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Assessing the impact and effectiveness of intersectoral action on the social determinants of health: Evidence and implications for public health

Review on which this evidence summary is based:
National Collaborating Centre for Determinants of Health (2012). ***Assessing the impact and effectiveness of intersectoral action on the social determinants of health and health equity: An expedited systematic review***. Antigonish, NS: National Collaborating Centre for Determinants of Health, St. Francis Xavier University. Retrieved from **http://nccdh.ca/resources/entry/assessing-the-impact-and-effectiveness-of-intersectoral-action-on-the-SDOH**

Review Focus

P General population

I Any population health intervention, involving an intersectoral relationship, related to the social determinants of health (SDOH) and health equity

C Health equity

O *Health Outcomes:* measures of morbidity/mortality, quality of life, adherence to healthcare, etc.
Social Determinants of Health Outcomes: income/income distribution, employment, housing, etc.
Policy Outcomes: societal-level legislative changes, and organizational-level policies or programs

Review Quality Rating: 8 (strong) *Details on the methodological quality are available here.*

Considerations for Public Health Practice

Conclusions from Health Evidence

This review included 1 systematic review, 14 quantitative studies, and 2 qualitative studies of moderate to poor methodological quality. Based on this review, intersectoral collaborations have moderate to no effect on SDOH, or health equity, but this may be the result of the limited body of evidence and the poor methodological quality of the available evidence, as opposed to the inefficacy of interventions.

- The number of studies examining the effectiveness of **upstream interventions** is limited. As such, public health should not make firm conclusions regarding the positive or negative impact of such interventions at this time.
- Given the variety of **midstream interventions** and their target populations, there is reason to consider a number of these types of interventions effective.
- **Downstream interventions** were generally found to be effective. They focused, however, **on access to healthcare** services (e.g. preventive dental services, immunizations, etc.) and modified/improved access to reach priority populations. Although these types of interventions were shown to be effective in each of these areas, more evidence is required to draw meaningful conclusions.

The specific role of the public health sector was not always clearly described in the primary studies, and more complete descriptions of interventions can be accessed in **Table 2** of the review.

General Implications

Given the current state of the evidence, public health should consider:

- Intervening in early childhood, since there is a positive effect for children, especially regarding early literacy among children of low-income mothers
- Implementing **upstream interventions** to improve housing and employment conditions only, as evidence of positive effect is very limited.
- Implementing **midstream interventions** to improve the employment/working conditions, child literacy and dental health, housing, and organizational change.
- Implementing certain **downstream interventions** to increase access to oral health services, increase immunization rates, increase appropriate use of primary health care services, and improve referral rates from school readiness checks.

In general, each of the interventions targeted very specific populations so findings may not be generalizable to a different population and/or setting. Long-term effectiveness remains unclear. Due to limited and/or no evidence of effectiveness, public health programs may want to accumulate more evidence before promoting:

- School-based asthma education programs among low-income families.

	• Collaboratives for program integration or policy change. Public health decision makers should advocate for the development and funding of more rigorous research assessing the impact of intersectoral collaborations, particularly those focused on **upstream interventions**.
Evidence and Implications	
What's the evidence?	**Implications for practice and policy**
1. Upstream Interventions (2 studies) • *Employment/working conditions:* interagency agreements, across 6 American states, between vocational rehabilitation and mental health organizations in multiple states led to a 25% yearly increase in supported employment over 5 years in adults with disabilities. • *Housing:* national legislation sought to redistribute wealth by improving housing conditions among Australian indigenous communities, and led to slight improvements of infrastructure components but no impact on hygienic conditions.	**1. Upstream Interventions** • Public health decision makers should consider implementing upstream interventions that appear effective, however the current evidence-base is limited and advocating for additional, long-term impact assessment of upstream interventions is needed.
2. Midstream Interventions (8 studies) • *Employment/working conditions (*2 studies) – improvements in employment with 76.7% (n = 33) of the participants obtaining employment (mean duration 24.7 wks) and improved working conditions with 5 priority workplace changes implemented. • *Childhood Literacy (1 study)* –interventions improved outcomes including early literacy behaviours (p values not provided), ratio of parents reporting that they showed books to their infants on a daily basis (53.67% in 2001, 69.44% in 2003) and an increase in the ratio of parents reading books aloud to their children daily (33% in 2001, 53.70% in 2003). There was also an increased percentage of mothers reporting participation in the Raising a Reader program (4.3% in 2001 and 16.7% in 2003). • *Housing(1 study)* – intervention resulted in all households receiving helpful housing modifications, with decreased hospital admissions for those up to 34 years old, and decreased housing-related, preventable hospital admissions. • *Social & Physical Environments (3 studies)* I. 8 projects resulting from a collaborative involving 75 representatives from public health agencies, community-based organizations, hospitals, health plans, clinics, local	**2. Midstream Interventions** • Public health decision makers should consider interventions that address employment/working conditions and childhood literacy, dental health and housing. • Public health should consider exploring collaboratives for community-based and school-based organizational change, as well as for potential to advocate at multiple levels. Efforts to use collaboratives to initiate change should continue to be evaluated. The use of coalitions appear to be useful in initiating programs, policies and practices in the area of chronic disease, but as evaluation data are not yet available, decision makers could be cautious in implementing these interventions. • Public health should implement school-based break-time snack initiatives as an avenue to address childhood dental disease. • Based on time frames after which interventions were evaluated in the current literature, public health decision makers should consider that it is unclear as to whether improvements lasted long-term.

government, universities, government agencies, and school districts demonstrated organizational change in schools and communities, and advocacy projects at multiple levels from local to national, but had no impact on program integration or policy change. II. A school-based break time snacking initiative appeared useful in terms of childhood dental disease (DMFT in the intervention group changed from 1.13, CI [0.85, 1.40] in year 1 to 1.58, CI [1.28, 1.89] in year 2). There was also an increase in the number of filled permanent teeth among students from lower SES schools over time: mean 0.49, CI [0.20, 0.77] in year 1 and 1.05, CI [0.69, 1.14] in year 2. III. A third study of a chronic disease coalition did not report health outcomes but did initiate a number of programs, policies, and practices for which outcomes were not available.	
3. Downstream Interventions (7 studies) • *Oral health*: a school- and home visit-based oral health education program in a First Nations community led to 32% of children being cavity-free at three years, as opposed to 8% at study-onset (n=58); preventive school-based screening and referral, and the identification of grade 1-6 students without access to dental care led to more children having a primary dental health practitioner and/or receiving preventive care over a 3-year period. • *Mental health:* a school-based mental health service for refugee children led to a decrease in peer problems and hyperactivity within the intervention group, but number of problems were still higher compared to the control group. • *Immunization:* a U.S.-based study of an immunization promotion program involving 23 organizations targeting those < 5 years of age used one-on-one contact, intensive reminders, and group education and saw an overall increase in immunization rates of 46% to 80.5%. • *Case coordination* and case management, combined with community-based health education and physical activity for youths and seniors multi-session physical activity programs - 45% of participants establishing care with a primary care provider which led to 40% fewer emergency room visits ($p < .05$), and patients with poor diabetic control decreased from 78% pre-case management to 48% afterward ($p <$	**3. Downstream Interventions** • Public health decision makers should consider implementing interventions that improve access to education and preventive/restorative dental care through school- or community-based screening and/or referrals for oral health and access to oral health care. • Public health decision makers should consider that *individual* studies demonstrate that implementing various downstream interventions improved some aspects of the mental health of refugee children, immunization coverage among those <5 years of age, community-based chronic disease management, and preschool readiness. However, accumulation of more evidence is needed prior to policy/program implementation. • Public health decision makers should not implement and support school-based asthma education for low-income, ethnic minority families at this time.

.05). • Preschool children in a rural, economically-disadvantaged community received *school readiness* checks (e.g. oral and vision screening, behavioural assessment) from trained healthcare professionals – a 50% referral rate was maintained over the 10-month intervention period. • No impact on use of urgent health services or school attendance with a school-based asthma education intervention for low-income ethnic minority families.	
P – Population; I – Intervention; C – Comparison group; O – Outcomes; CI – Confidence Interval; OR – Odds Ratio; RR – Relative Risk *** For definitions see the healthevidence.org glossary http://www.healthevidence.org/glossary.aspx*	

Why this issue is of interest to public health in Canada

Canadians are among the healthiest people in the world, but some Canadians are healthier than others.[1] Health is not only measured by the presence or absence of disease,[2] but shaped by the interaction of multiple factors that influence health such as social and economic factors, the physical environment and individual behavior.[3] These determinants of health such as income, culture, and level of education often lead to health disparities or inequities between individuals and groups of Canadians.[1] Given many of the elements contributing to good health are from outside the health care system, collaboration between different sectors of society is critical to improve the health of the population as a whole.[4] To address the range of factors that determine health, interaction and collaboration between sectors of the government such as education, finance, employment, social services, environment, justice and health[4] and non-government sectors such as non-profit societies and organizations, business, and citizens may begin to influence population health.[5] Improving health equity can improve the overall health of the community, reduce pressure on the health care system, lead to cost savings, and enable more people to participate in the economy.[1] Many other countries, and some Canadian provinces, are working to develop actions and programs designed to reduce health disparities.[4] According to the Government of Canada's subcommittee on population health, "now is the time for the federal government, in collaboration with other levels of government, to take action on the determinants of health in Canada."[4] Large health disparities are not inevitable.[1]

1. Public Health Agency of Canada. (2005). *Reducing health disparities- Roles of the health sector: Discussion paper*. Retrieved from http://www.phac-aspc.gc.ca/ph-sp/disparities/ddp_2-eng.php
2. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19 June - 22 July 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) Retrieved from http://www.who.int/suggestions/faq/en/index.html
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5. Health Canada. (2000). *Intersectoral action toolkit: The cloverleaf model of success.* Retrieved from http://www.phac-aspc.gc.ca/canada/regions/ab-nwt-tno/pdf/programs/isatoolkit.pdf

Other quality reviews on this topic are available on www.healthevidence.org

Suggested citation

McRae, L., DeCorby, K., Workentine, S., & Dobbins, M. (2012). **Assessing the impact and effectiveness of intersectoral action on the social determinants of health**: Evidence and implications for public health. Hamilton, ON: McMaster University. Retrieved from http://healthevidence.org/documents/23149/NCCDH__2012__Summary_Statement_-_English.pdf.