

Purpose

- This report summarizes the findings of systematic reviews and primary research published from 2010-2015 around the impact of school meal and snack programs (SMSP) on household food insecurity, learning and health outcomes.
- Studies from high income countries that provided food to children in a school setting, during school hours, using both universal and targeted population approaches are included in this report. The literature was reviewed using a comprehensive search strategy and synthesis approach. This review considers the evidence and provides implementation and evaluation recommendations within a Canadian public health context.

Interventions Reviewed

- **76** articles from data base searches, citation lists and expert/colleague sources considered for full text review.
- **41** articles appraised and results synthesized:
- **8 review** articles
- **25 primary** research articles
- **8** cross-sectional articles

Key Findings

Impact on Household Food Insecurity (HFI)

- Most evidence is from the USDA school breakfast and school lunch program (SBP, SLP), plus one study from New Zealand. There were no articles meeting the inclusion criteria that reported on a Canadian SBP or SLP.
- Free and reduced-price meals may free up some household resources in some cases.
- A SMSP may have an impact on the worry and anxiety domain of food insecurity (marginal food insecurity) for households with children participating in the program.
- It is inaccurate to state that a SMSP alleviates household food insecurity.

Impact on Learning (attendance, behaviour, memory, grades, achievement tests).

- Evidence from middle and high income countries is primarily from the USDA SBP and SLP plus three studies from Wales, Denmark and New Zealand. None of the articles meeting the inclusion criteria reported on a Canadian SBP or SLP.
- Quality evidence that a SMSP impacts student learning is lacking. Studies demonstrating an impact have numerous methodological issues.
- School breakfast programs offered in low socioeconomic communities may have a small impact on improving attendance, particularly for frequent program users.

Impact on Health (breakfast consumption, diet quality, fruit and vegetable intake)

- Evidence from high income countries is primarily from the USDA SBP and from the Norwegian School Fruit Program fruit and vegetable (FV) snack program. One article reported on a Canadian snack program.
- A free school FV program positively impacts the FV consumption of program participants.
- A SBP or SLP often does not lead to improved diet quality for program participants.
- A SBP or SLP may reduce inequities in diet quality for children from low socioeconomic status households.
- A SBP does not measurably improve the frequency of breakfast consumption of elementary school children.

Relevance of Findings to Nutrition Services and Implications to Practice

There is some evidence that a free, school-based, universally offered FV snack program has a positive association with a health outcome, namely, increased FV intake. FV provision programs that are free and universally offered to all schools or are offered to all students in schools in disadvantaged communities may have the potential to contribute to positive health outcomes over the long term.

While adequate nutrition, a supportive learning environment, and regular school attendance influence readiness to learn, the evidence does not show that SMSP participation independently influences academic performance, school attendance, or behaviour.

School meal programs are not an effective response to alleviating HFI. At best free meals may reduce some of the anxiety and worry in food insecure households and free up some household resources for other basic needs priorities. HFI (inadequate/insecure access to food due to financial constraints) is well-recognized in Canada as an issue of material deprivation and inadequate household income. Upstream policy approaches are the actions needed to ensure households have sufficient income to meet basic needs including a basic healthy diet.

Summary and Recommendations

Encourage community stakeholders to:

- Continue to support current Canadian health and social policies and approaches to address key outcomes of interest.
- Support free, universal fruit and vegetable provision programs.

In discussion with community stakeholders consider the following evidence:

- If addressing household food insecurity outcomes, do not consider a school breakfast, lunch or snack program an effective approach.
- If striving to influence academic performance, school attendance, or behavior outcomes, do not consider a school breakfast, lunch or snack program as independently effective.

If engaged in implementation and evaluation opportunities, reinforce that desired outcomes are more likely to be realized when programs:

- Ensure high quality food is offered.
- Have a robust evaluation plan that includes appropriate indicators and evaluation tools for the stated program outcomes.

Suggested Citation: Alberta Health Services (2021). School Meal and Snack Programs: a review of the effectiveness of school meal and snack programs on household food insecurity, learning and health, literature synthesis: Nutrition Services, Population and Public Health. Calgary, Alberta, Canada.