

Measuring Health Inequalities: A Toolkit

Intervention Scan Guide



Canadian Institute
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Purpose

This guide provides key information and considerations for conducting a scan to identify interventions (strategies, policies and programs) that reduce health inequalities associated with your health indicator of interest. It also includes guidance on how to use a template that the Canadian Institute for Health Information (CIHI) developed to help you structure and track your intervention scan. You can find this template at [Measuring Health Inequalities: A Toolkit — Intervention Scan Template](#).

We have organized this guide and the accompanying Excel template into 3 steps:

Step 1: Develop a search strategy

Step 2: Document your search results

Step 3: Synthesize your search results

In the Excel template, you will find a blank template and a sample template for each step. They have been completed using a case study example to reduce inequalities in asthma hospitalizations among children and youth. We based this example on [CIHI analysis](#) that demonstrated a disproportionate burden of asthma hospitalizations among children living in lower-income and lower-education households.

Before you begin

It is important to recognize that the causes of health inequalities are often due to multiple factors. As a result, strategies to reduce health inequalities generally require a comprehensive approach. For this reason, it is helpful to cast your net wide and consider a [range of interventions](#) and [sources of evidence](#) in your intervention scan. Depending on the target audience for your reporting, however, you might want to scope your scan of interventions to include those that are most feasible or relevant to implement.

Range of interventions

1. **Consider interventions implemented directly within the health sector, as well as intersectoral interventions.**

Both of these types of interventions may be required to reduce health inequalities. The World Health Organization and the Public Health Agency of Canada define [intersectoral action](#) as “actions undertaken by sectors outside the health sector, possibly, but not necessarily, in collaboration with the health sector, on health or health equity outcomes or on the determinants of health or health equity.”¹

2. **Consider interventions that are targeted or universal, as well as interventions that apply a proportionate universalism approach.** These are defined as follows:

Targeted interventions: These interventions reduce inequalities by targeting action or removing barriers for specific population subgroups that are experiencing the greatest need.^{2,3} For example, smoking cessation programs can subsidize the cost of nicotine replacement therapies for individuals who do not have coverage for quit-smoking aids through extended health benefits, seniors programs or private or third-party insurance.

Universal interventions: These interventions are applied across the whole population, with the goal of establishing a safety net and providing everyone with access to essential services.^{2,3} These interventions may be operationally simpler to implement and have the potential to reduce inequalities across several population subgroups (e.g., along the entire income gradient). In some cases, universal interventions reduce inequalities by disproportionately benefiting specific population subgroups. For example, universal fiscal policies, such as increased cigarette pricing, generally have a greater positive impact on lower-income populations.

Proportionate universal interventions: These interventions encompass both universal and targeted approaches to ensure that all population subgroups receive benefits and services proportionate to the level of inequality or need that they experience.³ When there is a steeper gradient of inequality, more action should be concentrated on or targeted to the population subgroups with increased need. When the gradient is less pronounced, then action can be distributed more equally across subgroups.⁴ For example, smoking cessation programs can be provided to the whole population, together with specific services targeting lower-income population subgroups to reduce income-related inequalities for smoking prevalence.

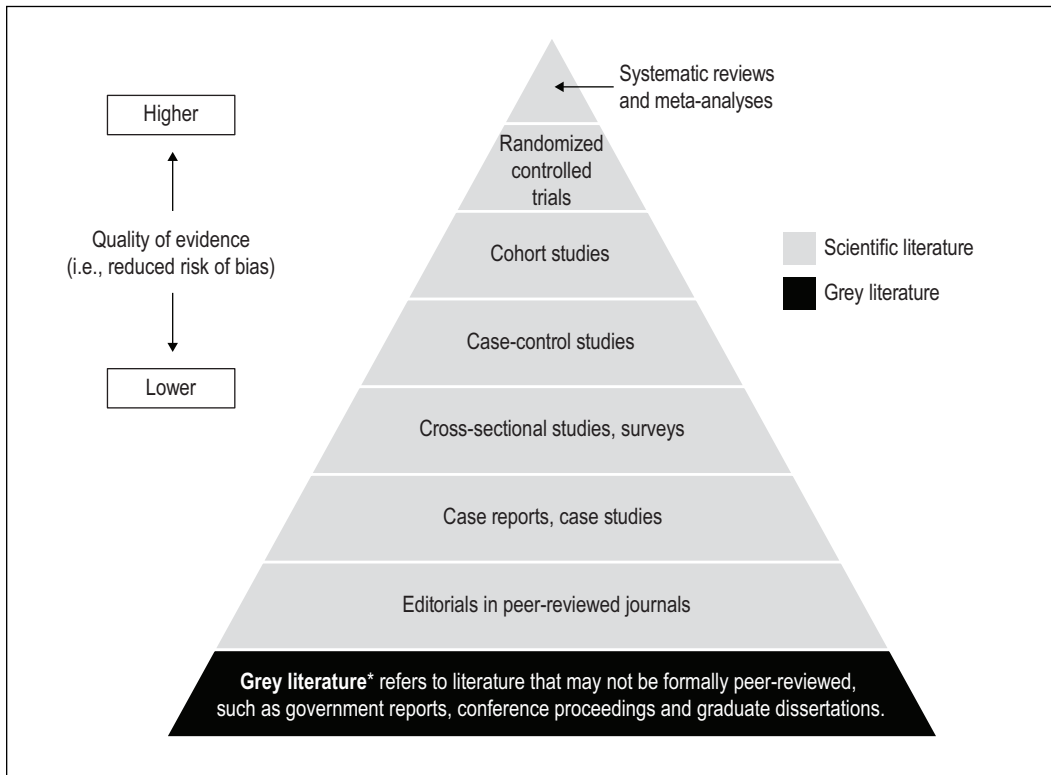
Sources of evidence

To maximize your search results, it is helpful to consider a range of sources of evidence, including both scientific and grey literature, in your intervention scan.

As illustrated in Figure 1, systematic reviews and meta-analyses published in the scientific literature are considered the highest quality of evidence with the lowest risk of bias.⁵ However, you will also want to consider lower-quality sources to identify interventions, including sources in the grey literature, since these may not be captured in peer-reviewed sources of evidence.

Casting your net wide is especially helpful given that in Canada and internationally, there is a need for more evaluation of interventions aimed at reducing health inequalities.⁶ This is, in part, because rigorous evaluations of interventions tend to be complicated and expensive to implement.

Figure 1 Hierarchy of evidence



Note

* Within grey literature, certain sources may be higher in quality than sources within the scientific literature (e.g., editorials). Such grey literature sources could come from reputable and established organizations, including the Canadian Institute for Health Information, Statistics Canada and the Public Health Agency of Canada.

Source

Created by CIHI, based on various sources, including Evans D, Hierarchy of evidence: A framework for ranking evidence evaluating healthcare interventions, *Journal of Clinical Nursing*, 2003.

Step 1: Develop a search strategy

The first step to conducting an intervention scan is to develop a search strategy. This includes [identifying search terms and logic](#) and [identifying sources of scientific and grey literature](#).

For this step, refer to tabs **1. Search terms template** and **2. Case study — Search terms** in the Excel file [Measuring Health Inequalities: A Toolkit — Intervention Scan Template](#).

Identify search terms and logic

To generate ideas for search terms, consider

- [Factors that influence the health indicator](#);
- [Population subgroups that are affected by the inequality](#);
- [Factors that might contribute to the inequality](#); and
- [Interventions and settings to help reach your target population](#).

Factors that influence the health indicator: For any health indicator, there are a wide range of factors or determinants that can influence the indicator rate. To identify these factors, consider

- Downstream factors that directly affect the health indicator (e.g., primary care management directly affects asthma hospitalization rates); and
- Upstream factors that indirectly affect the health indicator (e.g., smoking legislation limits exposure to second-hand smoke, and reducing second-hand smoke leads to fewer asthma hospitalizations).

You can use these factors to generate key search terms.

- Search terms — Primary care, second-hand smoke

Population subgroups that are affected by the inequality: This will include subgroups identified from your equity stratification analysis. For example, children living in lower-income neighbourhoods or in households with lower education levels have higher asthma hospitalizations rates.

- Search terms — Income, education

Factors that might contribute to the inequality: This can include a range of factors that contribute to worse indicator rates for specific population subgroups. For example, population subgroups with lower socio-economic status are more likely to live in areas with poorer housing quality where outdoor allergens, mould and causes of asthma exacerbation are found. These environmental asthma triggers can contribute to higher asthma hospitalizations among lower-income or lower-education population subgroups.

- Search terms — Environment, indoor allergens

Interventions and settings to help reach your target population: This can include common interventions or settings that reach specific subgroups. An example is school-based interventions for inequalities affecting children and youth.

- Search terms — School-based interventions

Once you have generated a comprehensive list of search term ideas, you can identify the best terms to use by locating and searching Medical Subject Headings (MeSH terms). These terms are used to index articles in databases. For example, you can expand terms like “second-hand smoke” to include “involuntary smoking and environmental smoke pollution, tobacco.”

When identifying your search terms and logic, it is helpful to consult a research librarian.

Identify sources of scientific and grey literature

As indicated in Figure 1, it is important to take into account the hierarchy of evidence within the scientific and grey literature.

Scientific literature includes systematic reviews, meta-analyses and peer-reviewed journal articles. You can retrieve these papers from databases such as

- MEDical Literature Analysis and Retrieval System Online — MEDLINE;
- Excerpta Medica Database — Embase;
- Psychological Information Database — PsycINFO; and
- Cumulative Index to Nursing and Allied Health Literature — CINAHL.

Systematic reviews and meta-analyses can also be retrieved from these databases as well as from specific databases such as

- The Cochrane Library;
- The Campbell Collaboration; and
- Health Evidence.

Grey literature includes information sources that may not be formally peer-reviewed, such as government reports, conference proceedings, graduate dissertations and expert opinions. Grey literature may include valuable information about the impact of interventions on health inequality, beyond what is available in scientific literature.⁷ Within grey literature, some sources may be of stronger quality than those within the scientific literature (e.g., editorials). This is, in part, because government organizations often have access to rich quality data sets and can conduct extensive data linkages. They also engage a wide range of stakeholders who can share expertise and relevant information.

You can retrieve grey literature from a number of sources, including

- Online search engines (e.g., custom Google search);
- Grey literature databases (e.g., Turning Research Into Practice [TRIP], Canadian Health Research Collection, New York Academy of Medicine: The Grey Literature Report);
- Targeted websites (e.g., Public Health Agency of Canada, National Collaborating Centre for Healthy Public Policy, CIHI);
- Conference abstracts and proceedings (e.g., Scopus, Conference Papers Index, MEDLINE).

Step 2: Document your search results

To keep track of your work, you will want to document the search strategy that you implemented, the number of results that you generated and the process that you used to filter and review these results.

For this step, refer to tabs **3. Search results template** and **4. Case study — Search results** in the Excel file [Measuring Health Inequalities: A Toolkit — Intervention Scan Template](#).

Once you have identified relevant sources of evidence, you can track specific details about the intervention and evidence supporting its effectiveness in reducing health inequalities.

We have organized the search results template as follows:

1. Intervention overview
2. Source and quality of the evidence
3. Effectiveness
4. Generalizability of the evidence
5. Implementation overview
6. Article information

1. Intervention overview (Tab 3. Search results template — Columns A to C)

Use these columns to track a description of the intervention and whether you consider it to be targeted, universal or proportionate universal.

2. Source and quality of the evidence (Tab 3. Search results template — Columns D to E)

Use these columns to track information about the source and quality of the evidence. Tracking information about the study design (e.g., randomized control trial, observational study) and type of article (e.g., journal article, policy paper) will allow you to take into account the quality of the evidence when you synthesize your results. For this step, you can also use critical appraisal tools such as the AMSTAR 2, a measurement tool to assess the methodological quality of systematic reviews.⁸

3. Effectiveness (Tab 3. Search results template — Columns F to H)

Use these columns to track the evaluation results, including the following:

- **Intervention outcomes (Column F):** Use this column to track evidence supporting the overall effectiveness of the intervention. To do this, it may be helpful to consider a range of outcomes. Some interventions may demonstrate an improvement in the **final outcome** — namely, the health indicator rate. For instance, interventions to improve asthma self-management planning are associated with decreased asthma hospitalization rates. Other interventions may demonstrate improvements in **intermediary outcomes** — in other words, factors that influence the health indicator rate.
- **Effects on population subgroups (Column G):** Use this column to track evidence demonstrating that the intervention has reduced, or has the potential to reduce, health inequalities.
- **Cost–benefit findings (Column H):** Use this column to document information on the intervention costs or results of cost–benefit analysis.

4. Generalizability of the evidence (Tab 3. Search results template — Columns I to L)

Use these columns to track information about the study population and local contexts. This information can help you determine for whom you can generalize the findings.

5. Implementation overview (Tab 3. Search results template — Columns M to N)

Use these columns to track information about the status of the intervention, including implementation year, the year in which the intervention was completed and any follow-up period.

6. Article information (Tab 3. Search results template — Columns O to R)

Use these columns to track information about articles, including key contact, publication year, hyperlink and additional notes.

Step 3: Synthesize your search results

To generate an overall summary of the interventions with the strongest evidence for reducing health inequalities, you will synthesize your search results.

For this step, refer to tabs **5. Synthesis template** and **6. Case study — Synthesis** in the Excel file [Measuring Health Inequalities: A Toolkit — Intervention Scan Template](#).

To synthesize your search results, consider doing the following:

1. Group search results relating to similar interventions.
2. Rank the evidence by considering its quality and generalizability (Tab 5. Synthesis template — Column B).
3. Summarize the effectiveness of the intervention in reducing health inequalities (Tab 5. Synthesis template — Column C).
4. Make note of any information gaps or study limitations (Tab 5. Synthesis template — Column D).
5. Track key sources (Tab 5. Synthesis template — Columns E to F).

Once you have synthesized your search results, you should be able to identify and report on interventions for reducing health inequalities. By including this information when you disseminate the results of your analysis, your audience will better understand the significance of your findings, as well potential approaches for addressing these health inequalities.

Appendix A: Additional papers

The following papers provide more information on identifying search terms and logic:

Aromataris E, Riitano D. [Systematic reviews: Constructing a search strategy and searching for evidence](#). *American Journal of Nursing*. 2014.

Godin K, et al. [Applying systematic review search methods to the grey literature: A case study examining guidelines for school-based breakfast programs in Canada](#). *Systematic Reviews*. 2015.

Appendix B: Text alternative for figure

Figure 1 Hierarchy of evidence

The hierarchy of evidence outlines the general availability and quality of evidence with the lowest risk of bias.

Grey literature is the first level in the hierarchy. Grey literature is defined as literature that is not formally peer-reviewed, such as government reports, conference proceedings and graduate dissertations.

7 subsequent levels of evidence within the hierarchy are classified as scientific literature. They are ranked in order from lower- to higher-quality of evidence, starting with editorials in peer-reviewed journals, followed by case reports and case studies, then cross-sectional studies and surveys, then case-control studies, then cohort studies, the randomized control trials and, lastly, systematic reviews and meta-analyses.

While grey literature is typically considered lower-quality of evidence, it is important to note that within grey literature, there can be sources that are higher in quality than scientific literature sources (e.g., editorials). These sources include reports from reputable and established organizations such as CIHI, Statistics Canada and the Public Health Agency of Canada.

References

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