McMaster University | Health Forum

Rapid evidence profile

Effectiveness of upstream intersectoral actions targeting the social determinants of health

13 March 2025

[MHF product code: REP 90]

Appendices

Appendix 1: Methodological details

We use a standard protocol for preparing rapid evidence profiles (REP) to ensure that our approach to identifying research evidence is as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For this REP, we searched PubMed, Health Evidence, National Collaborating Centre on Social Determinants of Health, and U.S. Community Preventive Services Task Force.

In PubMed, we used the following search: (((((intersector* OR inter sector* OR multisector* OR multi sector* OR interagenc* OR inter agenc* OR interdepartment* OR inter department* OR inter minist* OR inter minist* OR cross sector* OR cross-sector* OR integrat* OR "whole of government")) AND ((collaborat* OR cooperat* OR coordinat* OR participat* OR alliance* OR unite* OR synerg* OR joint OR partner*))) AND ((project* OR program* OR strateg* OR affair* OR plan* OR polic* OR fund*))) AND (("Social Determinants of Health"[Mesh] OR structural determinant* OR upstream OR health*in*all*polic* OR primary prevent*)) AND (evaluat* OR measure* OR perform* OR outcome* OR success* OR fail* OR lesson?learned OR effective* OR efficacy OR feasib* OR impact* OR sustain* OR facilitator* OR barrier* OR cost)) AND ((rapid review OR narrative review OR evidence synthesis OR narrative synthesis OR scoping review)). We combined this with filters for the last 10 years and review.

In Health Evidence, we used filters to search for syntheses published between 2015 and 2025 with the filters for intervention strategies including “built environment,” “education, awareness and skill development” or “policy and legislation,” as well as for “social determinants of health” under topic area.

We hand searched the websites of the National Collaborating Centre on Social Determinants of Health and the U.S. Community Preventive Services Task Force using a key word search for “intersectoral.”

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print, and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French, or Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing. We excluded documents that did not directly address the research questions and the relevant organizing framework.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, medium, or low relevance to the question.

Two reviewers independently appraise the methodological quality of evidence syntheses that are deemed to be highly relevant using the first version of the AMSTAR tool. Two reviewers independently appraise each synthesis, and disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality evidence syntheses are those with scores of eight or higher out of a possible 11, medium-quality evidence syntheses are those with scores between four and seven, and low-quality evidence syntheses are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess evidence syntheses focused on clinical interventions, so not all criteria apply to those pertaining to health-system arrangements or implementation strategies. Furthermore, we apply the AMSTAR criteria to evidence syntheses addressing all types of questions, not just those addressing questions about effectiveness, and some of these evidence syntheses addressing other types of questions are syntheses of qualitative studies. While AMSTAR does not account for some of the key attributes of syntheses of qualitative studies, such as whether and how citizens and subject-matter experts were involved, researchers' competency, and how reflexivity was approached, it remains the best general quality-assessment tool of which we're aware. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, an evidence synthesis that scores 8/8 is generally of comparable quality to another scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the evidence synthesis can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the evidence synthesis should be discarded, merely that less confidence can be placed in its findings and that it needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1): S8.)

Preparing the profile

Each included document is cited in the reference list at the end of the REP. For all included guidelines, evidence syntheses, and single studies (when included), we prepare a small number of bullet points that provide a summary of the key findings, which are used to summarize key messages in the text. Protocols and titles/questions have their titles hyperlinked, given that findings are not yet available.

We then draft a summary that highlights the key findings from all highly relevant documents (alongside their date of last search and methodological quality).

Appendix 2: Details about identified evidence syntheses on upstream intersectoral interventions

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

• Sectors
  ○ Education
  ○ Labour and employment
  ○ Environment and natural resources
  ○ Health (e.g., mental health, public health)
  ○ Social services
  ○ Urban planning and development (e.g., recreation and parks, transportation)
  ○ Housing
  ○ Commerce, trade, and industry
  ○ Government/public administration
• Outcomes
  ○ Intermediate outcomes
  ▪ Increased capabilities to support health (e.g., increased understanding of the social determinants of health, linkages between social, education, economic, and health sectors)
  ▪ Improved systems and infrastructure for collaboration across sectors (e.g., policies, processes, funding mechanisms)
	Co-financing is one example of an approach to support collaboration for upstream intersectoral interventions, though specific health outcomes related to interventions were difficult to determine (1)
	• The evidence synthesis aims to identify and characterize cross-sectoral co-financing models, including how they operate, the effectiveness and any enablers and barriers to their functioning
	• The synthesis defines co-financing as the joint financing of a programme or intervention by two or more budget holders that have different sectoral objectives to jointly achieve their separate goals more efficiently
	• Inclusion criteria for the synthesis was studies describing a co-financing case between two sectors or sub-sectors, and as a result the synthesis includes findings from both upstream and mid-stream interventions
	• Examples included upstream interventions – however, findings were not separated based on upstream or mid-stream and are therefore lumped together
	• Two approaches to co-financing were identified – integrated and promotion
	  ○ Integrated models tended to be used for downstream and mid-stream interventions, notably for supporting the integration
	  ○ Promotion models, which involve one sector investing in another sector and leveraging its resources, were used more frequently in upstream interventions
	• Examples of funded upstream promotion interventions included:
	  ○ a program for the modernization of agriculture (in Uganda)
	  ○ an interagency program for the empowerment of adolescent girls (in El Salvador)
	  ○ road safety grant (in England)
	  ○ environmental interventions to reduce childhood asmtha (in New York)
	• Noted barriers to co-financing include:
		High	No	3/10	2018	Not available	Not reported

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
	○ public actors behaving conservatively and safeguarding resources in the face of constrained budgets ○ limited autonomy over government budgets and financial resources ○ differential organizational capacity, resources, regulatory requirements and operational processes • Noted supports for co-financing include: ○ relational and organisational cultures ○ data, monitoring and accountability frameworks ○ creation of interagency performance targets						
• Sectors ○ Environment and natural resources ○ Food systems ○ Health (e.g., mental health, public health) ○ Social services ○ Urban planning and development (e.g., recreation and parks, transportation) ○ Government/public administration ○ Law and justice • Social determinants of health ○ Income, income distribution, and social status ○ Social environment ○ Culture ○ Racism ○ Immigration status • Outcomes ○ Immediate outcomes ▪ Intersectoral partners are engaged in interventions that aim to support community/environme	Broad-scale community-led system change strategies include a complex array of interventions that led to little or no difference in measures of health behaviour or health status over a 24 or 60 month follow-up period (2) • The evidence synthesis examined the use of coalitions, collaborations, and other interorganizational approaches to address complex community health issues • In particular, these are social initiatives that connects a community-targeted intervention with those in the community that share a common interest in reducing health disparities by changing structures, processes, and policies • The synthesis aims to examine the effects of community coalition-driven interventions in improving health status or reducing health disparities among minority racial and ethnic populations • The evidence synthesis included multiple types of interventions, including upstream, mid-stream, and downstream approaches • Four core community engagement interventions were used by coalitions, one of which can be considered upstream – the use of broad-scale community system-level changes that aimed to change socio-cultural and physical environments – such as housing, green spaces, and neighbourhood safety to create supportive community environments that are conduscive for healthy choices ○ Interventions predominantly focused on ethnically diverse and socio-economically disadvantaged communities ○ Interventions under this category included: ▪ multi-component and multi-level efforts to improve neighbourhood diet and physical activity	High	No	8/11	2014	Yes	• Race/ ethnicity • Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
ntal, policy, and system changes ○ Intermediate outcomes ▪ Increased capabilities to support health ○ Ultimate outcome(s) ▪ Improved health status	▪ efforts to improve neighbourhood resources for healthy behaviour and the quality of community life ▪ reductions in alcohol and drug risk behaviour by altering beverage service practices in taverns and altering law enforcement policies and practices • Broad-scale community system level change strategies lead to little or no difference in health behaviour measures or health status measures in large samples of community residents • Only seven of the 15 studies that employed broad-scale community system-level included evaluations and found no consistent benefit with respect to behavioural change in the intervention communities						
• Sectors ○ Health (e.g., mental health, public health) ○ Housing • Social determinants of health ○ Income, income distribution, and social status ○ Housing	No structural primary prevention interventions between the health and housing sectors were identified as part of the evidence synthesis (3) • The evidence synthesis aims to examine the effectiveness of health system investments in primary prevention interventions that directly promote housing affordability • The synthesis differentiates between structural primary prevention and targeted primary prevention • Structural primary prevention interventions that were searched for include health system actions to increase the supply of affordable housing and health system support policies to promote housing affordability, including: ○ construction and restoration of housing units ○ financing for affordable housing construction and preservation ○ advocacy to facilitate housing production, preserve existing affordable housing, or remove exclusionary zoning regulations • Targeted primary prevention including short- and long-term strategies, such as: ○ emergency rent assistance ○ interventions to shift power to tenants through legal assistance and eviction moratoriums ○ tenant-based rent subsidies ○ unit-based rent subsidies (mixed income or public housing) ○ rent stabilization	High	No	8/9	2021	Yes	• Place of residence • Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
	○ home-ownership assistance • No interventions that focused on structural primary prevention were identified and the remaining interventions were not intersectoral						
• Sectors ○ Labour and employment ○ Environment and natural resources ○ Disability and accessibility ○ Health (e.g., mental health, public health) ○ Housing ○ Government/public administration • Social determinants of health ○ Income, income distribution, and social status ○ Employment, precarious work, and working conditions ○ Housing ○ Physical environment ○ Indigenous status ○ Structural conflict ○ Immigration status • Outcomes ○ Immediate outcomes ▪ Intersectoral partners are engaged in interventions that aim to support community/ environmental, policy, and system changes ○ Intermediate outcomes ▪ Improved systems and infrastructure for collaboration across sectors (e.g., policies,	A 2012 systematic assessment reported that the heterogeneity of the intersectoral interventions, complexity of confounding factors/contexts, and the lack of consistent reporting measures means it is not possible to draw direct and conclusive correlations between the intersectoral actions and subsequent outcomes of social determinants of health and health equity for upstream interventions (structural/system-level actions) (4) • Mid-stream interventions (community and organizational level actions) have little to no impact on the outcomes of social determinants of health and health equity; inconclusive results were presented for upstream interventions • Only two upstream interventions were detailed, both for specific population segments and unique inequities they face, so the interventions were setting-specific and local ○ An upstream intersectoral action in Australia between housing, health, and environment health sectors aimed to minimize housing inequity experienced by Indigenous communities • Evaluations for this intervention found a small reduction in overcrowding, improvement in infrastructure, and generally the same level of hygienic components in homes ○ An upstream intersectoral action in the U.S. adjusted interagency agreements to improve the social and economic structure supporting employment for people with disabilities by engaging the mental health, disability, and employment sectors ▪ Five of the six states reported increases in number of people being supported in employment and three states described increases in coordination and cooperation between agencies ○ The lack of upstream interventions speaks to the complexity of addressing issues such as institutional racism ▪ It was noted that equity analysis of intersectoral actions/interventions needs to be improved in the design and evaluation of future interventions	High	No	8/10	2012	No	• Socio-economic status • Race/ ethnicity/ culture/ language • Personal characteristic associated with discrimination

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

processes, funding mechanisms)	• All the interventions focused on populations experiencing social and/or economic disadvantage and rarely considered the compounding influence of multiple types of disadvantage
	• Engagement of intersectoral factors occurred in a variety of methods, including:
	  ○ written agreements defining roles and responsibilities for partners, resource commitment, and expected outcomes
	  ○ communication between partners
	  ○ champions
	  ○ as bounded by legislation/policy directing intersectoral activities
	  ○ committees/coalitions
	  ○ creating implementation and coordination teams
	• Defined processes (e.g., roles, expectations, communication methods, resource commitment, specific population to serve, shared principles) were identified in qualitative studies as keys to success for intersectoral partnerships addressing social determinants of health						

• Sectors
  ○ Labour and employment
  ○ Environment and natural resources
  ○ Health (e.g., mental health, public health)
  ○ Social services
  ○ Government and public administration
  ○ Law and justice
• Social determinants of health
  ○ Income, income distribution, and social status
  ○ Employment, precarious work, and working conditions
  ○ Food security
  ○ Social environment
  ○ Indigenous status
  ○ Racism
  ○ Colonization
	The evidence synthesis found mixed effects frominterventions that affect the structural determinants of health and did not report any direct findings related to the intersectoral nature of the interventions (5)
	• The evidence synthesis examines the effects of interventions to address the structural determinants that affect population health outcomes, particularly racial inequities in Canada
	• The synthesis looked for interventions such as structural policies that impact socio-economic position and effect change in intermediate determinants of health such as material circumstances, behaviours, or biological outcomes
	• Included interventions were targeted at low-income or general populations and focused on major policy domains including:
	  ○ financial policy
	  ○ nutrition safeguards
	  ○ immigration
	  ○ family and reproductive rights
	  ○ policies for Indigenous populations
	  ○ environment
	• Financial (e.g., earned income tax credit, maternal and child health tax credit) and nutrition safeguard policies (U.S. SNAP policy) resulted in mixed effects, though policies that increase
		High	No	6/9	October 2022	No	• Race/ ethnicity/ culture
							• Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
○ Immigration status • Outcomes ○ Ultimate outcome(s) ▪ Improved health status	minimum wages appear to reduce racial health inequities including through reduced HIV rates and improved birth outcomes for Black populations • Discriminatory policies such as anti-immigration policies and abortion restrictions led to negative birth outcomes and mental health outcomes • Changes to immigration policies such as the Deferred Action for Childhood Arrivals program resulted in improvements to birth and mental health outcomes • Interventions that provided greater self-governance for Indigenous populations were noted to lead to positive outcomes • The synthesis notes the relative scarcity of evaluations for structural-level interventions						
• Sectors ○ Education ○ Environment and natural resources ○ Food systems ○ Health (e.g., mental health, public health) ○ Urban planning and development (e.g., recreation and parks, transportation) • Social determinants of health ○ Income, income distribution, and social status ○ Education ○ Early childhood development ○ Food security ○ Physical environment • Outcomes ○ Ultimate outcome(s) ▪ Improved health status	Mixed results were found for the ability of structural primary prevention policy interventions to reduce health inequalities, though no mention was made of intersectoral actions; most of these interventions likely had cross-sectoral support to be implemented (6) • The evidence synthesis – an umbrella review of reviews – aims to examine the effects of public health policies on health inequalities in high-income welfare states • The included interventions focus on primary and secondary prevention levels, often mixing the two, and were categorized into: fiscal policy, regulation, and education, communication, and information • A total of 26 evidence syntheses focused on primary prevention • Overall, the synthesis notes that there is a lack of evidence examining the effects of primary prevention interventions and further notes a key area of limited understanding in the literature is the transferability of interventions across contexts • Primary prevention interventions that reduced health inequalities include: ○ control on advertising and promotion of tobacco (reduction in smoking behaviours) ○ tax on unhealthy food and soft drinks ○ food subsidy programs ○ water floridation	High	No	6/9	2017	No	• Race/ethinicity /culture/language • Occupation • Socio-economic status • personal characteristics associated with discrimination

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
	○ parent incentive scheme linked payment of childcare benefits and maternity allowance ○ school required immunization certificates • Primary prevention interventions with null or mixed effects on health inequalities include: ○ combined fiscal, regulation, and educational approach ○ smoke-free legislation in workplaces or enclosed spaces ○ mass media campaigns on smoking cessation ○ health warnings on cigarettes ○ free school fruit subsidy ○ mandatory foritication ○ traffic calming measures • Private prevention interventions that widened health inequalities, include: ○ lower tax on alcohol (increase in alcohol use) ○ 20 mph zones (decline exclusively in high income areas) ○ low emission zones in cities (benefits of air quality were higher for wealthiest residents) • To be determined to have a positive effect, the effects had to reduce health inequalities rather than increase them						
• Sectors ○ Education ○ Labor and employment ○ Health (e.g., mental health, public health) ○ Housing ○ Government/public administration • Social determinants of health ○ Income, income distribution, and social status ○ Education ○ Employment, precarious work, and working conditions ○ Early childhood development/childhood experiences ○ Housing	The synthesis notes that relatively little has been done to understand the effects of social policies on health and found that many of the included natural experiments were underpowered, though promising interventions with sufficient power appear to include early life and education interventions, income maintenance, and supplementation programs and health insurance (7) • The evidence synthesis aimed to review the health impacts of social policies in the U.S., and though they did not explicitly address intersectoral elements, they are sufficiently wide sweeping that implementing them must have intersectoral components • Thirty-eight interventions were included that focused on the following five domains: early life and education, income supplementation and maintenance, employment, housing and neighbourhood, and health insurance • The interventions focused on a wide range of health outcomes and the included studied used many different tools to measure them, ranging from self-reported surveys to biomarkers	High	No	7/11	January 2019	No	• Place of residence • Occupation • Education • Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

• Outcomes
  ○ Immediate outcomes
  ▪ Intersectoral partners are engaged in interventions that im to support community/environmental, policy and system change
  ○ Ultimate outcome(s)
  ▪ Improved health status
	• Interventions focused on early life and education included: the intensive preschool and early education program, Head Start, additional schooling support for those who dropped out, smaller class sizes, alternative schools, and vocational training
	  ○ With the exception of alternative schools, all of the interventions were found to have a positive effect on IQ scores, schooling duration, educational attainment, and employment
	• Interventions that focused on income maintenance and supplementation programs include: conditional cash transfers, self-sufficiency programs, and negative income taxes.
	  ○ Most of these interventions were associated with improvements in income and employment, though work rewards implemented in New York were associated with increased income only among those who were unemployed at enrollment
	• Interventions focused on employment and welfare to work include team-based supported employment, job training programs, employment support services, and limits on welfare benefits coupled with income disregard and employment support
	  ○ Of the included incentives, three-quarters of the welfare-to-work programs induced modest increases in earnings and reductions in welfare reliance
	• Interventions focused on housing/neighbourhood changes integrated clinical and housing services, provided housing vouchers and rental assistance
	  ○ All of these were associated with improved socio-economic outcomes, though two intervened specifically with populations who were already experiencing challenges classifying them as mid-stream interventions
	• Interventions also included the expansion of health insurance coverage, which resulted in reduced out of pocked expenditure and increased job seeking
	• Though positive effects were reported from the synthesis of the individual studies, the majority of the experiments were underpowered (75%)						

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

	• Across all categories of interventions, the majority (71%) demonstrated a null effect, but among experiments that were adequately powered three categories demonstrated a predominantly positive effect on health status – early education, health insurance, and income maintenance and supplementation
	  ○ Some welfare-to-work interventions demonstrated negative effects
	• The study also reported the pooled effects of RCTs, which included:
	  ○ early life interventions had a beneficial effect on smoking status (OR 0.92, 95% CI 0.86–0.99) but no effect on self-rated health or obesity
	  ○ income maintenance and supplementation were associated with improvements in self-rated health (OR 1.20, 95% CI 1.06–1.36) but not smoking status or obesity
	  ○ welfare-to-work interventions led to lower odds of reporting good or excellent health (OR 0.77, 95% CI .66–0.90)
	  ○ housing and neighbourhood experiments were not associated with changes to self-rated health
	  ○ health insurance interventions improved self-rated health (OR 1.38, 95% CI 1.10–1.73) but had no effect on obesity						

Appendix 3: Details about identified evidence syntheses on mid-stream intersectoral interventions

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

• Sectors
  ○ Education
  ○ Health (e.g., mental health, public health)
  ○ Urban planning and development
• Social determinants of health
  ○ Physical environment
• Outcomes
  ○ Immediate outcomes
  ▪ Target populations participate in interventions that aim to support individual, community/ environmental, policy, and systems changes
  ○ Intermediate outcomes
  ▪ Environments that support health are improved
  ○ Ultimate outcome(s)
  ▪ Improved health status
  ▪ Return on investment
	No studies examining the effects of improved green spaces on education were identified, though studies focused on health outcomes were more promising with those examining improvements to play areas demonstrative increases in children's physical activity and improving walkways and pathways having mixed results (8)
	• The evidence synthesis examines the impact of specific cross-sectoral changes to urban green spaces on health and education outcomes as well as examining the cost-effectiveness of these interventions
	• Interventions to improve green spaces included making improvements to greenery, paving pathways for walking or cycling, installing and improving amenities like streetlights, benches, and public toilets, supporting the use of the park by health programming, and many others
	• The synthesis included 28 studies, of which 27 came from high-income countries, with most studies using a pre-post design
	• Interventions included: functional improvement to pathways and walkways, improving/installing play or fitness equipment, improving greenery or aesthetics of space, improving amenities available in a space, and a combination of different approaches
	• Thirteen of the studies related to improving walking and cycling pathways, of which six found a positive impact including increased odds of achieving 20 minutes of physical activity each day and increased use of cycle infrastructure, but five of the studies found no statistically significant impact
	• Nine studies related to installing or improving play areas and fitness equipment, of which eight found positive impact of increased physical activity among children and three reported mixed positive and neutral, including no impact from a refurbished fitness centre for older adults
	• One study focused on improving the greenery or aesthetics of the space and found the intervention
		Medium	No	5/10	February 2024	No	• Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
	reduced reported depression, but had no impact on self-reported mental health • Five studies focused on improving amenities in combination with other interventions and did not find statistically significant effects, though two studies found an increase in both light and moderate physical activity • Three studies reported on efficiency of interventions, two of which used a cost per metabolic equivalent ratio and reported a cost-effectiveness ratio of AU $0.58 per MET-h gained while the second study reported a similar effect of AU $0.105 per MET-h gained ○ A third study from Scotland found no health gains from improving trails in an urban woodlands • The evidence synthesis notes that interventions for green spaces in more deprived areas may yield better results but that maintenance of these interventions (e.g., keeping green spaces clean and child-friendly) needs to be a priority for them to function						

• Sectors
  ○ Education
  ○ Food systems
  ○ Health (e.g., mental health, public health)
  ○ Social services
  ○ Housing
  ○ Government/public administration
  ○ Law and justice
• Social determinants of health
  ○ Food security
  ○ Housing
  ○ Immigration status
• Outcomes
  ○ Ultimate outcome(s)
  ▪ Improved health status
	Among the public health and policy interventions for improving maternity care in high-income countries for migrant women and infants, social welfare assistance, free healthcare, and maternal education may improve the outcomes of preterm birth, birthweight, and appointment attendance (synthesis of mainly low-quality studies) (9)
	• Public health or policy interventions identified included social welfare assistance, free healthcare, maternal education, mobile prenatal care van, immigration law reform, staff education/process reform, and social/peer support
	  ○ Social welfare assistance concerned the social determinants of health and was considered to include housing, immigration, social welfare benefits, food banks, and free clothing or baby equipment
	• The identified outcome categories, encompassing the main outcomes of interest, were perinatal outcomes, adequacy of care, mental health/wellbeing, breastfeeding outcomes, care satisfaction/engagement, infant health outcomes and cost-effectiveness
	• Two studies that included a cost-effectiveness analysis were identified
		Medium	No	9/10	March 2024	No	• Time-dependent relationships

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
	○ One found that providing undocumented migrants free access to antenatal care services in Germany, Greece, and Sweden was cost-saving ○ Another found that offering centrally funded free antenatal care to undocumented migrants in the U.S. was cost-effective and improved care uptake						
• Sectors ○ Education ○ Health (e.g., mental health, public health) • Social determinants of health ○ Education ○ Early childhood development/childhood experiences • Outcomes ○ Intermediate outcomes ▪ Increased capabilities to support health (e.g., increased understanding of the social determinants of health, linkages between social, education, economic, and health sectors) ○ Ultimate outcome(s) • Improved health status	Supported implementation of healthy eating and lifestyle interventions in schools result in better implementation compared to unsupported interventions, with supported interventions showing effectiveness in improving diet and physical activity in students (10) • The review aimed to identify the effectiveness of school-based interventions for diet, physical activity, obesity, tobacco use, and alcohol use to enhance health and reduce chronic disease risk • Implementation strategies, compared to no supported implementation, resulted in a large increase in the implementation of interventions in schools across all types of interventions • The most common supportive implementation strategies included educational materials, outreach, and meetings • There is little and uncertain evidence on student health outcomes and chronic disease outcomes as a result of implemented interventions • There is some evidence suggesting improvements in student diet and physical activity with implemented interventions • There is relatively uncertain to no evidence suggesting improvements in obesity, tobacco use, and alcohol use • There is uncertain evidence on the economic evaluations of implemented interventions	Medium	No	11/11	June 2023	Yes (very low to moderate evidence)	• None identified
• Sectors ○ Health (e.g., mental health, public health) ○ Urban planning and development ○ Environment and natural resources • Social determinants of health	Interventions did not provide robust findings to prove that changes to the built environment can improve mental health, quality of life, social isolation, or inclusion (11) • The review aimed to assess the evidence of changes to the built environment on mental health, well-being, quality of life, social inclusion, and fear of crime in adults living in urban environments in high income countries • There was no effect of improving green infrastructure on mental health measured as stressed in a single-item	Medium	No	8/11	2016	No	• Not applicable

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
○ Income, income distribution, and social status ○ Physical environment ○ Social environment • Outcomes ○ Ultimate outcome(s) ▪ Improved health status	health question in the studies 'Greening vacant lots' and 'GSW Philadelphia' • There was little evidence on the effect of urban regeneration on quality of life outcomes ○ In one study, following adjustment for demographic and socio-economic factors, there was no change found overall, but subgroup analysis found that those with lower socio-economic status experienced a decrease in life satisfaction compared to control, while people with higher socio-economic status living in the intervened areas reported an improved quality of life compared to controls • There is limited evidence for changes in quality of life from improving green infrastructure (i.e., DIY streets) • One intervention – street parks – resulted in a positive effect of improving green infrastructure on social isolation/inclusion outcomes • There is a small positive effect in reduction of fear of crime as a result of urban generation • Overall, there was a small positive effect in reduction of fear of crime, reduced social isolation/inclusion, and improved quality of life outcomes in New Deal for Communities (NDC), street parks, DIY streets, and Woods in and around town (WIAT) studies ○ Street parks, DIY streets, and WIAT studies received poor risk of bias assessments. • Evidence for the impact of built environments on mental health and quality of life is weak						
• Sectors ○ Health (e.g., mental health, public health) ○ Social Services ○ Housing • Social determinants of health ○ Income, income distribution, and social status ○ Early childhood development/childhood experiences	Effective intersectoral health programs establish strong collaborative and funding connections between sectors and have positive effects on healthcare access and several social determinants of health, with mixed evidence regarding cost savings (12) • The review aimed to identify strategies and interventions to develop integrated population health-focused healthcare systems • Intersectoral partnership was found to be a key component in successful programs that integrated healthcare with social, housing, employment, and other	Medium	No	4/9	December 2017	Not available	• Race/ethnicity /culture/ language • Occupation • Socio-economic status

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
○ Food security ○ Housing ○ Physical environment ○ Exclusion or discrimination (for example, on the basis of ability, sexual orientation, sex, age, culture, or other factors; excluding racism) ○ Racism • Outcomes ○ Immediate outcomes ▪ Intersectoral partners are engaged in interventions that aim to support community/environment, policy, and system changes ○ Intermediate outcomes ▪ Environments that support health are improved ▪ Improved systems and infrastructure for collaboration across sectors (e.g., policies, processes, funding mechanisms) ○ Ultimate outcome(s) ▪ Improved health status ▪ Return on investment	community services, including for intersectoral programs targeted at marginalized communities • Intersectoral health partnerships included collaborations between primary care and childhood, housing, welfare, and other community/social systems • Effective actions established formal collaborations between sectors and blended funding from both sectors to sustain actions • Intersectoral programs showed positive effects on living conditions, food security, childhood nutrition, community engagement, and improved healthcare equity • Several intersectoral programs included in the review reported improved access to care, improved health/well-being, and reduced morbidity and mortality rates • There is mixed evidence on potential cost savings of integrated intersectoral program for healthcare use and efficiency compared to traditional primary care programs with some programs showing savings while another found no significant difference						
• Sectors ○ Environment and natural resources ○ Health (e.g., mental health, public health) • Outcomes ○ Ultimate outcome(s)	Interventions that aimed to reduce pollution from industrial, vehicular, or residential sources found no significant association in either direction or an association favouring the intervention's effectiveness on improved air quality or health (13) • The review aimed to assess the effectiveness of interventions to reduce particulate air matter pollution in	High	No	9/10	2016	Yes	• Not applicable

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
▪ Improved health status	reducing pollutant concentrations and improving associated health outcomes ○ Health outcomes included all-cause mortality, cardiovascular mortality and effects, and respiratory mortality and effects • Ambient air quality outcomes included levels of pollutants such as particulate matter and carbon • Interventions targeting vehicular sources include vehicle charging scheme, speed limit change, low emission zone, road closure, alternating vehicle restriction based on licence plate number, infrastructure changes, fuel requirements, vehicle ban, and compulsory vehicle standards • Interventions targeting industrial sources include cap and trade programme, factory closure, compulsory power plant standards, power plant fuel conversion • Interventions targeting residential sources include stove exchange, ban on wood burning, and ban on sale, distribution, and burning of coal • Interventions targeting multiple sources include coordinated vehicular and industrial measures during periods of heavy pollution, definition of attainment/non-attainment status, and tailored measures for reaching attainment status • For health outcomes, the studies showed a mix of significant associations favouring the intervention with no clear association in either direction • For ambient air quality outcomes, studies showed a mix of significant associations favouring the intervention, significant associations favouring the control, and no clear association in either direction • Unintended adverse outcomes included reduction in physical activity, loss of employment, economic losses, and safety						
• Sectors ○ Health (e.g., mental health, public health) ○ Social services • Social determinants of health	Culturally adapted intersectoral mental health interventions focussed on community engagement and social connectedness improved mental health outcomes for migrants and ethnic minority populations, although stigma and external social determinants impact long-term effects (14)	Low	No	5/9	July 2022	Not available	• Race/ethnicity /culture/ language

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
○ Social environment (including social safety network) ○ Exclusion or discrimination (for example, on the basis of ability, sexual orientation, sex, age, culture, or other factors; excluding racism) ○ Racism ○ Immigration status • Outcomes ○ Immediate outcomes ▪ Intersectoral partners are engaged in interventions that aim to support community/ environmental, policy, and other system changes ▪ Target populations participate in interventions that aim to support individual, community/ environmental, policy, and system changes ○ Ultimate outcome(s) ▪ Improved health status	• The review assessed the evidence surrounding mental health and well-being interventions for migrants and ethnic minority populations • Intersectoral programs included mental healthcare in collaboration with social services such as parenting programs, arts programs, and creating social networks • Effective interventions utilized cultural adaptation of existing interventions and involved community members in both the pre-development, development, and implementation stages of interventions • Engagement was facilitated through community engagement, social connectedness, and cultural adaptation of methods of service delivery • Barriers to engagement included mental health-related stigma and other external social determinants (i.e., socio-economic status) impeding long-term effects • Most interventions showed improvement in mental health, highlighting the importance of population-specific and culturally adapted programs						
• Sectors ○ Health (e.g., mental health, public health) ○ Social services • Social determinants of health ○ Social environment (including social safety network) ○ Racism ○ Immigration status	Among the common interventions to reduce loneliness in migrant and ethnic minority populations, evidence suggested that shared-identity social support groups and some befriending initiatives may have positive impacts on dimensions of loneliness, while intercultural encounters showed evidence of improvement though few studies reported on their relevant outcomes (synthesis of mainly moderate to low quality studies) (15) • The dimensions of loneliness that were outcomes of interest, assessed quantitively or qualitatively, included	Low	No	4/9	August 2019	No	• Race/ ethnicity/ culture/ language • Social capital • Time-dependent relationships

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations

• Outcomes
  ○ Ultimate outcome(s)
  ▪ Improved health status
	emotional loneliness (intimacy), social loneliness (isolation and lack of sense of belonging), and feeling unsupported
	• Evidence of long-term effects of interventions was not identified
	• A typology of 170 interventions across eight types were identified (with 1–3 being the most common): 1) befriending, 2) shared-identity social support groups, 3) intercultural encounter, 4) psychotherapy, 5) training or equipping focused, 6) meaningful activity focused, 7) volunteering, and 8) light-touch psychological inputs
	• Four proximate determinants of loneliness within migrant and ethnic minority populations were identified: 1) positive social ties and interactions, 2) negative social ties and interactions, 3) self-worth, and 4) appraisal of existing ties
	• Factors across individual, family, community, organizational, and societal levels, including racism, interact to influence the risk of loneliness and the impact of interventions
	• Among the assessed evaluations based in the U.K., there was little information on intervention costs and no assessments of cost-effectiveness
	• Grey literature evidence suggested that interventions were often supported by small, non-sustained investments						

• Sectors
  ○ Education
  ○ Health (e.g., mental health, public health)
  ○ Social services
  ○ Urban planning and development (e.g., recreation and parks, transportation)
• Social determinants of health
  ○ Income, income distribution, and social status
  ○ Education
	Programs addressing social determinants of health (location, income, health, and community contexts) were found to be cost-effective and improve screening rates for breast, cervical, and colorectal cancer, leading to better health outcomes (16)
	• The purpose of this evidence synthesis was to examine the cost-effectiveness of using social determinants of health to address breast, cervical, and colorectal cancer screening
	• The authors categorized social determinants of health into five domains: 1) neighbourhood and build environment, 2) economic stability, 3) education, 4) health and healthcare, and 5) social and community context
	• Examples of how social determinants of health were addressed include:
		Low	No	6/10	2019	Not available	• Place of residence
							• Education
							• Social capital

Dimension of organizing framework	Declarative title and key findings	Relevance rating	Living status	Quality (AMSTAR)	Last year literature searched	Availability of GRADE profile	Equity considerations
○ Employment, precarious work, and working conditions ○ Physical environment • Outcomes ○ Immediate outcomes ▪ Target populations participate in interventions that aim to support individual, community/ environmental, policy, and system changes ○ Intermediate outcomes ▪ Increased capabilities to support health (e.g., increased understanding of the social determinants of health, linkages between social, education, economic, and health sectors) ○ Ultimate outcome(s) ▪ Improved health status ▪ Return on investment	○ providing transportation to attend screening clinics ○ mailing home kits to reduce transportation burden ○ providing vouchers or cash incentives for screening ○ improving health literacy ○ providing childcare ○ language translation services • No details on the intersectionality of these programs were provided, however, the authors noted that most included studies did use multiple domains • Addressing social determinants of health was screening was deemed to be cost-effective, with a median cost of $123.87 USD per participant • These initiatives were also found to increase screening rates leading to earlier diagnosis and better health outcomes						

Appendix 4: Documents excluded at the final stages of reviewing

Document type	Hyperlinked title
Evidence syntheses	Female empowerment to improve sexual and reproductive health outcomes and prevent violence in adolescent girls and young women in Uganda: Evidence reviews for policy
	The impact of cash transfers on social determinants of health and health inequalities in sub-Saharan Africa: A systematic review
	Implementation of intersectoral community approaches targeting childhood obesity: A systematic review
	The effectiveness of prenatal care programs on reducing preterm birth in socioeconomically disadvantaged women: A systematic review and meta-analysis
	The effectiveness of nutrition interventions in improving frailty and its associated constructs related to malnutrition and functional decline among community-swelling older adults: A systematic review
	Lifestyle interventions for people with a severe mental illness living in supported housing: A systematic review and meta-analysis
	Public policies and interventions for diabetes in Latin America: A scoping review
	Intersectoral actions for the promotion and prevention of obesity, diabetes and hypertension in Brazilian cities: A systematic review and meta-analysis
	Nonmedical interventions for type 2 diabetes: Evidence, actionable strategies, and policy opportunities

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