Independent data extractions and quality assessments were combined by two authors and agreed with recourse to a third reviewer if no agreement could be reached

Hill 2014

Study characteristics	
Methods	Targeted (low SES)

Hill 2014 *(Continued)*

Data	7 SRs to synthesise existing evidence on the equity impact of tobacco control interventions by SES, building on the previous CRD review but expanding its focus to include educational media campaigns and smoking cessation services
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There is now a wide body of research describing the uneven distribution of tobacco use by SES, but very little focusing on how to reduce these inequalities
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Search process described and all articles were appraised by two authors
Detection bias	Yes	All articles were reviewed by two authors and details extracted using a standardised form

Hillier-Brown 2019

Study characteristics

Methods	Targeted
Data	6 SRs to update and appraise the evidence base of the effects of social protection policies on health inequalities
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Comparative research examining how differences in the magnitude of health inequalities vary by welfare state has not found consistent evidence of lower health inequalities in the more extensive welfare states – this observation has been termed the Nordic public health puzzle. There has also been an increasing focus on the effects of social protection on health inequalities in light of the financial crisis and austerity over the last 10 years.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Nine databases were searched with searches tailored to the specific host site. To complement searches, citation follow up from the bibliographies and reference lists of all included articles was conducted. The initial screening of titles

Hillier-Brown 2019 *(Continued)*

		and abstracts using EndNote was conducted by three reviewers with a random sample of at least 10% checked by all reviewers to ensure agreement; agreement between the reviewers was 98%. Full-text screening was conducted in duplicate by three reviewers and discrepancies were resolved through discussion, including the project lead if necessary.
Detection bias	Yes	The methods and main findings were extracted using a bespoke data extraction form. Data extraction was conducted by on reviewer and checked in full by another. Any discrepancies on selection and extraction were resolved through discussion between the lead reviewers and the project lead.

Holbrook 2015

Study characteristics		
Methods	Targeted	
Data	17 SRs to critically review and synthesise information on medication-assisted treatment in opioid dependent pregnant women.	
Comparisons	Not applicable	
Outcomes	Gender/sex, Plus 1 - personal characteristics associated with discrimination	
Equity definition	Not defined	
Rationale for assessing PROGRESS-Plus dimension	Social workers might be unclear what outcomes can be expected from medication-assisted treatment, or whether methadone or buprenorphine is most appropriate for a pregnant client. Therefore, examining the literature on the effectiveness of medication-assisted treatments is particularly important... Although many review articles have been published on the topic of treating opioid dependence during pregnancy, their quality varies widely. In addition, many published reviews were written with a medical audience in mind rather than a social work audience, and thus focus on the clinical and pharmacological management of the pregnancy instead of evaluating treatment effectiveness.	
Notes	Funding: not stated	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Abstracts were reviewed initially and full text was sought when relevance was not clear from the abstract. Reviews were excluded that did not focus primarily on the effects of illicit drug use, pharmacological or pain management strategies, or those that did not include outcomes.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Humphreys 2013

Study characteristics	
Methods	Targeted

Humphreys 2013 *(Continued)*

Data	19 SRs to explore appropriate techniques for synthesising evidence relating to distributional effectiveness and to judge whether a full SR would be necessary and practicable.
Comparisons	Not applicable
Outcomes	Race/ethnicity/culture/language, gender/sex, SES, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Health inequalities are differences in health between and within populations
Rationale for assessing PROGRESS-Plus dimension	Without further consideration of their distributional effects, it is impossible to evaluate whether measures to improve overall population levels of physical activity are also reducing inequalities... There is a lack of evidence regarding the social distribution of effectiveness of environmental and policy interventions, and what evidence does exist is largely outdated.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Pilot SR performed to assess the availability of information on the social distribution of intervention effects, the targeting or allocation of interventions, and the baseline characteristics of participants.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Huntley 2017a

Study characteristics

Methods	Targeted
Data	2 SRs to provide insight into components of care that contribute to supportive care that is acceptable to men with prostate cancer.
Comparisons	Not applicable
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Men with prostate cancer are likely to have a long illness pathway with the greater part being supported by family, friends and family doctors.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	Narrative review of SRs that were selected

Huntley 2017a *(Continued)*

Detection bias	Yes	Analysis not restricted by outcome; reported all outcomes reported in the studies

Jackson-Best 2018

Study characteristics	
Methods	Targeted
Data	98 SRs to contribute to the knowledge on stigma by advancing a cross-analysis of HIV/ AIDS, mental illness, and physical disability stigma, and exploring whether and how intersectionality frameworks have been used in the systematic reviews of stigma.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (HIV/AIDS, mental illness, and physical disability)
Equity definition	At its foundation, stigma is about social inequality and social control, which create a hierarchy that devalues stigmatised people. Stigma is especially problematic for people living with HIV/AIDS (Human Immunodeficiency Virus Infection and Acquired Immune Deficiency Syndrome), mental illness, and physical disabilities because it can create barriers to accessing health care, education, employment, and affordable housing, which in turn, may exacerbate the experience of marginalisation.
Rationale for assessing PROGRESS-Plus dimension	At its foundation, stigma is about social inequality and social control, which create a hierarchy that devalues stigmatised people. Stigma is especially problematic for people living with HIV/AIDS (Human Immunodeficiency Virus Infection and Acquired Immune Deficiency Syndrome), mental illness, and physical disabilities because it can create barriers to accessing health care, education, employment, and affordable housing, which in turn, may exacerbate the experience of marginalisation.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Following the first database search, both authors independently reviewed a sample (n = 15) of retrieved titles and abstracts for relevance. They then met to discuss discrepancies in their assessments, and refine the final inclusion criteria for reviews. The titles and abstracts of all citations were then screened for relevance by the authors. When relevance could not be ascertained, the full paper was retrieved and reviewed to make a relevance decision.
Detection bias	Yes	Data were extracted from the reviews using the following categories: aim/objective, specific health issue addressed (i.e. type of mental illness or disability), type of systematic review and number of primary studies included in the review, their geographic location, study design (qualitative, quantitative or mixed methods), study population, type(s) of stigma addressed (interpersonal stigma, intrapersonal stigma, and structural/institutional stigma), and destigmatising interventions used. We also extracted key findings and recommendations from each review. Data were entered into a table in Microsoft Excel. To ensure that we captured all descriptors of intersectionality, we then did a keyword search of each eligible review paper using the terms “intersectionality”, “intersectional”, and “intersection”. We extracted all definitions and descriptions of these terms from these papers as well as any related findings. We used

Jackson-Best 2018 *(Continued)*

	matrices to compare the characteristics of reviews and their application of intersectional approaches across the three health conditions

Jarvis 2020

Study characteristics	
Methods	Targeted
Data	16 SRs to determine the effectiveness of interventions to decrease loneliness for older persons (60 and over) (inclusive of e-Interventtions), living in community/residential care settings
Comparisons	Not applicable
Outcomes	Social capital, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There is a growing body of published evidence on interventions that aim to address social isolation and loneliness, including a number of SRs. These reviews are heterogenous in nature with varying levels of evidence.
Notes	Funding: no funding

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Systematic search of multiple databases. After excluding duplicates, two reviewers used the PIOT independently to review the titles and abstracts to exclude irrelevant studies and to identify reviews for possible inclusion. The full papers of the selected reviews were examined and confirmed for selection based on meeting the study PIOT. Disparities were resolved through discussion and involvement of a third reviewer
Detection bias	Yes	Data extraction sheet to capture information such as: number and type of included studies, participants against inclusion criteria, type of intervention categorised according to their mode. Following this, information on the unique primary studies in the reviews were screened for high - evaluation studies (Randomised Controlled Trials (RCTs) for older persons (Participants), loneliness (Outcome) and Intervention type using Masi et al. (2011) classification of loneliness interventions.

Jepson 2010

Study characteristics	
Methods	Gap analysis
Data	103 SRs to assess effectiveness of behavioural change interventions on health behaviours and health inequalities. Subsidiary aim of the review was explore, where possible, the evidence of impact of interventions on health inequalities

Jepson 2010 *(Continued)*

Comparisons	Health inequalities
Outcomes	"health inequalities", no specification of how health inequalities was defined, though race/ethnicity, gender/sex, age and SES were described in the results
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There is a need to take into account the socio-economic and cultural contexts within which people are located. Also, illness clusters within lower socio-economic groups thus those conducting systematic reviews (as well as those designing interventions) need to make health inequalities a central concern.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic searches in electronic databases, screened using pre-specified inclusion criteria, independently screened by 2 reviewers
Detection bias	Unclear	Data extraction was by one of 4 reviewers, and a sample was checked by another reviewer

Johnson 2003

Study characteristics

Methods	Gap analysis
Data	31 SRs to assess whether Cochrane Systematic Reviews on cardiovascular disease handled gender differences and whether the data pertaining to treatment of CVD is applicable to the clinical care of women
Comparisons	Gender
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Imperative that the practice of medicine be based on high-quality evidence, including evidence on women. CVD is number one killer of women, yet clinical trials performed predominantly in men
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Included all completed systematic reviews in Cochrane Heart group, Hypertension group, Peripheral Vascular Diseases group.
Detection bias	Unclear	Method of extraction not described but details of data to be extracted were provided

Jones 2003

Study characteristics	
Methods	Targeted (LMIC)
Data	10 SRs aimed to identify how many child lives could be saved if known effective interventions were available and assessed relevance to preventing child deaths in LMIC then modelled number of lives that could be saved
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	More than 10 million children dying every year, almost all in low-income countries or poor areas of middle-income countries.1 90% of these deaths occurred in just 42 countries, most from one of a short list of causes: diarrhoea, pneumonia, measles, malaria, HIV/AIDS, and the underlying cause of undernutrition for deaths among children younger than 5 years, and asphyxia, preterm delivery, sepsis, and tetanus for deaths among neonates
Notes	Funding: no funding

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Unclear	Searches for systematic reviewSRs in MEDLINE and Popline, search terms not provided. Screening and selection methods were not described.
Detection bias	Unclear	Methods of data extraction not described

Kamitani 2017

Study characteristics	
Methods	Targeted (people living with HIV)
Data	5 SRs to (a) understand the effectiveness of PE on physiological health, psychological health, and virological status (viral load) outcomes by synthesising currently available systematic reviews, and (b) determine the evidence for an appropriate PE regimen to improve health conditions among PLHIV
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (people with HIV)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Due to the advances in highly active antiretroviral therapy (HAART), HIV infection has become a manageable chronic illness, and the life expectancy of this population has increased...Physical exercise, a subset of physical activity that has a final or intermediate objective for the improvement or maintenance of physical fitness has been recognised as an effective strategy to slow the aging process and reduce the risk for chronic illnesses in general population

Kamitani 2017 *(Continued)*

Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers screened the citations by title and abstract to identify the studies that met inclusion criteria. Two reviewers screened the full text of identified studies that met the inclusion criteria
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Khambalia 2012

Study characteristics

Methods	Targeted (children)
Data	8 SRs to summarise and critically appraise evidence from existing meta-analyses and SRs examining school- based programs to prevent and control obesity
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Children are unfairly vulnerable to obesity because they do not control their food environment. There are also inconsistent findings from SRs, the number of which almost outnumbers individual intervention studies in some research areas, make it difficult for researchers, policy-makers and school personnel to decipher the differences among reviews and the variation in reviewers' conclusions.
Notes	Funding: Not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Structured searches conducted and two investigators independently screened
Detection bias	Yes	Data extraction by one investigator and checked for completeness and accuracy by a second investigator.

Komro 2013

Study characteristics

Methods	Targeted (children in distressed neighbourhoods)

Komro 2013 *(Continued)*

Data	114 SRs to examine community development interventions to reduce inequities in child health for distressed/vulnerable populations, which are unfairly and avoidably affected by poor health outcomes due to poverty
Comparisons	Not applicable
Outcomes	Place of residenceSES, race/ethnicity/culture/language, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Children of low SES, racial and ethnic minorities, and residents of disadvantaged neighbourhoods have substantially increased risk for deleterious health outcomes. Additionally, scientific evidence on health promotion and risk prevention strategies is diverse, complicated, inconsistent in quantity and quality, and often inaccessible to policymakers, health care providers and other community stakeholders.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not well described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Legere 2018

Study characteristics

Methods	Targeted (older adults with dimentia)
Data	18 SRs to review the evidence on nonpharmacological approaches to care for behavioural and psychological symptoms of dementia in older adults
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age, disability)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Individuals and healthcare providers may dismiss these behaviours as dementia-related to explain occurrence, rather than considering the contexts in which they occur in order to identify aetiology-based solutions. Thus, first-line strategies to care should not automatically involve pharmacological interventions or physical restraint application to avert the behaviour, but rather consider the whole person and their unique needs.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement

Legere 2018 *(Continued)*

Selection bias	Yes	Two NRAs independently screened all the title and abstracts of the articles yielded from the search
Detection bias	Yes	Two reviewers independently appraised quality, and extracted data

Lewin 2008

Study characteristics		
Methods	Targeted (LMIC)	
Data	20 systematic reviews to summarize evidence from systematic reviews that have the potential to improve delivery of cost-effective interventions in primary health care in LMIC	
Comparisons	Not Applicable	
Outcomes	Place of residence	
Equity definition	Not Defined	
Rationale for assessing PROGRESS-Plus dimension	Strengthening health systems to improve the delivery of cost-effective interventions is complicated by differing ideas of what constitutes primary health care. This is affected, in part, by financial and human resources and the underlying political and ideological perspective of different countries. The broader approach for primary health care is seen as encompassing equitable distribution,community participation, an emphasis on prevention, the use of appropriate technology, and the involvement of of a diverse range of health and other departments	
Notes	Funding: Not stated	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Systematic search with prespecified inclusion criteria,
Detection bias	Yes	2 independent reviewers screened for inclusion and extracted data and assessed quality using forms

Liu 2012

Study characteristics	
Methods	Targeted (ethnic minorities)
Data	111 systematic reviews to identified health promotion interventions for smoking cessation, increasing physical activity, and improving healthy eating that have been adapted to meet the needs of African-, Chinese- and South Asian-origin ethnic minority populations. To describe the adaptation approaches used and assess the clinical effectiveness, cost-effectiveness, feasibility, acceptability and equity of these adapted approaches
Comparisons	Not Applicable

Liu 2012 *(Continued)*

Outcomes	Race/ethnicity/culture/language, Socioeconomic status, Plus 1- personal characteristics associated with discrimination
Equity definition	Not Defined
Rationale for assessing PROGRESS-Plus dimension	Health promotion approaches are increasingly seen as the long-term strategies most likely to prove clinically effective and cost-effective for preventing disease and improving health outcomes in those with established disease. Reducing health inequalities is a declared national priority in many economically developed countries.
Notes	Funding: Government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers independently screened all titles and abstracts. Full papers of potentially eligible guidelines and reviews were retrieved and further assessed if they pertained to children and adults from the general population; focused on providing guidance on health promotion interventions (including individual, community, population and policy-level intervention) including for smoking cessation, increasing physical activity and improving healthy eating; and studied any outcomes relating to smoking cessation, increasing physical activity and improving healthy eating.
Detection bias	Yes	Two authors independently assessed the methodological quality of included studies using a suite of appropriate assessment tools appropriate to the study design. Quality was assessed using the CASP checklist for reviews, the quality appraisal tool developed by the EPHPP to assess intervention and observational studies. Disagreements were resolved by discussion and, if necessary, with the involvement of a third reviewer.

Lopez-Alcalde 2019

Study characteristics

Methods	Targeted
Data	113 systematic reviews to describe the extent to which Cochrane reviews of interventions for preventing HAIs consider sex and gender.
Comparisons	Not Applicable
Outcomes	Sex/Gender
Equity definition	Health inequalities refer to the differences in health status or in the distribution of health determinants between different populations (e.g., racial, ethnic, sex, gender, sexual orientation, or socioeconomic groups). On the other hand, 'health inequities, also known as ' 'health disparities', are avoidable and unfair differences in health across socioeconomic, demographic and geographic factors.
Rationale for assessing PROGRESS-Plus dimension	To reduce health inequities both within and between countries remains a priority on the agenda of international organisations, such as the WHO, and local, regional and national governments. The design and implementation of health care interventions and health programmes should apply an "equity lens" to ensure that benefits reach the most hard-to-reach segments of the population and to avoid intervention-generated inequalities. To consider sex and gender in Cochrane reviews of interventions to prevent HAIs is important. First, it will allow for the identification of the most effective and safest inter-

Lopez-Alcalde 2019 *(Continued)*

	ventions for women and men. Second, it will contribute to the reduction of health inequities between men and women, and thereby promote human rights. Third, the consideration of sex and gender in Cochrane reviews will help an informed-decision making for women and men. Fourth, the findings of our study will contribute to promoting the incorporation of a sex/gender perspective into Cochrane reviews of any topic.
Notes	Funding: Government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two authors screened each title and abstract independently to select potentially eligible reviews. If there was any uncertainty based on this information, we obtained the full-text review for further assessment. Two authors independently assessed the eligibility of the retrieved full texts and resolved disagreements by discussion or through consultation of a third author.
Detection bias	Yes	Data was extracted with the EPPI-Reviewer 4 software by least two authors for each item of the form. For critical items, two authors extracted data independently. For other items, one author extracted the data, and another author cross-checked the information extracted. We resolved discrepancies by consensus or through consultation with a third author.

Lorenc 2013

Study characteristics

Methods	Gap analysis
Data	12 SRs to provide an overview of evidence from SRs in order to provide preliminary indications as to which types of interventions are more likely to produce IGIs, and which have the potential to reduce inequalities
Comparisons	Socioeconomic status
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Few studies have sought to bring together what is known about intervention-generated inequalities across the whole field of public health interventions.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The method used was a systematic review of reviews, with limited searching but systematic screening.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Macintyre 2020

Study characteristics	
Methods	Targeted
Data	140 SRs to examine evidence on the equity impact of population-level interventions intended to improve health, happiness and well-being for adolescents.
Comparisons	Not applicable
Outcomes	Socioeconomic status, Plus 1 - personal characteristics associated with discrimination
Equity definition	Whilst there is no universally agreed definition, an 'equity lens' involves the assessment of the differential impact of interventions according to 'socially stratifying factors', including gender, race and religion.
Rationale for assessing PROGRESS-Plus dimension	Poor physical health in adolescence, such as being overweight or obese, and risk behaviours such as substance misuse, are linked to increased risk of chronic disease in adulthood. Mental health problems, often first evident in adolescence, can negatively impact later in life. Recent studies point to a socioeconomic gradient in adolescent self-reported health and health behaviour, and wider determinants including income inequality, education and employment can impact on health in adolescence. However, despite increasing recognition of inequalities in adolescence, there is little evidence on what works to address these inequalities.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	One reviewer executed the search strategy and screened titles for any obviously irrelevant studies or duplications. Two reviewers independently screened abstracts with a random sample of abstracts (10%) being independently checked by a third reviewer. Two reviewers independently applied selection criteria to the full texts. Consensus meetings were used to discuss any disagreements with a third reviewer
Detection bias	Yes	Data extraction was conducted in two stages using pre-piloted data extraction forms. One review author extracting key data relating to the review focus, aim, participants, interventions, comparisons, outcomes and a brief summary on whether SRs reported on socioeconomic inequalities or equity. These data were then cross-checked by a second review author with methods for grouping SRs into the relevant categories resolved through team discussions.

Maden 2017

Study characteristics	
Methods	Targeted and Gap
Data	37SRs to assess if, how and the extent to which systematic reviewers operationalise the guidance on the use of programme theory in considerations of socio-economic inequalities in health.
Comparisons	Socioeconomic status

Maden 2017 *(Continued)*

Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	An understanding of how socio-economic health inequalities may impact on intervention effectiveness can help reviewers to decide whether interventions are likely to have either a positive or negative effect on the health inequality gap. This may then influence their decision on whether or not to include considerations of socio-economic health inequalities in the review.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	A systematic methodology review was undertaken. Multiple databases were searched and were only included if they were SRs assessing the effectiveness of an intervention and included data on SES. Two reviewers independently screened all studies, undertook quality assessment and extracted data.
Detection bias	Yes	Two reviewers independently screened all studies, undertook quality assessment and extracted data.

Main 2008

Study characteristics

Methods	Gap analysis
Data	19 SRs to review effectiveness of population-level tobacco control interventions to reduce social inequalities
Comparisons	Socioeconomic status, gender, race
Outcomes	Socioeconomic status, education, race/ethnicity/culture/language, gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	With smoking increasingly confined to lower socio-economic groups, the tobacco control community is therefore being urged to identify what messages and interventions work to get lower socio-economic groups to stop smoking
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Pre-defined inclusion criteria to identify all SRs with details on socio-demographic characteristics of participants
Detection bias	Yes	2 independent reviewers screened abstracts, extracted data and assessed quality

Mannocci 2020

Study characteristics	
Methods	Targeted
Data	15 SRs to provide a comprehensive overview of published SRs and meta-analyses on the effectiveness of interventions promoting physical activity among children, adolescents and young people.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	While numerous interventions to promote physical activity in children and young people are available, little is known about the most effective ones.
Notes	Funding: no funding

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Relevant SRs and meta-analyses according to inclusion criteria were identified through systematic searches of the following electronic databases: PubMed, Scopus and the Cochrane Library. The full search strings can be found in Table 1. Studies published from January 2010 until November 2017 were included. Reference lists of identified studies were checked. Primary authors were contacted if clarification or additional information was needed.
Detection bias	Yes	Two independent reviewers extracted data on the quality of evidence as well as on the risk of bias. The updated AMSTAR 2 version for systematic reviews and meta-analyses was used to evaluate the methodological quality and risk of bias of studies included in the SR.

Martineau 2013

Study characteristics	
Methods	Targeted and Gap
Data	52 SRs to analyse available review-level evidence on the effectiveness of population-level interventions in non-clinical settings to reduce alcohol consumption or related health or social harm.
Comparisons	
Outcomes	Place of residence, race/ethnicity/culture/language, gender/sex, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	NotdDefined

Martineau 2013 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	The drivers and consequences of alcohol consumption span a range of biological, behavioural, social and economic dimensions. Addressing the complex causal pathways of alcohol-related harm therefore requires interventions targeting multiple points along this pathway. Numerous primary studies and systematic reviews have assessed the effectiveness of alcohol interventions. However, making valid judgements on the strength of the overall evidence base remains a challenge due to the diversity of proposed intervention mechanisms and the heterogeneity of outcome measures used.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	MEDLINE, Embase, Cochrane, Social Policy and Practice, DARE1, Cochrane, Campbell and NICE databases were searched....At each screening stage, 10% of the abstracts or full-texts were independently dual-screened. Classification disagreements were then discussed, reconciled and the remaining articles screened individually.
Detection bias	Yes	Data were extracted from included reviews using a standardised form collecting information on research aim, study inclusion criteria, outcome indicators assessed, results and a summary of the author's conclusions, recommendations and limitations. Each review's quality was independently scored by two reviewers using the validated AMSTAR tool. The reviews were categorised into high (AMSTAR score 9–11), medium (6–8) or low (0–5) quality. This rating reflects the quality of the review rather than its constituent primary studies. Ten percent of the reviews were fully dual-extracted and reconciled. Data extraction for the remaining reviews was conducted by a single reviewer and checked for accuracy by a second.

Matjasko 2012

Study characteristics

Methods	Targeted and Gap
Data	52 SRs to evaluate the effectiveness of behavioural and psychosocial strategies in preventing youth violence
Comparisons	Not applicable
Outcomes	Race/ethnicity/minority, gender/sex, SES, Plus 1 - personal characteristics associated with discrimination (child age)
Equity definition	Youth violence is influenced by sociocultural and setting factors
Rationale for assessing PROGRESS-Plus dimension	A relatively new area of research in youth violence prevention involves examining protective factors (i.e. variables that have a moderating effect on risk factors) related to violence perpetration. This research can also inform prevention efforts, in that it can identify factors that should be bolstered among youth, families, and in communities in order to prevent violence. Research on risk and protective factors for youth violence perpetration provides a critical starting point for prevention, as this literature has informed the factors that can be targeted for prevention programs.
Notes	Funding: not stated

Matjasko 2012 *(Continued)*

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Using the generated list of keywords, a search was performed on the following electronic bibliographic databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane, Embase, Education Resources Information Center (ERIC), Google Scholar, JSTOR, MEDLINE, OVID, PsychINFO, PsychNET, PubMed, and the Social Sciences Citation Index. In addition, manual searches of the tables of contents in key journals in the field were conducted to capture newer publications (e.g., within the last year). Journals captured in this search included Adolescence, Aggressive Behavior, Aggression and Violent Behavior, American Journal of Preventive Medicine, American Journal of Public Health, American Journal of Sociology, American Psychologist, Annual Review of Public Health, Applied and Preventive Psychology, Crime and Justice, Criminology, Developmental Psychology, Journal of Adolescence, Journal of Adolescent Health, Journal of Interpersonal Violence, Journal of Research in Crime and Delinquency, Violence and Victims, and Youth Violence and Juvenile Justice. Articles underwent a two-stage screening process. First, the abstracts of all articles were gathered and independently screened by at least two study team members who excluded articles that met the exclusion criteria listed above. Second, two coders read the articles that were retained from the first stage and further excluded those that met the stated exclusion criteria.
Detection bias	Yes	A data extraction form (i.e. coding form) was developed by the study team and captured key pieces of information from each article. Articles were coded by at least two study team members, and consensus meetings with the entire study team were held to describe the article and determine the level of agreement between the two coders for each code. Inter-rater reliability was 0.75 before consensus was reached. When the two coders disagreed on a particular rating, the entire coding team discussed the nature and the reasons for the disagreement.

Matwiejczyk 2018

Study characteristics	
Methods	Targeted
Data	12 systematic reviewsSR to examine previously published systematic reviews to determine (1) the effectiveness of interventions to promote healthy eating in children aged 2–5 years attending centre-based childcare; (2) intervention characteristics which are associated with successfully promoting healthy eating in pre-schoolers; and (3) recommendations for child-health directed policies and practices.
Comparisons	Not applicable
Outcomes	Socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	As such, concern for children's health, and escalating rates of NCD, have prompted the prioritisation of healthy diets for young children globally. Given this surfeit of systematic reviews, a review is warranted of existing reviews to provide a concise overall examination of the large and diverse body of information.

Matwiejczyk 2018 *(Continued)*

Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Online bibliographic databases MEDLINE, Emcare (New York, NY, USA), PsycINFO (Washington, DC, USA), Embase (Amsterdam, Netherlands), CINAHL (Ipswich, MA, USA), Health Technology Assessment Database, ERIC, Scopus, Web of Science Core Collection, Joanna Briggs Institute (JBI) Evidence-Based Practice Database of Systematic Reviews and Cochrane Database of Systematic Reviews were searched for reviews published between January 2000 and September 2017. In addition to the online search, relevant grey literature sources were searched including key government and organisational websites, National Library catalogues, conference proceedings, theses repositories, and clinical trial registries. No language limitations were applied. Reviews were included if they met the PICO-derived inclusion criteria
Detection bias	Yes	To guide the extraction and synthesis of data from the selected studies and minimise the risk of author bias, a standardized tool, the JBI Data Extraction Form for Systematic Reviews and Research Synthesis was employed independently by the same two reviewers. Following this process and discussion, if there was any uncertainty with data extraction, a third experienced reviewer was consulted.

McArthur 2017

Study characteristics

Methods	Targeted
Data	9 SRs to capture a broad perspective on the physical rehabilitation interventions that have been evaluated to date in residential facilities for medically complex, frail older adults
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (frailty in long-term care)
Equity definition	Residents in LTC are often frail, de-conditioned, and often have significant functional impairments increasing the risk for declining health and adverse outcomes ... Consideration should be given to identifying those residents who would benefit from physical rehabilitation in LTC to ensure an equitable and effective use of often scarce services.
Rationale for assessing PROGRESS-Plus dimension	Consideration should be given to identifying those residents who would benefit from physical rehabilitation in LTC to ensure an equitable and effective use of often scarce services
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement

McArthur 2017 *(Continued)*

Selection bias	Yes	A search of multiple electronic databases was conducted and all abstracts were screened by two team members and were included according to a criteria
Detection bias	Yes	Two team members extracted data and charted in duplicate using a pilot-tested data extraction form

McMahon 2019

Study characteristics	
Methods	Targeted
Data	10 SRs to evaluate the systematic review evidence base on the effects of prevention and harm reduction interventions on gambling behaviours, and gambling related harm. Also examined the differential effects of interventions across sociodemographic groups.
Comparisons	Not applicable
Outcomes	Socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Problem gambling is associated with high levels of mental health and substance use problems, and can result in significant gambling-related harm. Such harms have been categorised in a recent taxonomy and include financial difficulties; relationship disruption, conflict or breakdown; emotional or psychological distress; decrements to health; cultural harm; reduced performance at work or study; and criminal activity. Gambling related harms have been shown not only to affect the small minority of high-risk and problem gamblers, but also to occur amongst low- and moderate-risk gamblers, resulting in the suggestion of a ‘prevention paradox'.
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Four electronic databases were searched using database specific search strategies. Two reviewers independently screened titles and abstracts and applied the eligibility criteria to full-text articles. Any discrepancies on selection and extraction were resolved through discussion between two lead reviewers and the research team.
Detection bias	Yes	Two reviewers independently conducted data extraction of the included reviews. Any discrepancies on selection and extraction were resolved through discussion between two lead reviewers and the research team.

Menezes 2009

Study characteristics	
Methods	Targeted (LMIC)

Menezes 2009 *(Continued)*

Data	31 SRs of effectiveness of antenatal interventions with the potential to prevent stillbirths
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Stillbirth rates are higher in LMIC compared to HIC, and these disparities apply within countries since economically-deprived communities have higher stillbirth rates due to disparities in risk factors and inequalities in access and quality of care. 98% of stillbirths occur in LMIC
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Selected according to specified inclusion criteria that it report rate of still births and was a biologically plausible intervention identified by systematic search of multiple databases
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Morrison 2004

Study characteristics

Methods	Gradient analysis
Data	12 SRs to compile quantitative reviews of studies of adherence and to critique this literature and summarize current knowledge of adherence
Comparisons	Age, gender, socioeconomic status
Outcomes	Gender/sex, socioeconomic status, plus - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	SES, gender and age assessed as potential effect modifiers for interventions aimed at increasing adherence
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Any SR, MA or quantitative overview that assessed adherence with prescribed medications; aimed at patients; more than 1 included study
Detection bias	Unclear	Data extraction not described

Mukamana 2016

Study characteristics	
Methods	Targeted (youth)
Data	2 SRs to synthesise the evidence on what is known about school-based health promotion interventions and their impact in developing countries
Comparisons	Not applicable
Outcomes	Place of residence, socioeconomic status, Plus 1- personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The school-age population is the most affected by preventable health problems such as worm infections which are the main causes of disease among children aged 5–14 years old and injuries which are the leading cause of death and disability among school-age young people worldwide and particularly in developing countries
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Searched MEDLINE, Embase, CINHAL and the Cochrane library using search strategies and several combinations of terms described in the supplemental file. Studies were selected if they were relevant to the research question through title and abstract screening followed by the full-text review of retained records.
Detection bias	Yes	Data on study authors, objectives, study designs for primary study articles, participants, interventions, comparators and outcome as well as the countries and regions where the interventions took place extracted using a standardised template in Microsoft Excel. Summarised the extracted data using a descriptive analytical method, classifying interventions according to their targeted outcomes and describing their components.

Nasser 2007

Study characteristics	
Methods	Targeted (LMIC)
Data	420 SRs to identify Cochrane Reviews that are relevant to developing countries and to determine how they tackled the developing country setting
Comparisons	Not applicable
Outcomes	Place of residence, socioeconomic status
Equity definition	Not defined

Nasser 2007 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	Different prevalence in LMIC; cost-effectiveness more important in LMIC, challenges in implementation may be different in LMIC than HIC
Notes	Not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	All SRs that mentioned LMIC in title, abstract or text were included
Detection bias	No	Methods for data extraction not described

Newbatt 2011

Study characteristics

Methods	Gap
Data	Systematic reviews used to evaluate how the results of systematic reviews, and the ensuing 'Implications for practice' and recommendations, are affected by the inclusion or exclusion of evidence from different countries.
Comparisons	Place of residence (country)
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Not reported
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Nittas 2020

Study characteristics

Methods	Targeted

Nittas 2020 *(Continued)*

Data	19 SRs to investigate through an equity lens whether existing research provides adequate evidence on the ethical implications of mHealth technologies in HIV treatment and prevention.
Comparisons	Not applicable
Outcomes	Across PROGRESS-Plus
Equity definition	The World Health Organization (WHO) defines health equity as 'the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically'
Rationale for assessing PROGRESS-Plus dimension	Inequities are a key driver of the HIV epidemic and are primarily rooted in socio-demographic factors (e.g. income, employment, gender, ethnicity, education, place of residence, etc.), which in turn lead to differential health outcomes (e.g. better health outcomes for higher educated, higher income subgroups)...While mHealth promises to facilitate equitable healthcare, robust evidence on the validity of that promise remains insufficient.
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematically searched eight electronic databases, hand searched five journals and searched Google Scholar. Screened all reference lists of included reviews and contacted nine authors for potentially missed or unpublished review. Studies went through a two-step selection process, consisting of (a) title and abstract screening and (b) full-text appraisal. Studies were screened by two independent reviewers and disagreements were resolved by consensus.
Detection bias	Yes	Data extraction was guided by previous reviews on health equity implications of social interventions and followed the PRISMA framework. Studies were screened by two independent reviewers and disagreements were resolved by consensus.

O'Donnell 2014

Study characteristics

Methods	Gap
Data	24 SRs to assess the cumulative evidence on the effectiveness of brief alcohol interventions in primary health care in order to highlight key knowledge gaps for further research
Comparisons	Place of residence, age, sex/gender, socioeconomic status, dependent versus non-dependent patients
Outcomes	Place of residence, race/ethnicity/culture/language, gender/sex, socioeconomic status, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Primary health care is seen as an ideal context for the early detection and secondary prevention of alcohol-related problems, due to its high contact-exposure to the population, and the frequency with which higher-risk drinkers present. However, most studies to date have either focused on male drinkers or not reported the data disaggregated by sex

O'Donnell 2014 *(Continued)*

Notes	Funding: Government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	The title and abstract of all records were screened by a single reviewer, with full-text copies of potentially relevant papers retrieved for in-depth review against the inclusion criteria. Additionally, the information reported in the reviews by consulting individual studies was not verified which may introduce bias.
Detection bias	Yes	The methodological quality of eligible studies was assessed independently by two reviewers using the Revised Amstar tool. Data were extracted against a data abstraction template by one author and checked by another with reference to the full article text

O'Neil 2014

Study characteristics

Methods	Not applicable
Data	11 SRs to assess the utility of an acronym, place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, education, socioeconomic status, and social capital (''PROGRESS''), in identifying factors that stratify health opportunities and outcomes. We explored the value of PROGRESS as an equity lens to assess effects of interventions on health equity.
Comparisons	Not applicable
Outcomes	All PROGRESS-Plus elements
Equity definition	The World Health Organization has defined health inequalities as ''differences in health status or in the distribution of health determinants between different population groups'' (e.g. racial, ethnic, sexual orientation, or socioeconomic groups).
Rationale for assessing PROGRESS-Plus dimension	To understand and act on health inequities, both upstream and downstream factors must be considered. Depending on the context, particular factors may be more or less important for a certain population. Failure to adequately anticipate and address these barriers will result in improvements in health outcomes for some of the population, most likely the least disadvantaged, while missing those most in need.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Odierna 2009

Study characteristics	
Methods	Gap analysis
Data	32 systematic SRs to assess racial/ethnic, gender, and socioeconomic status (SES) concordance between Medicaid populations and studies synthesised in Drug Effectiveness Review Project (DERP) systematic reviews
Comparisons	Race/ethnicity, gender/sex, SES
Outcomes	Race/ethnicity/culture/language, gender/sex, SES
Equity definition	Health equity defined as eliminating avoidable inequalities, particularly those that result from injustice or social exclusion
Rationale for assessing PROGRESS-Plus dimension	Exclusion of disadvantaged populations from trials and systematic reviews used to make health policy for Medicaid populations (which are mostly disadvantaged), may lead to health policies which benefit the population as a whole but not the disadvantaged, thus increasing health inequities
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	All drug-effectiveness reviews from 2004-2007 were included
Detection bias	Yes	One reviewer extracted data, and this was verified by a second reviewer

Ogilvie 2004

Study characteristics	
Methods	Gap analysis
Data	6 SRs to assess the potential contribution of evidence from existing SRs of effectiveness to answering the question: what works in reducing social inequalities in smoking?
Comparisons	"any socio-demographic variable", not further defined, but later mentions age, sex and SES
Outcomes	Gender/sex, SES, Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Reducing social inequalities in a political priority- is evidence available that tobacco control policies will help achieve this?
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**

Ogilvie 2004 *(Continued)*

Selection bias	Yes	All completed reviews of the effectiveness of community-base tobacco control interventions
Detection bias	Unclear	Data extraction methods not described but data to be collected were described

Pantoja 2017

Study characteristics	
Methods	Targeted
Data	39 SRs to provide an overview of the available evidence from up-to-date SRs about the effects of implementation strategies for health systems in low-income countries. Secondary objectives include identifying needs and priorities for future evaluations and SRs on alternative implementation strategies and informing refinements of the framework for implementation strategies presented in the overview.
Comparisons	Not applicable
Outcomes	Place of residence, SES
Equity definition	Equity outcomes are defined as differential effects of interventions for disadvantaged populations, such as pregnant women, children aged under five, rural poor.
Rationale for assessing PROGRESS-Plus dimension	A key function of health systems is implementing interventions to improve health, but coverage of essential health interventions remains low in low-income countries.
Notes	Funding: government

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Searched Health Systems Evidence in November 2010 using the filters and conducted subsequent searches using PDQ-Evidence (database of evidence for decisions about health systems, which is derived from the Epistemonikos database of systematic reviews). Two of the overview authors independently screened the titles and abstracts found in PDQ-Evidence to identify reviews that appeared to meet the inclusion criteria. Two other authors screened all of the titles and abstracts that could not be confidently included or excluded aQer the first screening to identify any additional eligible reviews. One of the overview authors screened the reference lists. One of the overview authors applied the selection criteria to the full text of potentially eligible reviews and two other authors independently checked these judgments.
Detection bias	Yes	Used standardised forms to extract data on the background of the review; the interventions, participants, settings and outcomes; the key findings; and considerations of applicability, equity, economics, and monitoring and evaluation. Assessed the reliability of systematic reviews that met the inclusion criteria using criteria developed by the SUPPORT and SURE collaborations. Assessed the certainty of the evidence for the main comparisons using the GRADE approach.

Petkovic 2018

Study characteristics	
Methods	Gap
Data	688 SRs to assess the extent to which sex/gender is reported and analysed in Campbell and Cochrane systematic reviews.
Comparisons	Gender/sex
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Within systematic reviews, considering sex/gender implies reporting not only the population characteristics of the included studies but also providing some insight into the possible sex/gender differences in the prevalence of the condition, the benefit of the intervention, or safety concerns.
Notes	Funding: Not stated

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Screened the full text of every systematic review published in the Campbell Library. For the Cochrane Library, we used the advanced search option within the Archie database to select only reviews which used predetermined sex/gender search terms in at least one of the following review sections: title/abstract, introduction, methods, results, or discussion.
Detection bias	Yes	We developed and pre-tested a data extraction form in Excel using the European Association of Science Editors (EASE) Sex and Gender Equity in Research (SAGER) guidelines and our previous work assessing reporting of sex/gender in a sample of randomized controlled trials.

Phillips 2017

Study characteristics	
Methods	Targeted (LMICs)
Data	18 Srs and 2 systematic review protocols to summarise the findings of an evidence gap map (EGM) produced by the International Initiative for Impact Evaluation
Comparisons	Not applicable
Outcomes	Place of residence, sex/gender, SEs
Equity definition	Equity focus is defined as the extent to which the intervention or analysis focuses on specified disadvantaged populations
Rationale for assessing PROGRESS-Plus dimension	States with more effective political institutions have been shown to be more successful in achieving sustained economic growth and human development and vice versa. The latest World Bank Worldwide Governance Indicators show that low-income countries have a lower ranking for government effectiveness than middle-income and high income countries, respectively

Phillips 2017 *(Continued)*

Notes	Funding: government and non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic screening process using a single reviewer to screen papers at the title and abstract stage
Detection bias	Yes	One person extracted data from included studies, and a second reviewer checked all coding for consistency

Pons-Vigués 2014

Study characteristics

Methods	Gap
Data	5 SRs to carry out a scoping review on social and health policies or interventions to tackle health inequalities in European cities published in scientific journals. The potential research questions revolve around what is published, how this evolves, and what types of studies predominate in European cities.
Comparisons	Age (children, adult and all ages)
Outcomes	Across PROGRESS
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Although some countries are increasingly working to achieve health equity, there is little literature describing effective experiences and even less at the urban level. Given that the majority of the world population lives in cities, where health inequities are increasing and that local governments have widely ranging capacities to intervene upon them, an updated review on published interventions to reduce health inequalities in cities may be helpful for future related actions.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searches of PubMed and Sociological Abstracts were carried out. All these citations were systematically screened and evaluated by one author to exclude publications irrelevant to the inclusion criteria. Two reviewers independently screened these 231 abstracts, and 81 papers were selected to be completely reviewed. In both searches, the disagreement between the reviewers about 22 documents was resolved by a third reviewer.
Detection bias	Yes	Five researchers participated independently in the study selection and the data extraction. The following data were extracted from each publication: authors, year of publication, goal of the paper, study design, city and year of the intervention, target population of the intervention, intervention description, evaluation of the intervention and results or health outcomes of the paper.

Powell 2020

Study characteristics	
Methods	Targeted
Data	16 SRs to elucidate the role of family caregivers with regard to SRH for women and girls with ID.
Comparisons	Not applicable
Outcomes	Gender/sex, Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Resources and training related to the SRH of women and girls with ID are needed..Limited research exists about how family caregivers assist women and girls with ID access SRH services, which is noteworthy because many adults with ID live with a family caregiver who often serve as the primary decision-maker for health matters. Understanding the role of family caregivers is crucial to improving SRH services for women and girls with ID.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two authors reviewed abstracts and full articles for eligibility. Where there was disagreement between the two reviewers, a third reviewer was consulted.
Detection bias	Yes	First, the nature, extent and distribution of selected studies was summarised. Second, the individual study findings guided by the research question and the definitions above of SRH were summarised. Finally, studies were analysed and important themes were identified.

Pundir 2020

Study characteristics	
Methods	Targeted
Data	55 SRs to provide an overview of the existing evidence available and to identify gaps in the evidence base on the effectiveness of interventions to reduce violence against children in low- and middle- income countries.
Comparisons	Not applicable
Outcomes	Place of residence, race/ethnicity/culture/language, occupation, gender/sex, Plus 1 - personal characteristics associated with discrimination (age, disability)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Although considerable research on violence against children in high-income countries(HICs) is available, the same is not true for low-and middle-income countries (LMICs)...More impact evaluation studies are required that assess specific forms of violence, gendered effects of interventions and on diverse social groups in a given context, utilising mixed methods.
Notes	Funding: non for profit

Pundir 2020 *(Continued)*

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Academic search of multiple databases as well as a limited search of grey literature was conducted. Two independent reviewers screened titles and abstracts using the selection criteria and a third reviewer resolved any discrepancies.
Detection bias	Yes	Two independent coded the individual studies from full text. The coded information includes bibliographic details for the study, the interventions and outcomes from the framework that the study measured and other relevant aspects such as population, region and countries.

Questa 2020

Study characteristics

Methods	Targeted
Data	13 SRs to identify approaches to community engagement in communicable disease control, effectiveness of these approaches, mechanisms and factors influencing success.
Comparisons	Not applicable
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	In low- and lower-middle-income countries, community engagement (CE) initiatives have been described as 'critical enablers' in the response to communicable diseases (CDs). Such initiatives may be particularly important in settings where health systems are under-resourced, and the collective capacity of communities becomes a key resource in effecting behaviour change and delivering health outcomes. With regard to health equity, there is also some evidence to suggest CE may be effective in the prevention and management of communicable disease control (CDC) in marginalised groups.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Identified studies were initially screened by two authors on title and abstract for relevance against inclusion criteria. Two authors full-text screened those meeting the criteria, or lacking information, and discussed and resolved disagreements.
Detection bias	Yes	Four authors piloted data extraction forms, and nine authors took part in data extraction with two researchers independently reviewing each paper.

Richardson 2015

Study characteristics

Richardson 2015 *(Continued)*

Methods	Targeted (children with ADHD)
Data	4 SRs to assess the effectiveness of non-pharmacological interventions delivered in school settings for pupils with, or at risk of, ADHD and to explore the factors that may enhance, or limit, their delivery
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age, disability)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	ADHD presents tremendous difficulties within the classroom as it not only affects the learning of the ADHD student but it also has a negative impact on all the other students in the class because the ADHD student demands more attention and needs more positive feedback than the other kids. This creates difficulties for the teacher and school to ensure that all students have a fair and equitable education
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Titles and abstracts returned by the search strategy were independently screened by two researchers using the predefined criteria specified. Disagreements were resolved by a third researcher
Detection bias	Yes	Data extraction process defined. One independent extractor and checked by another researcher

Ruane-McAteer 2019

Study characteristics

Methods	Targeted
Data	462 SRs to generate an interactive evidence and gap map (EGM) of the total review evidence on interventions engaging men/boys across the full range of WHO SRHR outcomes and report a systematic review of the quantity, quality and effect of gendert-ransformative interventions with men/boys to improve SRHR for all.
Comparisons	Not applicable
Outcomes	Gender/sex
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The underpinning rationale of addressing gender inequality is because it is a key determinant of the health of men and women of all gender identities and sexualities yet generally disproportionately disadvantages the opportunities and outcomes for women and girls, including in the particular field of sexual and reproductive health and rights (SRHR).16–22 However, a gender-transformative approach also prompts an explicit focus on the roles of men/boys in transforming gender inequality to improve men's health and especially SRHR. There is increasing recognition that men and boys can play a role as either supporting and championing or damaging and denying the health and rights of women and girls.
Notes	Funding: non for profit

Ruane-McAteer 2019 *(Continued)*

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Four authors and one trained researcher applied the inclusion and exclusion criteria when screening titles, abstracts and full-text results for eligibility using Distiller Systematic Review Software. One author arbitrated disagreement. Inter-rater reliability score was considered acceptable; at full-text screening, the weighted overall kappa score was 0.60 (original kappa) and 0.97 after moderation.
Detection bias	Yes	Double-blind data extraction was conducted by two authors

Safron 2011

Study characteristics

Methods	Targeted (children and adolescents)
Data	12 SRs to analyse the effectiveness of school-based interventions, applying body weight or behavioural outcomes
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Lots of adolescents and children are suffering from being overweight. Although there are some controversies about the role of physical activity in the development and maintenance of obesity, SRs indicated that active lifestyle protects youth from adiposity. This review is important in promoting healthy eating and an active lifestyle.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic reviews and meta-analyses collate all empirical evidence which fits prespecified eligibility criteria, using explicit, replicable, systematic search, extraction, and evaluation methods which are selected to minimise biases
Detection bias	Yes	Data allowing for the quality assessment and the evaluation of potential sources of biases was extracted from original SRs. Systematic reviews and meta-analyses partially overlapped in terms of analysed trials and several reviews can be classified as having moderate flaws, which may produce certain biases.

Shackleton 2016

Study characteristics

Shackleton 2016 *(Continued)*

Methods	Targeted and Gap
Data	22 SRs to examine the effects of school-based interventions, such as healthy school policies, improving how schools respond to bullying, and parent outreach, on young people's substance use, violence, and sexual health.
Comparisons	Place of residence
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Educational approaches are least effective for deprived groups and may increase inequalities.... providing a further rationale to develop alternative school-based approaches.
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The following databases were searched in the final week of January 2015 without date or language restrictions: Cumulative Index to Nursing and Allied Health Literature; Database of Abstracts of Reviews of Effects; Education Research Index Citations; MEDLINE; Embase; PsycInfo; Social Policy and Practice; Australian Education Index; Social Science Citation Index; British Education Index; the Campbell library; and the Cochrane Database of Systematic Reviews. Records were initially screened using hierarchical criteria on title/abstract. N.S./ C.B. double screened a random selection of 100 records with discrepancies resolved by discussion (96% agreement before reconciliation). N.S./C.B. then shared single screening of the remaining records. The full texts of references not thus excluded were retrieved and double screened by four reviewers (N.S., C.B., K.H., and K.D.) working in pairs.
Detection bias	Unclear	Data were extracted and reviews quality assessed by N.S., checked by C.B. Disagreements were resolved through discussion. Extraction method is unclear.

Shannon 2014

Study characteristics

Methods	Targeted
Data	2 SRs to review current strategies of preconception healthcare, explore methods of preconception healthcare delivery, and develop public health models which reflect different preconception healthcare pathways.
Comparisons	Not applicable
Outcomes	Gender/sex
Equity definition	Not Defined

Shannon 2014 *(Continued)*

Rationale for assessing PROGRESS-Plus dimension	However, the condition itself, the target population, the type of intervention, and the outcomes affected are disparate. Such broad opportunities for preconception care necessitate not only a comprehensive health service response, but also the provision of a service flexible to the needs of individual patients.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Shannon 2014a

Study characteristics

Methods	Targeted
Data	9 SRs to (1) identify components of preconception interventions, (2) assess the effectiveness of preconception interventions in reducing the burden of congenital disorders, and (3) prioritise these interventions.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Preconception care may be an effective strategy to reduce congenital disorders and to improve health out- comes for women of childbearing age.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Yes	Data were collected and abstracted by two independent reviewers.

Shea 2009

Study characteristics

Shea 2009 *(Continued)*

Methods	Targeted (LMIC)
Data	4 SRs to overview increasing demand for childhood vaccinations in LMIC
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Importance of problem of how to increase childhood vaccination in developing countries
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Systematic search, with inclusion criteria, a priori protocol, screening by 2 reviewers
Detection bias	Unclear	Method of data extraction not reported

Sherr 2009

Study characteristics

Methods	Gap analysis
Data	6 SRs to provide a detailed evidence analysis of gender, children and AIDS
Comparisons	Gender/sex
Outcomes	Gender/sex, Plus 1 - personal characteristics associated with discrimination, place of residence
Equity definition	Social and cultural aspects of gender which disadvantage or disempower subgroups, gender discrimination
Rationale for assessing PROGRESS-Plus dimension	Gender affects the biological susceptibility to IV/AIDS as well as the social susceptibility through gender roles, gender differences and gender responses, including gender discrimination. Social and cultural constructs of gender disadvantage or disempower subgroups, violence, sexual attitudes
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	A priori protocol, double extraction and screening were not mentioned
Detection bias	Unclear	Methods for extracting data were not described.

SmithBattle 2017

Study characteristics	
Methods	Targeted
Data	9 SRs to improve outcomes of pregnant or parenting teenagers.
Comparisons	Not applicable
Outcomes	Social capital, Plus 1 - personal characteristics associated with discrimination (age, health)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	When researchers have employed relevant comparison groups or statistical controls to adjust for background factors, poor outcomes among teen mothers have been reduced or eliminated
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	One author screened the titles and abstracts of all 587 references
Detection bias	Yes	Key characteristics and data from the 9 reports were extracted, placed into tables, and reviewed by two reviewers. Disagreements on data extraction were settled by consensus with a third reviewer. Key characteristics and data extracted can be seen in the tables.

Soler 2019

Study characteristics	
Methods	Targeted
Data	13 SRs to summarise evidence on the effectiveness of community-level pharmaceutical interventions to reduce the risks associated with polypharmacy in the population over 65 years of age.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	It is hypothesised, although there is no consensus, that professional, organizational, regulatory and financial interventions targeted at prescribers and consumers can be effective for improving the prescription and rational use of medications.
Notes	Funding: government

Risk of bias

Soler 2019 *(Continued)*

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The titles and abstracts of the retrieved studies were independently selected by two reviewers. All disagreements were resolved by consensus among the reviewers.
Detection bias	Yes	An extraction form was used to collect the data of interest: article title, authors, journal, year of publication, last year of research, objectives, methods, statistics, risk of bias, main results, gaps, limitations, recommendations, equity analysis, quality assessment, conflicts of interest, and unanswered questions.

Stewart 2006

Study characteristics	
Methods	Targeted (youth with disabilities)
Data	5 SRs to assess what factors help or hinder the process of transition to adulthood for youth with disabilities and what service delivery methods have been used
Comparisons	Not Applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Youth with disabilities do not have same outcomes as peers for health, achievement and employment.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Pre-specified inclusion criteria to identify SRs
Detection bias	Yes	Extracted details using Critical Appraisal Skills Program

Stockley 2008

Study characteristics	
Methods	Targeted
Data	28 SRs to provide a basis for making recommendations on the potential to improve use of folic acid supplements in the UK, particularly among low-income and young women.
Comparisons	Not applicable

Stockley 2008 *(Continued)*

Outcomes	Race/ethnicity/culture/language, gender, SES,Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	This move to mandatory fortification of all cereal grain products in 1996 reflected concern about the difficulty of encouraging women to take supplements before they know they are pregnant, which is a problem that becomes magnified in countries with high rates of unplanned pregnancies. Supplements are also less likely to be taken by some groups of women, including those who are on lower incomes or who are younger.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	For all three reviews, an initial screen of titles and abstracts was done online to ensure that included papers broadly reflected the initial inclusion and exclusion criteria. Review 1: The following databases were searched, EPPI Centre, Health Technology Assessment databases (DARE, NHS EED, HTA), National Electronic Library for Health – Cochrane databases. National Library for Health – Women's Health Specialist Library, PubMed (including MEDLINE). Review 2: The following databases were searched, EPPI Centre, National Library for Health – Women's Health Specialist Library, PubMed (including MEDLINE), ERIC, NELH, General Internet searches were also carried out using: Google Scholar, Google. Review 3: The following databases were searched: EPPI Centre, Health Technology Assessment databases (DARE, NHS EED, HTA), National Electronic Library for Health, including Cochrane databases, National Library for Health – Women's Health Specialist Library, PubMed (including MEDLINE), ERIC, General Internet searches were also carried out using: Google Scholar, Google. Searching and analysis were carried out by a single reviewer (i.e. cross-checking was not possible)
Detection bias	Yes	A data extraction form was designed to standardise data collection for each review and to provide summaries of each piece of included information.

Strasßner 2020

Study characteristics

Methods	Targeted
Data	39 SRs to summarise the research evidence on programs to improve the transition between ambulatory and hospital care.
Comparisons	Not applicable
Outcomes	Plus 3 - time-dependent relationships (discharge from hospital)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Handover of patients between inpatient and outpatient healthcare providers is a vulnerable phase of care... Strategies to improve the transition of care should not solely focus on discharge management

Strasßner 2020 *(Continued)*

	but also take into account the structural changes required by primary care practices in order to improve the admission process and information transfer from primary care to hospitals.
Notes	Funding: Industry

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The initial search resulted in 2092 references. After screening of abstracts and titles, 70 systematic reviews and 139 RCTs were considered potentially relevant and thus eligible for full-text screening.
Detection bias	Yes	Risk of bias was assessed by 2 researchers using the AMSTAR criteria. Each researcher checked the rating of the other researcher and discrepancies were discussed until consensus was reached.

Sumner 2015

Study characteristics

Methods	Targeted (children and youth)
Data	To describe the interpersonal violence in the USA, explore challenges to violence prevention efforts and to identify prevention opportunities
Comparisons	Not applicable
Outcomes	Gender/sex, SES, Place of residence, race/ethnicity/culture/language, Plus 1- personal characteristics associated with discrimination, Plus 2 - features of relationships
Equity definition	Not Defined
Rationale for assessing PROGRESS-Plus dimension	Interpersonal violence is the leading cause of death in the USA, especially among children, adolescents, and young adults. Its impact indirectly increases inequality. Preventing the exposures to violence can have a downstream effects on a broad range of health problems
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Thomson 2018

Study characteristics

Thomson 2018 *(Continued)*

Methods	Targeted and gap
Data	29 SRs to examine the effects of public health policies on health in-equalities in high-income welfare states.
Comparisons	Socioeconomic status
Outcomes	Socioeconomic status
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The majority of this research, has examined general associations between welfare state regime types and health inequalities. There has been very little research examining the effects of specific welfare state policies on health inequalities – especially in respect to public health policies.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	The initial screening of titles and abstracts was conducted by two reviewers, with a random 10% of the sample checked by a third reviewer. The screening of the full papers was conducted by two reviewers with input from other members of the research team.
Detection bias	Yes	The methods and main findings were extracted using a bespoke data extraction form. Data extraction was conducted by four reviewers. A full check of the data extraction was completed by two reviewers. Any discrepancies on selection and extraction were resolved through discussion between the lead reviewers and the project lead.

Thomson 2019

Study characteristics

Methods	Gap
Data	15 SRs to assess the effectiveness of community pharmacy-delivered public health services and assess how they impact on inequalities in health using PROGRESS-Plus characteristics.
Comparisons	Socioeconomic status
Outcomes	across PROGRESS-Plus
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Many community pharmacists now offer a range health promotion activities aimed at either primary or secondary disease prevention... Previous SRs have predominantly focused on single interventions, and have not explored intervention effectiveness at the primary or secondary prevention level, making it challenging to determine where community pharmacy-delivered interventions fit within the wider disease prevention agenda. At present, there is no comprehensive review that seeks to examine the effectiveness of all community pharmacy-delivered public health services, or explore how the effects of these services are moderated by sociodemographic factors.

Thomson 2019 *(Continued)*

Notes	Funding:non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Study selection was conducted by three reviewers independently with cross-checking. Agreement between the reviewers was 99% with a kappa score of good (κ = 0.68).
Detection bias	Yes	The methods and main findings were extracted using a bespoke data extraction form. The quality of each systematic review was determined using the updated version of the Assessment of Multiple Systematic Reviews: AMSTAR 2. Data extraction and quality appraisal was conducted by three reviewers and checked in full by two reviewers. Any discrepancies were resolved through discussion and consensus.

Tsikata 2003

Study characteristics

Methods	Gap analysis
Data	95 SRs to determine whether Cochrane Rreviews report and analyse the data needed to assess the effectiveness of interventions at reducing health inequities
Comparisons	Socioeconomic status
Outcomes	All PROGRESS Plus characteristics
Equity definition	Health inequities defined as avoidable and unfair inequalities in health, across SES
Rationale for assessing PROGRESS-Plus dimension	Need for evidence on what works to reduce inequalities across socioeconomic strata
Notes	Funding: no funding

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Random sample of 10% of SRs published between 2000 issue 1 to 2003 issue 2 in the Cochrane Library; stratified by review group (n = 42; 7 Cochrane review groups excluded because <5 reviews)
Detection bias	Yes	Data extraction was done by 2 reviewers, using a pre-tested form; discrepancies resolved by discussion

Tugwell 2008

Study characteristics

Tugwell 2008 *(Continued)*

Methods	Gap
Data	14 SRs to apply the "equity lens" to Cochrane Reviews of rheumatoid arthritis
Comparisons	All PROGRESS Plus characteristics of people with rheumatoid arthritis
Outcomes	All PROGRESS Plus characteristics
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Need for evidence on what works to reduce inequalities across socioeconomic strata
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	All systematic reviews of the musculoskeletal review group published since 2003 Issue 1
Detection bias	Yes	Double extraction by 2 reviewers with pre-tested form

Ueffing 2011

Study characteristics

Methods	Targeted
Data	Systematic reviews to (1) evaluate the degree to which SRs have addressed sex and gender and (2) describe how methods developed by international equity researchers can be used for sex- and gender-based reporting and analyses.
Comparisons	Not applicable
Outcomes	Sex /gender
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Increase in calls from policy makers, practitioners, and researchers for the integration of gender and sex in health research needed as well as an increase in formal sex and gender policies for health research. Additionally, international groups such as the World Health Organization (WHO) Commission on Social Determinants of Health have identified systematic reviews as one form of evidence that meets these needs.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement

Ueffing 2011 *(Continued)*

Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

van't Riet 2014

Study characteristics	
Methods	Targeted
Data	11 SRs to see how effective are active video games on the young and the old.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Physical activity contributes to a healthy body weight in children and adolescents, as well as the quality of life in the general adult population, and is a major predictor of physical function in the elderly. However, promoting physical activity is challenging because behaviour is influenced by many factors. Interventions have generally had small effects and have not been able to reverse an alarming increase in obesity rates. Undiminished efforts are needed, therefore, to identify new approaches to promoting physical activity
Notes	Funding: no funding

Risk of bias

Item	**Authors' judgement**	**Support for judgement**
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described.
Detection bias	Yes	In the case of the studies of children/adolescents, the methodological quality of the included studies was assessed, using the Cochrane Collaboration's risk of bias tool. The first two authors rated the studies independently and then compared their assessments; any disagreements were discussed and resolved by consensus. In the case of the elderly studies, provided an assessment of methodological quality in their systematic review.

van Sluijs 2011

Study characteristics	
Methods	Targeted
Data	3 SRs to explore the effectiveness of interventions to promote physical activity in children and adolescents, delivered in the family and community setting, summarising previous reviews and updating the evidence with findings from recently conducted controlled trials (CTs).

van Sluijs 2011 *(Continued)*

Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age-children and adolescents)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	The current generation of young people are generally believed to be insufficiently active to benefit their health with levels of physical activity (PA) declining throughout childhood and adolescence. Effective strategies are therefore needed to encourage changes in PA behaviour among young people, whether it is promoting maintenance of physical activity levels in younger children, preventing decline of PA levels in primary school-aged children or promoting increased physical activity in adolescents.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	One reviewer checked the titles obtained from the searches, after which each of the two reviewers reviewed half of the resulting abstracts. Full text studies were obtained and reviewed by both reviewers independently, and discrepancies were resolved after discussion.
Detection bias	Yes	Information on the intervention content, target population, evaluation methods and results on PA (and body composition and fitness where provided) were extracted by one reviewer.

Vergidis 2009

Study characteristics

Methods	Targeted (populations at high risk for high risk behaviour)
Data	18 SRs
Comparisons	Not applicable
Outcomes	Race/ethnicity/culture/language, Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Barriers such as geographic and social isolation for reaching men who have sex with men
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	No	Method of identifying meta-analyses was not reported.
Detection bias	No	Methods for data extraction were not reported

Visser 2018

Study characteristics	
Methods	Targeted
Data	8 SRs to summarise and describe the effect of supplementary feeding on populations that were food insecure, vulnerable and malnourished.
Comparisons	Not applicable
Outcomes	Place of residence (LMIC), Sex/gender, Plus 1 - Personal characteristics associated with discrimination (age- children, older population; pregnant women; people living with diseases such as tuberculosis, HIV, and Alzheimer's disease)
Equity definition	Equity not defined however food security is defined as a situation in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.
Rationale for assessing PROGRESS-Plus dimension	A large proportion of development assistance funding allocated to food and nutrition is used for supplementary feeding programmes, including emergency assistance and food aid. Thus, it is important to know if it is effective. Furthermore, it is important to try and identify the most successful (combination of) interventions for replication, as well as criteria to improve the cost-effectiveness and efficiency of the interventions. Additionally, it is important that policymakers and community leaders take into account the causes of malnutrition when planning and prioritising health and nutrition interventions. Supplementary feeding programmes, targeting households and vulnerable people, are but one approach to address the complex issues surrounding food security and malnutrition, however, these programmes can be expensive and complicated to deliver.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	A systematic methodology review was undertaken.
Detection bias	Yes	Intended to include older people as a vulnerable group a priori, we included just one review (with one trial) investigating community-dwelling older participants with Alzheimer's disease. We consider the overview to be complete, although we also acknowledge that not all systematic reviews included in this overview were up to date.

Viswanathan 2008

Study characteristics	
Methods	Gap
Data	64 SRs to summarise maternal health research priorities, map these priorities to existing reviews, identify gaps that can be addressed with systematic reviews, including racial disparities
Comparisons	Racial disparities
Outcomes	Race/ethnicity/culture/language

Viswanathan 2008 *(Continued)*

Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Persistent disparity in health outcomes by race suggests a role for further research on interventions that narrow the gap
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Search of MEDLINE using MESH delivery, obstetric, systematic reviews, relevant to MCH
Detection bias	Unclear	Authors state "each study was reviewed to establish nature of intervention, primary outcome and subanalysis of racial disparities"

Weaver 2016

Study characteristics

Methods	Targeted (children with cancer)
Data	4 SRs to identify current approaches to palliative care in the paediatric oncology setting to inform development of comprehensive psychosocial palliative care standards for paediatric and adolescent patients with cancer and their families, and to analyse the barriers to implementation and enabling factors
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination (age-children and adolescents with cancer), Plus 3 - time-dependent relationships
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Despite standardisation in disease assessments and curative interventions for childhood cancer, palliative assessments and psychosocial interventions remain diverse and disparate. Additionally, while many descriptive reports speak to the benefits of earlier integration of palliative care in paediatric and adolescent oncology, currently there is a paucity of synthesised data.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two reviewers independently performed eligibility assessment of abstracts utilsing a pre-determined eligibility checklist and consensus so resolve disagreements. These independent reviewers reached consensus for exclusion/inclusion decision with 96% interrater agreement. Additional non-duplicate articles were added from references of included studies with group consensus on these articles. Eight reviewers systematically reviewed articles at full-text level. Members of the study team did not serve as reviewers for papers they had authored. Two team members independently reviewed the same published paper with inter-rater agreement for exclusion/inclusion decision

Weaver 2016 *(Continued)*

		reached at 94%. French and German articles (n = 3) underwent review by one study team member.
Detection bias	Yes	Each reviewer entered the data from completed data extraction sheets into an online extraction template designed by two study team members to enable consistent data formatting for team analysis. Two study team members independently completed the data extraction sheet per article, and a minimum of one additional study team member checked data extraction to recognise differences of opinion and re-circulate these findings back to primary and secondary reviewers for agreement.

Welch 2012

Study characteristics		
Methods	Gap and Targeted	
Data	224 SRs to 1) Evaluate definitions of health equity in systematic reviews; 2) Assess methods used by SRs to assess impacts of health interventions on equity in health status; 3) Assess subgroup analyses according to seven credibility criteria; and 4) Assess implications of equity findings on conclusions.	
Comparisons	Across PROGRESS-Plus	
Outcomes	Across PROGRESS-Plus	
Equity definition	Health inequities have been defined as unfair and avoidable inequalities in health across socioeconomic, demographic and geographic factors.	
Rationale for assessing PROGRESS-Plus dimension	Despite this need to assess the evidence on impacts of health interventions on equity in health status, systematic reviews rarely assess whether interventions have an impact on health equity. Furthermore, our Cochrane Review of methods found that none of the included studies had assessed the credibility of subgroup analyses nor the importance of equity assessment for the implications for practice and policy. Lack of credibility and failure to discuss implications are a substantial barrier in using systematic reviews for policy and practice decisions.	
Notes	Funding: government	
Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Two reviewers screened the titles and abstracts, then a single reviewer screened the full text to identify articles which met the following definition for a systematic review: ''the authors stated objective was to summarize evidence from multiple studies and the article described explicit methods''. A second reviewer independently screened a random sample of 10% of the full-text reviews.
Detection bias	Yes	Two reviewers independently extracted data on reporting and analysis of differences in effectiveness across PROGRESS-Plus factors, using a pre-tested data extraction form. Any differences in data extraction were resolved by discussion.

Welch 2013

Study characteristics	
Methods	Not applicable
Data	Reporting guideline for SRs to (1) provide structured guidance on transparently reporting these methods and results, (2) legitimise and emphasise the importance of reporting health equity results, and (3) contribute to improving the evidence base for evidence-informed, equity-oriented policy through wide dissemination of these reporting guidelines.
Comparisons	Not applicable
Outcomes	Across PROGRESS-Plus
Equity definition	Health equity is defined as the absence of avoidable and unfair inequalities in health.
Rationale for assessing PROGRESS-Plus dimension	Reporting guidelines are designed to encourage completeness and transparency in reporting methods and results of systematic reviews, such as the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement. Whilst there is guidance on conducting equity-focused systematic reviews, there is no guidance on reporting them. This is important because several methodological issues are specific to reporting on systematic reviews with a major focus on equity, such as how disadvantaged populations are defined, how equity is incorporated into syntheses, and how to report on the applicability of review findings to disadvantaged populations or settings. Therefore the development of a reporting guideline for equity focused systematic reviews is needed.
Notes	Funding: government and non for profit

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Welch 2016

Study characteristics	
Methods	Gap
Data	11 SRs to assess the effects of interactive social media interventions for health communication on health outcomes, behaviour change and health equity by overviewing SRs.
Comparisons	Age, socioeconomic status, place of residence
Outcomes	Aross PROGRESS
Equity definition	Health inequities, defined as differences in health outcomes that are avoidable and unfair.
Rationale for assessing PROGRESS-Plus dimension	Social media use has been increasing in public health and health promotion because it can remove geographic and physical access barriers. However, these interventions also have the potential to increase health inequities for people who do not have access to or do not use social media.

Welch 2016 *(Continued)*

Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	To retrieve systematic reviews, we used the Montori filter, a validated systematic review study design filter. The MEDLINE, PsycINFO, Cochrane Library, PUBMED, and Cambell Library databases were looked at. The search strategy was devised in OVID MEDLINE by a librarian scientist and peer reviewed by another member of the team following PRESS (Peer Review of Electronic Search Strategies) guidelines. The strategy was then adapted for the other databases. Screening was done by one author.
Detection bias	Yes	Used a rapid overview approach and therefore screening of the reviews identified by our search, data extraction and quality assessment was done by one author.

White 2016

Study characteristics

Methods	Targeted (employees)
Data	46 SRs to conduct a best-evidence synthesis of SRs on workplace interventions that address physical activities or exercise and their impact on workplace absence, work productivity or financial outcomes.
Comparisons	Not applicable
Outcomes	Occupation
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	There have been 6 modifiable worker factors identified; including decreased physical activity, lack of family support, poor general health, emotional distress and increased depressive symptoms, negative enduring psychological factors (e.g. neuroticism), and negative health/disability perception or negative recovery expectations among other factors. A second synthesis is needed to identify interventions that address the risk factors found in the first study.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Two or more independent reviewers assessed titles for relevance, with disagreements resolved by reviewing abstracts. Retained abstracts underwent the same procedure in the second round of review, with disagreements resolved by examining the full-text. Final inclusion of articles was based on assessment by two independent reviewers, with disagreements resolved by consensus or by bringing in a third independent reviewer.
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Wilson 2012

Study characteristics	
Methods	Targeted
Data	18 SRs to identify all existing systematic reviews related to counselling, case management and health promotion for people living with HIV/AIDS.
Comparisons	Not applicable
Outcomes	Plus 1 - personal characteristics associated with discrimination
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	These support services can impact the health of PHAs and those at risk for HIV by helping to prevent future HIV infections and addressing powerful social determinants of health such as increased social support and integration. In addition, offering HIV/ AIDS support services through community-based organizations helps ensure that services are attuned to the specific needs of the communities they serve. However, most efforts towards supporting the use of research evidence have focused on clinical and prevention services, with far less effort devoted to mobilising knowledge about effective practices in community-based organizations that provide essential on-the-ground support for PHAs.
Notes	Funding: government

Risk of bias		
Item	**Authors' judgement**	**Support for judgement**
Selection bias	Yes	Two teams of reviewers independently assessed the titles and abstracts for inclusion. Disagreements were resolved by consensus and a third reviewer made a final decision where no consensus could be reached. Two teams of independent reviewers then assessed the references included after the initial scoping stage to identify the SRs meeting our inclusion criteria. We retrieved the full-text of all includedSRs and two reviewers conducted a final inclusion assessment.
Detection bias	Yes	One reviewer categorised reviews by topic and extracted key messages, the year searches were last completed and the countries in which included studies were conducted (categorised by high- and low- and middle-income countries). This work was then checked by three members of the team for accuracy.

Witten 2017

Study characteristics	
Methods	Targeted
Data	3 SRs to (1) summarise the evidence on the various community-based interventions for breastfeeding of infants aged 6-24 weeks in low- and middle-income countries (LMICs), and (2) produce an evidence-informed recommendation on the most appropriate interventions for South Africa.
Comparisons	Not applicable
Outcomes	Place of residence

Witten 2017 *(Continued)*

Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	South Africa has one of the lowest breastfeeding rates globally and an exclusive breastfeeding (EBF) rate below 10%. If South Africa is to reach the World Health Assembly target of 50% EBF rate by 2025 and reap the full benefits of breastfeeding, South Africa would need an evidence-informed action plan.
Notes	Funding: not stated

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Unclear	Systematic search of electronic databases, screening and selection not described
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Xu 2016

Study characteristics

Methods	Targeted
Data	12 SRs to summarise current evidence for the effects of exercise and physical activity interventions on bone status in girls and women, and to explore whether specific exercise programs exist for improving or maintaining bone mass or bone strength in females.
Comparisons	Not applicable
Outcomes	Sex/gender, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	One of every two Caucasian women will suffer an osteoporosis-related fracture over her lifetime, as will approximately one in five men.
Notes	Funding: government

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	All abstracts and titles were read and then screened by the first author for potentially relevant studies based on the inclusion criteria. Full-text articles of selected titles or abstracts were retrieved and screened for eligibility by the first author. The second author then reviewed the study selection and screening, and disagreements were solved by consensus
Detection bias	Yes	Data were extracted following the PICO rule, i.e. characteristics of participants, interventions, comparisons, and outcome measures.

Yakoob 2009

Study characteristics	
Methods	Targeted (LMIC)
Data	16 SRs of interventions that could plausibly impact stillbirth rates covers 12 different interventions relating to behavioural and socially mediated risk factors, including exposures to harmful practices and substances, antenatal care utilisation and quality, and maternal nutrition before and during pregnancy
Comparisons	Not applicable
Outcomes	Place of residence
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Many stillbirths are preventable by access to antenatal care and obstetric care, and by reducing risk factors
Notes	Funding: non for profit

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Selected according to specified inclusion criteria that it report rate of still births and was a biologically plausible intervention identified by systematic search of multiple databases
Detection bias	Unclear	Method of extracting data and who performed data extraction was not provided

Yount 2017

Study characteristics	
Methods	Targeted
Data	18 SRs to synthesise evidence on the impact of interventions to prevent violence against adolescent girls and young women 10-24 years (VAWG) in low- and middle-income countries (LMICs)
Comparisons	Not applicable
Outcomes	Place of residence, gender/sex, Plus 1 - personal characteristics associated with discrimination (age)
Equity definition	Not defined
Rationale for assessing PROGRESS-Plus dimension	Gaps in knowledge may persist for critical life stages, and for the risk of poly-victimisation, or multiple exposures to violence. Intervention studies to prevent VAWG that have targeted adolescent girls, many may not have been designed to compare the impacts of interventions in early (10-14 years) versus later (15-19 years) adolescence and young adulthood (20-24 years). Yet, an adolescent girl experiences many physical, cognitive, and social developmental changes in the transition to adulthood that may affect her and her family's responses to the intervention.
Notes	Funding: government

Yount 2017 *(Continued)*

Risk of bias

Item	Authors' judgement	Support for judgement
Selection bias	Yes	Searched PubMed and PsycInfo electronic databases using database-specific controlled vocabulary and key terms. The authors screened the titles and abstracts of these records and excluded records that were definitively ineligible. An independent third party performed a duplicate screening and full-text review on 25% of results from the database search for each type of violence and verified the eligible reviews.
Detection bias	Yes	Data extracted on intervention studies included the world region of the study; specific study site (country, sub-region, clusters); years of program implementation; evaluation design; sample size; demographic attributes of the sample (gender, ages, marital status, urban-rural residence, schooling status, other unique attributes); study quality from the original review (if available); description of the intervention components; violence outcome(s) assessed among the five of interest; and effect of the intervention on violence outcomes of interest

ADHD: Attention deficit hyperactivity disorder;**BMI**:body mass index; **CVD:** cardiovascular disease;**GBV:** gender-based violence; **HIC:** High-Income Countries; **HPV:** human papilloma virus; **HTA:** Health Technology Assessment; **ID:** intellectual disability; **IGIs:** 'intervention-generated inequalities; **MCH:** Maternal and Child Health; **LMIC:** Low and Middle Income Countries; **LTC:** long-term care; **MA:** meta-analysis ;**PE:** physical exercise; **PTSD:** Post-traumatic stress disorder; **RCT:** randomised controlled trial; **SES:** socioeconomic status; **SR:** Systematic review; **SRH:** sexual and reproductive health.
PROGRESS-Plus: Place of residence (urban/rural), Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status and Social Capital; "Plus" captures other factors which are associated with decreased opportunity for good health such as disability, sexual preference, disease status or resource-poor settings.

Characteristics of excluded studies *[ordered by study ID]*

Study	Reason for exclusion
Ahmad 2010	Assessed reporting of sex, age and race in a cohort of 98 SRs on tobacco control and HIV. No assessment of differences in health outcomes across these characteristics.
AHRQ 2010	No assessment of health equity or health inequalities. A cohort of SRs was evaluated to assess how clinical heterogeneity was assessed, including whether population characteristics are prespecified for subgroup analyses.
Barlow 2004	No focus on health equity. Assessed effects of interventions for children with chronic disease using SRs but made no judgment that these children were disadvantaged or that these interventions could affect health inequalities or health inequities.
Craig 2003	No focus on health equity. Assessment of effects of treatments for sexual offenders from SRs.
Espinosa-Aguilar 2007	No focus on health equity. Eight SRs were included on effects of interventions in the elderly, with no focus on equity, inequalities or disadvantage.
Gaes 1999	No focus on health equity. Assesses effectiveness of correctional rehabilitation using SRs.
Gulmezoglu 1997	No focus on health equity. Assessed effects of interventions to prevent impaired fetal growth.
Huntley 2017	Not really a cohort of SRs - it is a summary of two SRs.

Study	Reason for exclusion
Krishnaratne 2016	Not really a cohort of systematic reviews - it assesses effects of interventions to prevent HIV from included primary studies rather than reviews.
Lee 2016	Not a cohort of systematic reviews. It is a review of case studies.
Maden 2018	Not about assessing health inequalities across PROGRESS-Plus factors.
Newman 2020	Not about inequities. Assesses the impact of community pharmacist-led interventions in chronic disease management.
Nguyen 2020	Not about inequities. Assesses the effectiveness of sedentary behaviour interventions on sitting time and screen time in children and adults.
Panteli 2015	Assessment of equity in health technology assessment reports. However, it was unclear if the HTA reports all included SRs and which parts of the assessment related to the SRs.
Prabhakaran 2018	No materials, methods or discussions sections. Results section did not contain needed information.
Proper 2019	No focus on health equity. Assesses the effectiveness of health promotion interventions on physical and mental health outcomes in the workplace.
Skelton 2020	Not about inequities. Assesses garden-based interventions on early childhood health.
Thomas 2008	Not a cohort of systematic reviews. This is a single SR of tobacco control interventions.

HTA: Health Technology Assessment; **SR:** Systematic review.

Characteristics of ongoing studies *[ordered by study ID]*

Avşar 2018

Study name	Health outcomes of maternal smoking during pregnancy and postpartum period for the mother and infant: protocol for an umbrella review
Methods	An umbrella review
Data	
Comparisons	Health impacts of maternal smoking during pregnancy and the postpartum period
Outcomes	
Starting date	2018
Contact information	txs602@bham.ac.uk
Notes	

Besnier 2019

Study name	Which public health interventions are effective in reducing morbidity, mortality and health inequalities from infectious diseases amongst children in low-income and middle-income countries (LMICs): protocol for an umbrella review?
Methods	An umbrella review
Data	
Comparisons	Public health interventions targeting infectious diseases or associated risk factors in children
Outcomes	
Starting date	2019
Contact information	elodie.besnier@ntnu.no
Notes	

ADDITIONAL TABLES

Table 1. Selected methods of assessing effects on health inequalities

Method	Calculation
Targeted approach	Evaluation of effect size in the disadvantaged population only (e.g. Cochrane Review on community animal health services for improving household wealth and health status of low income farmers by Curran 2006).
Relative difference (gap approach)	(advantaged - disadvantaged)/advantaged
Absolute difference (gap approach)	advantaged - disadvantaged
Gradient-approach regression	Regression-based index of relative effect across incremental categories of disadvantage.
Gradient-concentration index	Twice the area between the concentration curve and the line of equality (45 degrees line), defined with reference to the concentration curve, which graphs health status on the y-axis against categories of disadvantage on the x-axis (World Bank).
Gradient or gap-benefit incidence	Computes the distribution of public expenditure across different PROGRESS-Plus groups according to actual utilization of services.
Gradient approach - Gini index	Measure of inequality of income distribution, defined as the area between the line of equality and the Lorenz curve, with categories of PROGRESS on the x-axis and percentage of total income on the y-axis (Gastwirth 1972).

PROGRESS-Plus: Place of residence (urban/rural), Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status, and Social capital. "Plus" includes any other factors that are associated with decreased opportunities for good health such as age, disability, disease status or sexual preference.

Table 2. Summary table of 158 methods study characteristics

Study Characteristics		2010 review	2021 update	total
Type of Methodology study	Overview	29	93	122
	Methodology	7	18	25
	Scoping review	0	8	8
	Evidence and Gap map	0	3	3
Number of systematic reviews	Median and range	21 (4 to 420)	15 (2 to 1598)	17 (2 to 1598)
Identified	Electronic databases	19	104	123
	Reference checking	3	12	15
	SCOPUS search for citations	9	0	9
	Contacting authors	2	6	8
Method of assessing equity	Gap	12	14	26
	Gradient	1	1	2
	Targeted	23	85	108
	Targeted and gap	0	22	22

Table 3. PROGRESS Dimensions assessed in 158 methodology studies, separated by prior review (2010) and current update to 2021

PROGRESS dimensions assessed	Studies identified in the update (n=124)		2010 review (n=34 studies)		Total (n=158)
	Focus	With other PROGRESS dimensions	Focus	With other PROGRESS dimensions	
Place of residence(LMIC)	4 (3%)	7 (6%)	13 (38%)	3 (9%)	27 (17%)
Place of residence (urban/rural or housing)	0	12 (10%)	0	1 (3%)	13 (8%)
Race/ethnicity/culture/language	2 (2%)	7 (6%)	1 (3%)	6 (18%)	16
Occupation	2	3	0	0	5

Table 3. PROGRESS Dimensions assessed in 158 methodology studies, separated by prior review (2010) and current update to 2021 *(Continued)*

	(2%)	(2%)			(3%)
Gender or sex	9 (7%)	17 (14%)	3 (9%)	8 (24%)	37 (23%)
Religion	0	0	0	0	0
Education	0	2 (2%)	0	3 (9%)	5 (3%)
Socioeconomic status	7 (6%)	19 (15%)	1 (3%)	9 (26%)	36 (23%)
Social capital	0	2 (2%)	0	0	2 (1%)
All of PROGRESS-Plus	12 (10%)	-	3 (9%)	-	15 (9%)
Plus-Indigenous	3 (2%)	0	0	0	3 (2%)
Plus-Age (either older or younger people)	17 (14%)	24 (19%)	2 (6%)	4 (12%)	47 (30%)
Plus-Health condition associated with inequities (e.g. disability, HIV, mental health, obesity)	15 (12%)	7 (6%)	2 (6%)	0	24 (15%)
Plus-Features of relationships (e.g. children in school environment)	6 (5%)	0	0	0	6 (4%)

Table 4. Methods used to assess whether health equity was considered in systematic reviews

Methods used to assess health equity effects	How many studies used this method	Data availability	Advantages	Disadvantages
1a. Descriptive- SRs mention PROGRESS-Plus	18/158 Studies reporting data availability: 12 studies	Place of residence LMIC (15/193 SRs); race/ethnicity (34/283 SRs); occupation (1/95 SRs); gender/sex (129/368 SRs); religion (1/95 SRs); education (0/95 SRs); SES (40/260 SRs); social capital (0/95 SRs),	Indicates whether authors of systematic reviews have considered health equity	Does not assess potential for differences across PROGRESS-Plus factors or health inequalities
1b. Descriptive- SRs describe population across PRO-	110/158 61 Focused on specific popula-	Targeted to specific PROGRESS-Plus factor: 61 studies SRs with mixed populations:	Provides direct data on whether different populations included in SRs	Does not analyse influence of population characteristics or setting on effects

Table 4. Methods used to assess whether health equity was considered in systematic reviews *(Continued)*

GRESS-Plus factor(s)	tion thus all SRs included that population	Place of residence (213/723 SRs; 29%); race/ethnicity (94/1294 SRs; 7%); occupation (22/411 SRs; 5%); gender/sex (239/795 SRs;30%); religion (3/392 SRs; 1%); education (8/411 SRs; 2%); SES (99/580 SRs; 17%); social capital (9/398 SRs; 2%), Age (155/432 SRs, 36%); health condition and equity, 18/297 SRs; 6%)	which is useful for judging applicability	on health inequalities Data available for age in 36% of SRs, sex or gender in 30% of SRs, place of residence in 29% of SRs, others are available in less than 25% of SRs
1c. Descriptive-SR describes if intervention is given only to disadvantaged populations across PROGRESS-Plus	118/158	65 studies were focused on a specific populations across one or more PROGRESS-Plus characteristics 53 studies evaluated whether SRs included studies focused at specific populations across PROGRESS-Plus	Assesses if interventions have been tested in specific disadvantaged populations	Does not assess effects of intervention Can be misleading since SRs with no studies conducted in disadvantaged populations may still be relevant and applicable
1d. Descriptive-Outcomes of SR related to equity of access	25/158 SRs	Equity of access or coverage measured in 118/346 SRs.	Provides data on access to health care, a determinant of health inequalities	Data on access to care does not measure effects on health inequalities Measuring access to health care is dependent on the question and availability of data depends on selection criteria of methodology review
1e. Descriptive-describe if SRs conduct or plan subgroup analyses across PROGRESS-Plus	58/158	Analysis by PROGRESS-Plus in SRs: Place of residence; 5/297 SRs (2%); Race/ethnicity (35/1104 SRs; 3%); Occupation (10/262 SRs; 4%); Sex or Gender (145/1365 SRs; 11%); Religion (1/243 SRs, 0%); Education (8/255 SRs; 3%); SES (90/729 SRs; 12%);Social capital (4/243 SRs; 2%), PROGRESS subgroup: 10/87 SRs, 11%) ; Age (36/381 SRs; 9%), Health condition (4/243 SRs; 2%), sexual orientation (1/19 SRs, 5%)	Subgroup analysis provides direct data needed to answer whether the intervention works the same or differently in populations of interest	Lack of data: data available by PROGRESS-Plus subgroups of interest in 10% of SRs (28/247 had data)
2a. Descriptive-assess if primary studies describe population across PROGRESS-Plus	50/158	Place of residence (270/1507 studies, 18%), race/ethnicity (150/1390, 11%), occupation (36/399 studies, 9%), gender or sex (883/1369 studies, 64%), religion (0/337, 0%), education (64/422 studies, 15%), SES (246/1026 studies, 24%), Social capital (25/399 studies, 6%), Age (303/963 studies, 31%), health conditions (0/87 studies), sexual orientation (0/87 studies)	Provides evidence on whether sufficient evidence is available from primary studies to conduct subgroup analyses in SRs	Data may not be available stratified by PROGRESS-Plus factors in the primary studies

Table 4. Methods used to assess whether health equity was considered in systematic reviews *(Continued)*

2b. Descriptive-assess if primary studies stratified analyses by PROGRESS-Plus	28/158 studies	50/158	Place of residence (270/1507 studies, 18%), race/ethnicity (155/1430, 11%), occupation (36/399 studies, 9%), gender or sex (883/1369 studies, 64%), religion (0/337, 0%), education (64/422 studies, 15%), SES (246/1026 studies, 24%), Social capital (25/399 studies, 6%), Age (303/963 studies, 31%), health conditions (0/87 studies), sexual orientation (0/87 studies)	Time-consuming to assess all primary studies of included SRs Does not rule out the possibility of spurious statistical significance
3a. Analytic: association	9/158 studies	Association of PROGRESS factors with effects in 6 studies. [factors included: Place of residence, race/ethnicity/culture/language, Occupation, gender or sex, Education, SES, social capital, age 2 studies used Harvest Plots to assess positive gradient, negative gradient or no gradient across PROGRESS factors	Indicates whether PROGRESS-Plus factors are associated with different relative effects Could be used to assess gradients of effect modification according to different levels of PROGRESS-Plus (e.g. poverty)	Data availability may be a limitation
3b. Analytic: relative comparison of effect size in two groups using an odds ratio	None			
3c. Analytic: assess effects in a disadvantaged population	108/158 focused on specific populations experiencing inequity across PROGRESS-Plus	Place of residence-LMIC: 16 Place of residence- housing: 1 Race/ethnicity/culture/language: 2 Occupation: 2 Gender or sex: 4 Religion: 0 Education: 0 Socioeconomic status: 4 Social capital: 0 **Plus** Indigenous: 3 Age: 16 Health conditions: 19	Directly applicable for decisions about interventions in these specific disadvantaged populations Identifies evidence gaps	Lack of data in some disadvantaged populations limits the use of this approach for other populations and settings Low methodological quality of SRs may limit applicability Lack of data on process of implementation

Table 4. Methods used to assess whether health equity was considered in systematic reviews *(Continued)*

		Relationships/environment: 6 **Note**: 35 studies focused on populations experiencing inequity across two or more determinants		
4a. Applicability: assess likely impact on disadvantaged populations using checklists for applicability and equity	17/158 studies	Applicability checklist: 1 study Used absolute risk to extrapolate impact in low income countries: 1 study Biological plausibility, impact and feasibility in LMIC (see Appendix 7): 2 studies Feasibility or applicability in low-resource settings (no specific tool): 2 studies SUPPORT tools: 1 study SIGN tools: 4 studies GRADE certainty: 4 studies Programme theory to understand differential effects across SES: 2 study	Useful summary for policy-makers about likely relevance in specific populations and settings Standardized format makes judgments explicit and transparent Does not require replication of studies in different populations and settings Not subject to statistical power issues of subgroup analyses	Does not assess the magnitude of effect in different populations Requires content and methodological expertise to make equity and applicability judgments Low availability of data to make judgments (Althabe 2008), (Lewin 2008), (Chopra 2008)
4b. Assess stakeholder engagement with populations experiencing inequity	28/158 studies	16 studies reported that stakeholders were engaged in the design of the methods study (e.g. patients, Indigenous people, children with disability) 12 studies evaluated whether systematic reviews reported stakeholder engagement in the primary studies, e.g. in designing or the interventions	Provides perspectives and priorities of populations experiencing inequity in designing the study and interventions Inclusive process with intended beneficiaries of research is needed for transformative research	Time-consuming to build authentic partnerships and ensure equitable and meaningful engagement

SES: Socioeconomic status; **PROGRESS:** PROGRESS: Place of residence (urban/rural), Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status and Social Capital

Table 5. Frequency of subgroup analyses meeting credibility criteria

Subgroup criteria	n = 58 (%)
1. clinically important difference?	2 (3%)
2. statistically significant difference?	13 (22%)
3. a priori hypothesis	8 (14%)
4. subgroup analysis is one of small number of hypotheses tested?	3 (5%)
5. differences suggested by within study comparisons	2 (3%)
6. difference consistent across studies?	2 (3%)
7. indirect evidence to support hypothesis?	5 (9%)

Table 5. Frequency of subgroup analyses meeting credibility criteria *(Continued)*

8. Rothwell: test by subgroup-treatment interaction	1 (2%)
9. Rothwell: trials stratified by subgroup	0
10) Consideration of baseline characteristics;	0
11) independence of the subgroup effect (i.e. the subgroup effect is not confounded by association with another factor	0
12) a priori specification of the direction of effect	2 (3%)
13) consistency across related outcomes	1 (2%)

APPENDICES

Appendix 1. MEDLINE search strategy

The search terms for MEDLINE are listed below, along with the number of hits obtained from searching MEDLINE from July 2, 2010 to March 26, 2019 = 8154 results. This search strategy was also used to search EMBASE (July 2, 2010 to March 28, 2019 = 11790 results) and PsycINFO (July 2, 2010 to March 28, 20190 = 1951 results) and was adapted for the other electronic databases.

1 exp Meta-Analysis as Topic/ (17600)
2 systematic review.tw. (126768)
3 meta-analys$.tw. (142335)
4 meta-epidemiolog$.tw. (167)
5 exp "Review Literature as Topic"/ (12148)
6 (Cochrane adj2 review).tw. (4580)
7 or/1-6 (234180)
8 (gender-based or gender-related or gender differences or gender factors).mp. (31676)
9 ((sex or gender) adj2 (analysis or specific or difference? or factor? or inequit$ or disparit$ or inequalit$)).mp. (331369)
10 exp sex factors/ (251216)
11 exp geriatrics/ (29160)
12 ((ethnic$ or race or racial or religio$ or cultur$ or minorit$ or refugee or indigenous or aboriginal) adj3 (analysis or difference$ or specific or disparit$ or inequalit$ or inequit$)).tw. (63258)
13 exp homosexuality/ (27616)
14 exp disabled persons/ (61631)
15 ((poverty or low-income or socioeconomic$ or social) adj2 (analysis or disadvantage$ or specific or difference? or factor? or inequalit $ or depriv$ or inequit$ or disparit$)).mp. (180303)
16 exp Educational Status/ (49189)
17 exp Socioeconomic Factors/ (424630)
18 ((discriminat$ or social exclu$ or social inclu$) adj3 (religion or culture or race or racial or aboriginal or indigenous or ethnic$)).tw. (1793)
19 ((urban or rural or inner-city or slum) adj2 (difference$ or specific or analysis or inequit$ or disparit$ or inequalit$)).tw. (3911)
20 ((resource-poor or (low-income adj countr$) or (middle income adj countr$) or africa or developing countr$ or south america or china or asia or latin america) adj2 (relevance or analysis or specific or difference or applicab$ or inequit$ or disparit$ or inequalit$)).tw. (2309)
21 or/8-20 (905255)
22 7 and 21 (11179)
23 limit 22 to ed=20100702-20190326 (8154)

Appendix 2. Search strategies in other databases

CINAHL July 2, 2010 to April 1, 2019 = 8762 results:

TX (meta-analysis OR systematic review OR meta-epidemiolog*) and (TX sex OR gender OR race OR ethnic OR indigenous OR socioeconomic OR elderly OR homosexual OR urban OR rural OR aboriginal OR slum OR developing country OR refugee OR poverty OR education) and (subgroup analysis OR sensitivity analysis OR specific OR equity OR disparity OR inequality)

Criminal Justice Abstracts July 2, 2010 to April 11, 2018 = 208 results:

TX (meta-analysis OR systematic review OR meta-epidemiolog*) and (TX sex OR gender OR race OR ethnic OR indigenous OR socioeconomic OR elderly OR homosexual OR urban OR rural OR aboriginal OR slum OR developing country OR refugee OR poverty OR education) and (subgroup analysis OR sensitivity analysis OR specific OR equity OR disparity OR inequality)

Index to Foreign Legal Periodicals July 2, 2010 to April 9, 2019 = 16 results:

1. ((meta-analysis or systematic review or meta-epidemiolog$) and (sex or gender or race or ethnic or indigenous or socioeconomic or elderly or homosexual or urban or rural or aboriginal or slum or developing country or refugee or poverty or education) and (subgroup analysis or sensitivity analysis or specific or equity or disparity or inequality)).mp.

2. meta-analysis.tw.

3. systematic review.tw.

4.meta-synthesis.tw.

5. meta-analysis.mp.

6. synthesis.mp.

7. or/1-6

ERIC (original search strategy)1965 to July 2, 2010:

((meta-analysis or (“systematic review”) or meta-epidemiol$) or DE=meta-analysis) and(((gender-based or sex-based) and KW=((gender or sex) and (based or specific or difference))) or((educational AND (status OR attainment)) WITHIN 2 (specific or difference* OR disparit* OR inequalit* OR (subgroup analysis) OR inequit*)) or((poverty OR low-income OR socioeconomic* OR social) WITHIN 2 (specific or difference* OR disparit* OR inequalit* OR (subgroup analysis) OR inequit*)) or((geriatric OR elderly) WITHIN 2 ((subgroup analysis) OR difference* OR disparit* OR inequit* OR inequalit* OR specific)) or(“developing nations” WITHIN 2 (difference* OR specific OR (subgroup analysis) OR inequit* OR inequalit*)) or((urban OR rural OR inner-city OR slum) WITHIN 2 (specific or difference* OR disparit* OR inequalit* OR (subgroup analysis) OR inequit*)) or((ethnic* OR minorit* OR racial OR cultur* OR aboriginal OR religio* OR indigenous OR refugee) WITHIN 2 (specific or difference* OR disparit* OR inequalit* OR (subgroup analysis) OR inequit*)) or(disabilit* WITHIN 2 (specific OR difference OR inequit* OR inequal* OR “subgroup analysis” OR discriminat*)))

ERIC (updated search strategy for OVID) July 2, 2010 - April 9, 2019 = 269 results:

1 meta-analysis.de. (4853)
2 systematic review.tw. (1671)
3 meta-analys$.tw. (5670)
4 meta-epidemiolog$.tw. (0)
5 (gender-based or gender-related or gender differences or gender factors).tw. (34112)
6 ((sex or gender) adj2 (analysis or specific or difference? or factor? or inequit$ or disparit$ or inequalit$)).tw. (38950)
7 ((educational and status) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (2052)
8 ((educational and attainment) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (741)
9 ((ethnic$ or race or racial or religio$ or cultur$ or minorit$ or refugee or indigenous or aboriginal) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (40122)
10 ((poverty or low-income or socioeconomic$ or social) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (5711)
11 ((geriatric or elderly) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (34)
12 ("developing nations" adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (7)
13 ((urban or rural or inner-city or slum) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (3941)
14 ((ethnic* or minorit* or racial or cultur* or aboriginal or religio* or indigenous or refugee) adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (39855)
15 (disabilit* adj2 (specific or difference* or disparit* or inequalit* or "subgroup analysis" or inequit*)).tw. (1662)
16 or/1-4 (7041)
17 or/5-15 (83797)
18 16 and 17 (496)
19 limit 18 to yr="2010 -Current" (269)

Education Abstracts Jan 28, 2009 = 176 results: Database discontinued since original review

Search Query #20 ((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar))) (Copy Query)

PAIS July 2, 2010 to April 2, 2019 = 446 results:

(((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar)))) and((specific or subgroup or sensitivity) or ((equit* OR inequit*) or disparit* or inequalit*) or (factor or difference))

Social Services Abstracts July 2, 2010 to April 2, 2019 = 534 results:

(((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar)))) and((specific or subgroup or sensitivity) or ((equit* OR inequit*) or disparit* or inequalit*) or (factor or difference))

Sociological Abstracts July 2, 2010 to April 9, 2019 = 395 results:

noft((meta-analys* OR (systematic review) OR meta-epidemiol* OR meta-synthes*)) AND noft((religio* OR cultur* OR (education status) OR (education attainment) OR literacy OR (socioeconomic status) OR poverty OR low-income) OR (developing countries) OR africa OR (China OR South America OR Asia OR Eastern Europe) OR (homosexual OR lesbian) OR elderly OR geriatr* OR gender OR sex OR urban OR rural OR inner-city OR slum OR race OR ethnic* OR aboriginal OR indigenous OR refugee OR occupation OR blue-collar) AND noft((specific OR subgroup OR sensitivity OR equit* OR inequit* OR disparit* OR inequalit* OR factor OR difference)) AND pd(20100702-20191231)

Cochrane Methodology Register July 2, 2010 to May 10, 2017 = 15 results. Database discontinued

(((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar)))) and((specific or subgroup or sensitivity) or ((equit* OR inequit*) or disparit* or inequalit*) or (factor or difference))

Cochrane HTA database July 2, 2010 to May 10, 2017 = 23 results. Database discontinued

(((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar)))) and((specific or subgroup or sensitivity) or ((equit* OR inequit*) or disparit* or inequalit*) or (factor or difference))

Digital dissertations. Database discontinued since original review.

(((meta-analys* or (systematic review) or meta-epidemiol*) or meta-synthes*) and ((religio* or cultur*) or ((education status) or (education attainment) or literacy) or ((socioeconomic status) or poverty or low-income) or ((developing countries) or africa or (China OR South America OR Asia OR Eastern Europe)) or (homosexual or lesbian) or(elderly or geriatr*) or (gender or sex) or ((urban or rural or (inner-city OR slum)) or (race or ethnic* or (aboriginal OR indigenous OR refugee)) or (occupation or blue-collar)))) and((specific or subgroup or sensitivity) or ((equit* OR inequit*) or disparit* or inequalit*) or (factor or difference))

Cochrane Colloquium Abstracts 2009 to DATE = # results

equit OR socioeconomic OR diversity OR inequality OR gender OR ethnicity

2018 Edinburgh

2017 Cape Town [Global Evidence Summit]

2016 Seoul

2015 Vienna

2014 Hyderabad

2013 Québec City

2012 Auckland

2011 Madrid

2010 Keystone

2009 Singapore

Oral

Poster

Appendix 3. Data extraction form items

Ref ID
Author
Year
PROGRESS dimension
Definition equity (by author)
How is judgment of equity made? Ie fairness and avoidability?
Proxy measures used for PROGRESS-Plus? (e.g. nutritional status)
Reason/rationale for assessing equity
Number meta-analyses
Quality: Selection bias: how was sample of systematic reviews selected? Is there likelihood of selection bias?
Quality: Attrition bias: potential for bias in the exclusion of systematic reviews from analysis. Were any systematic reviews excluded and why.
Quality: Detection bias: potential for bias in the assessment of analytic methods and outcomes in cohorts of systematic reviews. How did studies extract details of analysis of considering health equity.
outcomes (benefits, harms, costs)
Quant measure of gaps/gradients
Statistical methods used (e.g. meta-regression, subgroup analysis)
Methods of comparing gap (relative, absolute, gradient, risk difference)
Describe whether PROGRESS+ is mentioned in SR- in introduction, methods, discussion
Describe whether SRs describe population across PROGRESS+

(Continued)

Describe whether SRs include studies of targeted interventions aimed at disadvantaged
Describe outcomes related to equity of coverage or access
Describe whether primary studies included in the SRs stratify analyses by PROGRESS
Describe whether subgroup analyses were planned or conducted across PROGRESS in the SRs
Subgroup analysis described in sufficient detail to answer 7 questions
Analytic- assess association of PROGRESS+ factor with effect size
Analytic: compare effect size between two groups using odds ratio, risk difference, relative risk
Analytic- assess likely impact on disadvantaged populations using checklists for applicability
Effect size
Standard error
95% CI
Expertise required to assess equity effects (as described by author, or paste in methods)
Availability of data to assess equity gap (as described by author)
Useability for end-user? (judgment by extractor or paste author's description
Advantages of method chosen to assess gap, as described by author?
Disdavantages of method chosen to assess gap, as described by author?
Clinically important difference?
Statistically significant difference?
A priori hypothesis
Subgroup analysis is one of small number of hypotheses tested?
differences suggested by within study comparisons
Difference consistent across studies?
Indirect evidence to support hypothesis?
Implications for policy, practice, research based on equity, equality analysis?
How was this study found? (searching databases, handsearching etc
Factors associated with equity differences (e.g. study design, implementation adherence, compliance)
Limitations as described by author
Strengths as described by author

Appendix 4. SUPPORT Collaboration checklists for applicability, equity and scaling up

Available from: http://www.support-collaboration.org/summaries/methods.htm

APPLICABILITY

Consider differences in:

- structural elements of health systems (such that an intervention could not work in the same way)
- on-the-ground realities and constraints (that might substantially alter the potential benefits of the intervention)
- baseline conditions (different absolute effects, even if the relative effectiveness was the same)
- perspectives and influences of health system stakeholders (such that the intervention may not be accepted or taken up in the same way)

EQUITY

- Are there plausible reasons for anticipating differences in the relative effectiveness of the intervention in disadvantaged settings within the country?
- Are there likely to be different baseline conditions within the country, so that the problem would be more or less important in disadvantaged settings within the country?
- Are there likely to be different baseline conditions in disadvantaged settings within the country, so that the absolute effectiveness would be different?
- Are there important considerations that should be given to implementing the intervention to ensure that inequities are not increased and that they are reduced

SCALING UP

- What are the most important economic consequences?
- What information is there about the total resource implications of expanding coverage and sustaining an intervention?
- Is there important uncertainty about medium to long-term economic consequences?
- Is there important uncertainty about the applicability of any reported economic consequences?

Appendix 5. Scottish Intercollegiate Guidelines Network [SIGN] grades of assessment

Grade Assessment of individual studies

1++ High quality meta analysis, systematic review of randomized controlled trials (RCT), or RCT with very low risk of bias

1+ Well-conducted meta analysis, systematic review of RCTs, or RCT with a low risk of bias

1- Meta analysis, systematic review of RCTs, or RCT with a high risk of bias

2++ High quality systematic reviews of case-control or cohort studies, High quality case-control or cohort studies with a very low risk of confounding, bias, or chance and a high probability that the relationship is causal

2+ Well conducted case control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that the relationship is causal

2- Case control or cohort studies with a high risk of confounding, bias, or chance and a significant risk that the relationship is not causal

3 Non-analytic studies, e.g. case reports, case series

4 Expert opinion

Assessment of all evidence for each intervention

A: At least 1 meta analysis, systematic review, or RCT rated as 1++, directly applicable to the target population; or a systematic review of RCTs or a body of evidence consisting primarily of studies rated as 1+, directly applicable to the target population and demonstrating consistent overall results

B: Body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating consistent overall results; or extrapolated evidence from studies rated as 1++ or 1+
C: Body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating consistent overall results; or extrapolated evidence from studies rated as 2++
D: Body of evidence 3 or 4; or extrapolated evidence from studies rated as 2+ D

Appendix 6. SIGN Considered Judgment Form

	Considered judgement on quality of evidence
Key question:	**Evidence table ref:**

1. Volume of evidence

Comment here on any issues concerning the quantity of evidence available on this topic and its methodological quality.

2. Applicability

Comment here on the extent to which the evidence is directly applicable to the NHS in Scotland.

3. Generalisability

Comment here on how reasonable it is to generalise from the results of the studies used as evidence to the target population for this guideline.

4. Consistency

Comment here on the degree of consistency demonstrated by the available of evidence. Where there are conflicting results, indicate how the group formed a judgement as to the overall direction of the evidence

5. Clinical impact

Comment here on the potential clinical impact that the intervention in question might have – e.g. size of patient population; magnitude of effect; relative benefit over other management options; resource implications; balance of risk and benefit.

6. Other factors

Indicate here any other factors that you took into account when assessing the evidence base.

(Continued)

Appendix 7. Biological plausibility and feasibility in LMIC grades of evidence

I. Evidence of no benefit. Interventions for which evidence exists showing they have no important benefits—either singly or in combination with other measures—for perinatal or neonatal health.

II. No evidence of benefit. Interventions for which evidence for or against an effect was absent.

III. Uncertain evidence of benefit. Interventions for which there was some evidence of benefit, but contradictory evidence, or issues such as study design, location, or size precluded any firm conclusions. These interventions merit further assessment in low-income and middle-income countries.

IV. Evidence of efficacy. Interventions effective in reducing perinatal or neonatal mortality, or primary determinants thereof, but there is a lack of data on effectiveness in large-scale programme conditions.

V. Evidence of efficacy and effectiveness. Interventions of incontrovertible efficacy and which seem feasible for large-scale implementation based on effectiveness trials.

WHAT'S NEW

Date	Event	Description
20 December 2021	New citation required but conclusions have not changed	With the new studies, we identified stakeholder engagement as an additional method of considering equity in systematic reviews but conclusions did not change.
3 September 2021	New search has been performed	New search with inclusion of an additional 124 studies.

HISTORY

Protocol first published: Issue 3, 2009
Review first published: Issue 12, 2010

CONTRIBUTIONS OF AUTHORS

VW developed the idea for the review, wrote the protocol, and developed the search strategy. JM reviewed the search strategy. VW,JdM, MB, BD, EU, CM, WM, JT, AR, AA, SA, AAM, VB, OD, KK, MTM, HAP, and EG screened articles for inclusion and extracted data. MB and JPP reviewed Spanish articles for inclusion. All authors contributed to analysis, writing, and reviewed the final draft.

DECLARATIONS OF INTEREST

BK, EU, MP, PT, and VW are members of the Cochrane and Campbell Equity Methods Group. MP, BK and PT are Co-Conveners of the Cochrane and Campbell Equity Methods Group; EU is the Field Administrator.

Some of the authors of this review team are authors on one or more of the empirical studies included in this review (PT, MP, EK, EU, VW, JM, GW, JP, TJ, OD). We sought to minimize the possible bias of analysis and synthesis of these studies by having studies co-authored by authors of this review team extracted by a review author who was not a co-author of the methodology study (JdM, MB, CM, WM, AR, AA, SA, AAM, VB, KK, MTM, HAP or EG).

SOURCES OF SUPPORT

Internal sources

- No sources of support provided

External sources

- Canadian Institutes of Health Research doctoral fellowship, Canada

  Funding for doctoral degree from government of Canada
- National Institute of Health Research, UK

  Incentive Award Scheme (NIHR133255)

DIFFERENCES BETWEEN PROTOCOL AND REVIEW

We clarified our inclusion criteria by stating that we are explicitly not including studies with surrogate outcomes for health (e.g. vaccination rates and high risk behaviours), as follows: We excluded studies which measured inequalities in surrogate outcomes for health across PROGRESS-Plus factors such as vaccination rates (Shea 2009) or high-risk behaviours (Vergidis 2009a). For this update, we were unable to search some of the databases indicated in the protocol due to changes to the databases since the original review (see Electronic searches for details).

We contacted all authors of studies identified in this update to ask whether they were aware of any potentially relevant studies.

Compared with the first version of this review, published in 2010, the most important new finding is the identification of stakeholder engagement as a method for assessing health inequities. We also identified two methodology studies using a new method of appraising gradients in effect using the Harvest Plot (Humphreys 2013, Nittas 2020). Secondly, we found increased assessment of people who experience inequities across multiple dimensions of PROGRESS-Plus (e.g. children with disability, older adults with severe mental illness, and children with obesity in low-income neighbourhoods) and increased recognition of relationship and temporary situations associated with inequities (e.g. discharge from hospital, and asylum seekers). Thirdly, we found that 68% of the methodology studies were overviews focused on effects of interventions for specific disadvantaged populations (compared to 23% in the first version of this review). In terms of use of the methods, our findings are comparable. For example, relatively few studies defined health equity, analytic approaches comparing disadvantaged and less disadvantaged populations were used infrequently and few methodology studies used judgments of applicability to assess potential effects for disadvantaged populations. We used a team approach for collecting and analysing data.This approach builds capacity for the next generation of systematic review authors interested in health equity.

INDEX TERMS

Medical Subject Headings (MeSH)

Age Factors; Developing Countries; Ethnology; *Health Status Disparities; Racial Groups; Research Design [standards]; *Review Literature as Topic; Sex Factors; Socioeconomic Factors

MeSH check words

Humans