

Food security and population health interventions related to type 2 diabetes

Rebecca Hasdell, PhD

Henry Lau, RD

BC Centre for Disease Control, PHSA



BC Centre for Disease Control
Provincial Health Services Authority

Food Insecurity on the Rise in Canada

Recent studies reveal that food insecurity is growing amidst the pandemic.

“It’s their first time’: More people than ever are turning to food banks under COVID-19



By [Amy Judd](#) & [Kylie Stanton](#) • Global News

Posted November 27, 2020 5:52 pm · Updated November 27, 2020 7:31 pm

CANADA | News

One in seven Canadians experiencing food insecurity during the pandemic: report

[Jackie Dunham](#) CTVNews.ca Writer
@JaclynLDunham | [Contact](#)

Published Wednesday, September 30, 2020 10:00AM EDT
Last Updated Friday, October 2, 2020 10:59AM EDT

COVID-19 caused surge in demand for food banks, which was already on the rise: report

Paola Loriggio

[The Canadian Press](#) Staff
[Contact](#)

Published Monday, November 30, 2020 6:35AM EST

One in seven Canadians is experiencing food insecurity during COVID-19, and its toll is heavier than hunger: report

Rooted in poverty, food insecurity impacts health, severs relationships, impinges on happiness and self-worth, and chips away at employment opportunities

[Laura Brehaut](#)

Oct 16, 2020 • October 17, 2020 • 5 minute read • [40 Comments](#)

Food insecurity in Canada has grown during the COVID-19 pandemic

By [Sejla Rizvic](#)

July 30, 2020

Are we doing enough to **meaningfully respond** to food insecurity?

Objectives

- Define and describe food insecurity in BC
- Summarize the relationship between food insecurity and type 2 diabetes
- Describe interventions that use population health approaches to address food insecurity

Icebreaker

Pair and Share

If you had to write a book about the first time you learned about food security, either professionally or personally, what would the book's title be? And why?

Defining food insecurity

Household food insecurity: “...the inadequate or insecure access to food due to financial constraints.” – PROOF. (n.d.).

Food insecurity exists when **factors outside an individual's control** negatively impact their access to enough health-promoting foods. Economic, social, environmental and geographical factors influence this access. Food insecurity is **most acutely** felt by those who experience the negative impacts of **structural inequities, discrimination and on-going colonial practices**.

Centring **Indigenous food sovereignty** is essential to addressing food insecurity

- Sacred or divine sovereignty
- Participatory
- Self-determination
- Policy

Food insecurity takes a major toll on our health – and our health care system



Food insecure adults are more likely to have **DEPRESSION, HEART DISEASE** and other chronic conditions.



Health care costs
are
2X higher

for food insecure households compared to those who are food secure.

Type 2 diabetes and food insecurity are **closely linked**

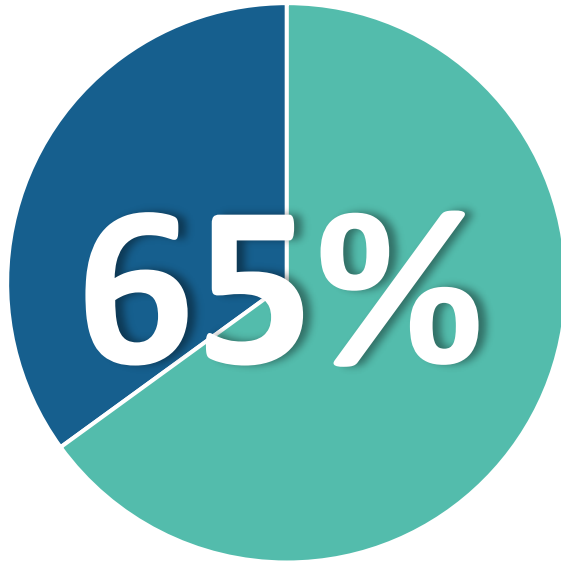
- Food insecure adults are twice as likely to live with T2DM
- Women who experience food insecurity are more than twice as likely to develop GDM
- Food insecurity contributes to difficulty managing diabetes
- Food insecurity is associated with higher emotional stress

Food insecurity **disproportionately impacts** different populations

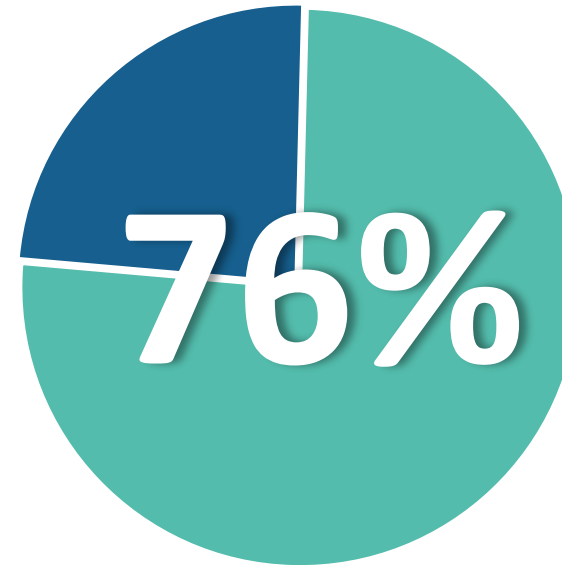
Among food insecure households, what percentage of household's main source of income is through wages, salaries or self-employment?

- A. 0-20%
- B. 20-40%
- C. 40-60%
- D. Over 60%

Food insecurity **disproportionately impacts** different populations

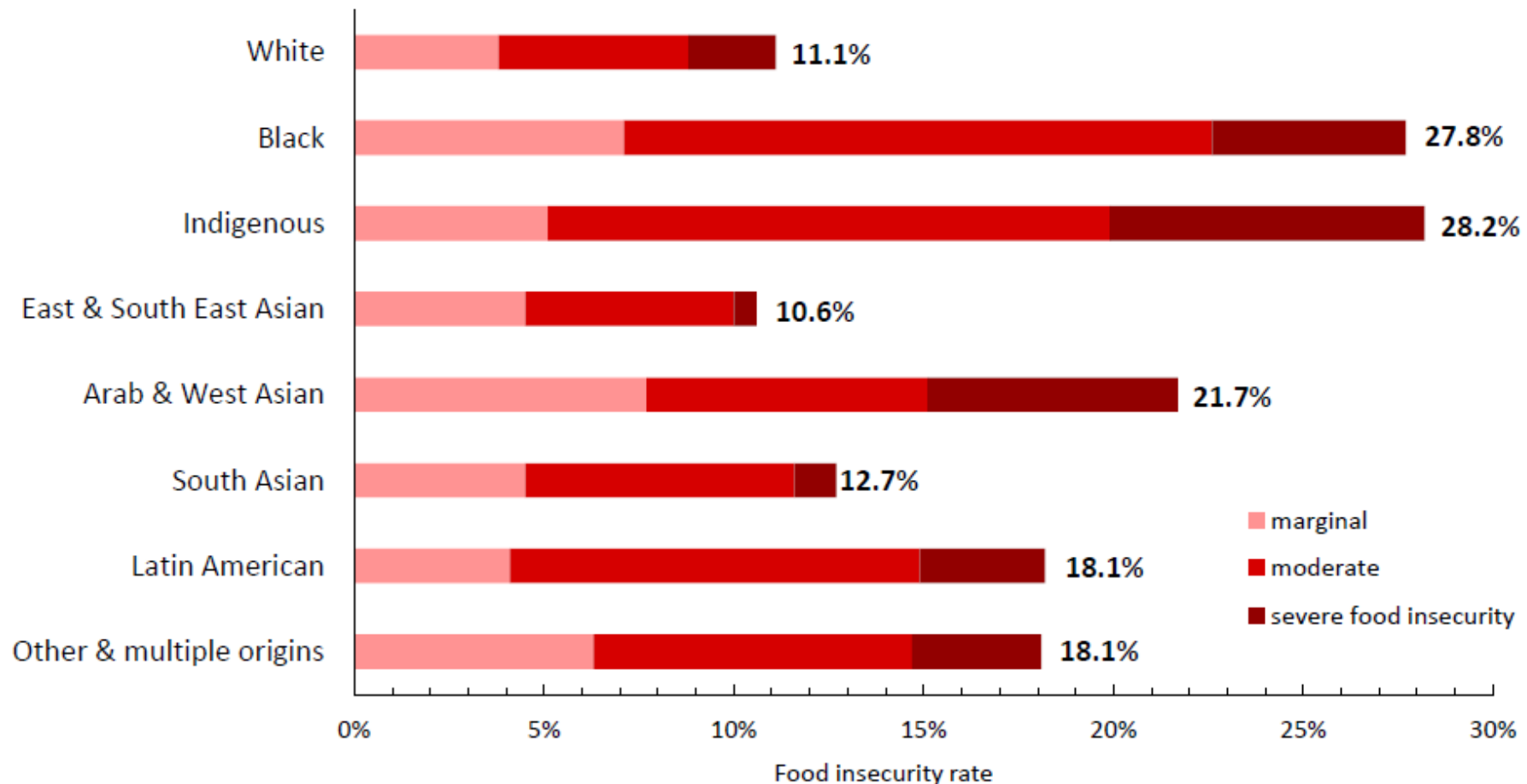


Percentage of British Columbians who are employed, but still food insecure.



Percentage of BC households reliant on social assistance who are food insecure.

Food insecurity disproportionately impacts different populations



(Adapted from Tarasuk et al., *Household Food Insecurity in Canada*, 2012, 2014)

Source: Tarasuk, V. Household food insecurity: the case for policy intervention [PowerPoint Presentation]. 2019. University of Toronto.

Diabetes is also disproportionately found across similar population groups

Prevalence of diabetes among ...

the lowest vs. highest income group is

4X higher

Indigenous communities vs. non-Indigenous communities is

3-5X higher

South Asian and African, Black and Caribbean communities, respectively vs. white communities is

3X and 2X higher

Sources:

- Diabetes Canada. Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Ottawa, ON: Can J Diabetes 42; 2018.
- Mosby I. 'The abiding condition was hunger': assessing the long-term biological and health effects of malnutrition and hunger in Canada's residential schools. Br J Can Stud. 2017;30(2):147-62.
- Diabetes Canada. Communities of colour and type 2 diabetes. Ottawa, ON: Diabetes Canada; 2021.



The **primary response** to food insecurity in BC has historically been focused on providing food and skills.

What percentage of food insecure households use food banks?

- A. <20%
- B. 20-40%
- C. 40-60%
- D. >60%





Only 7% of food
insecure households
use food banks.

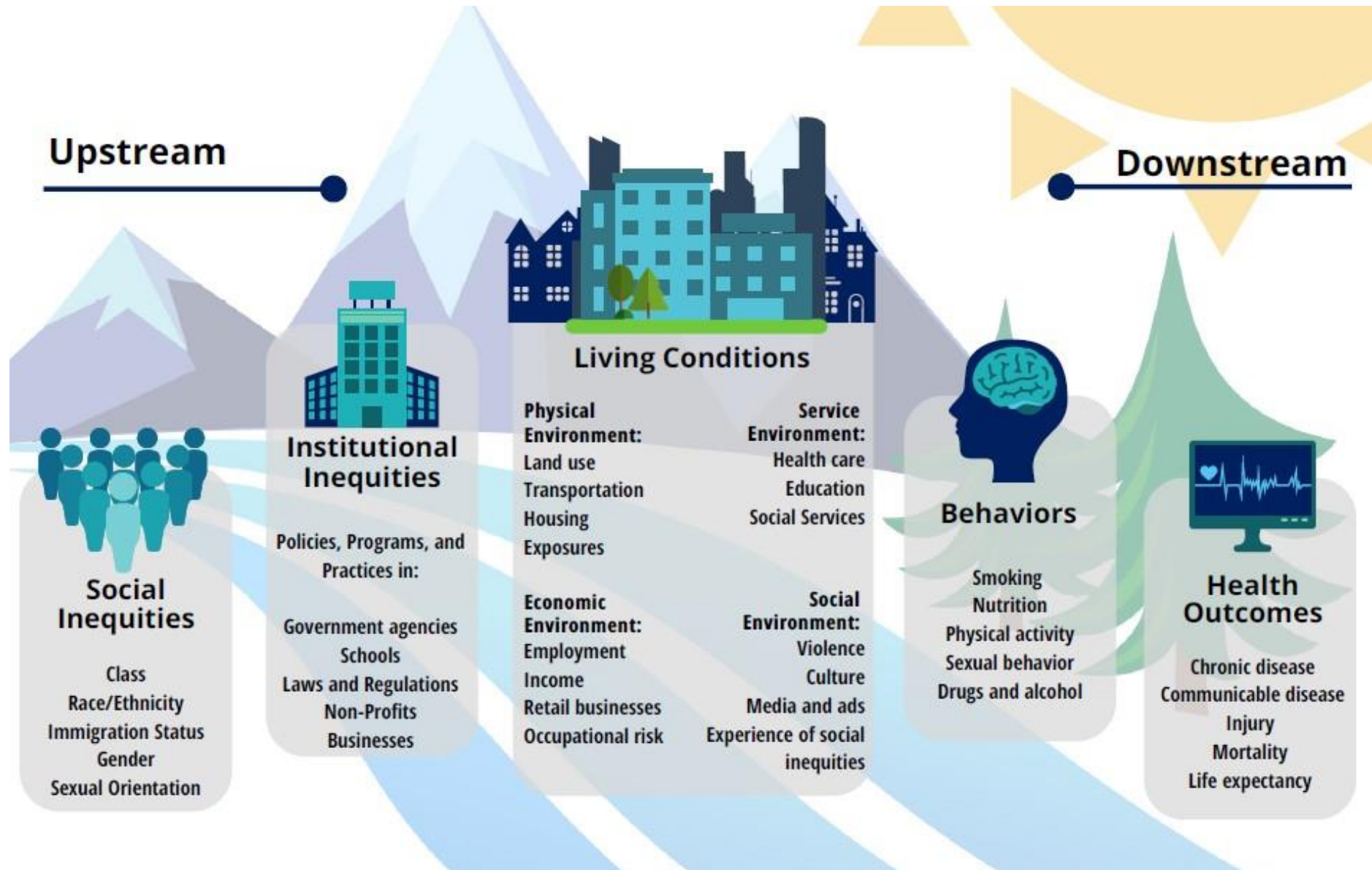
“Using a food bank
is the exception, not
the norm.”

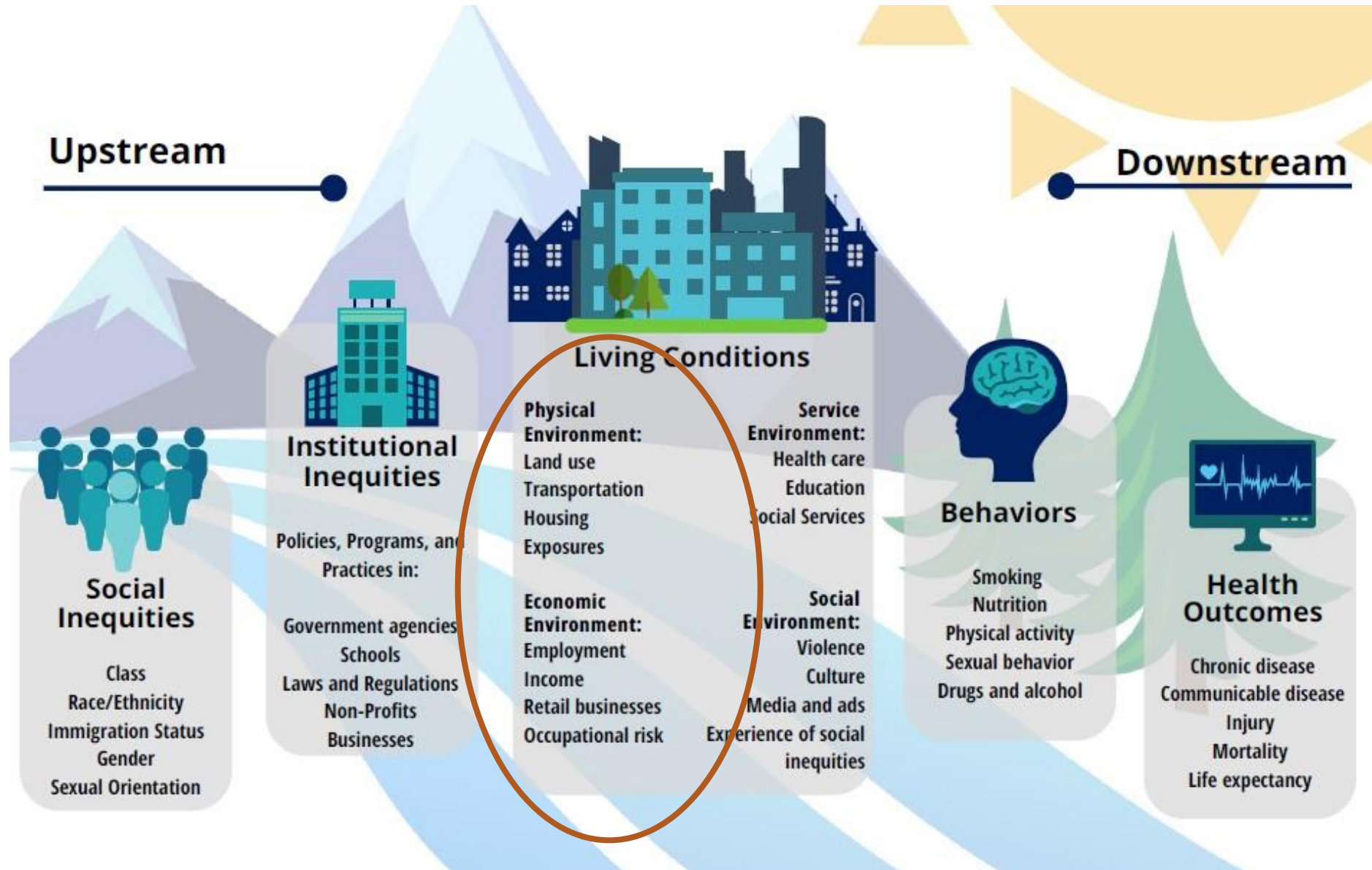
(Tarasuk, Fafard St-Germain, Loopstra,
2019)



Moving upstream for healthier populations







Break-out activity

Join the assigned break out room.

Review the case vignette and guiding questions in the link provided.

First answer the questions on Slide 1. Once you have finished slide 1, move on to slide 2.

Upstream approaches to food security

Availability

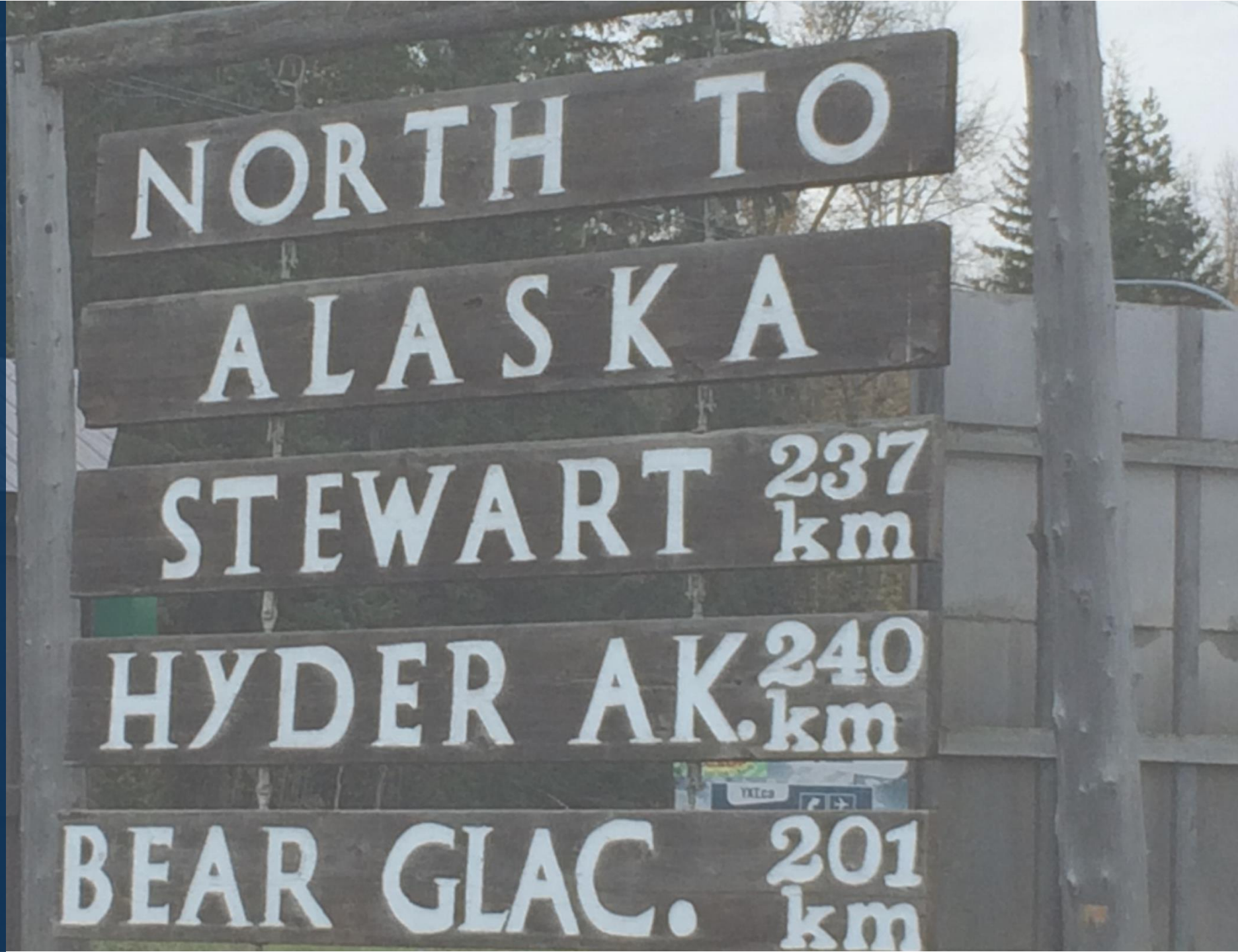
Accessibility

Affordability

Geographic
accessibility to
food



In BC, 10.9% of rural residents and 25% of First Nation communities considered low access



Improving accessibility to food stores

Municipal levers to improve accessibility

Zoning bylaws

Official community plans

Mobile market buses or farmers markets





Foods *available* in
someone's
community

Healthy stores, healthy communities

Healthy Stores 2020 (Northern Territories, Australia)

12-week RCT trial of 20 stores in partnership with a retail organization operating stores in remote communities of Australia. Free sugars reduced by 2.8% (95% CI, -4.8, -0.7) with significant reductions from targeted beverages (-6.4%, -11.1, -1.5) and soft drinks (-12.5%, -18.1, -6.5)

Analysis of Pricing Policy Levers (Nova Scotia Health)

Pricing, placement and promotion interventions in health care food retail settings



Increasing Indigenous Children's Access to Traditional Foods in Early Childhood Programs

December 2016



Funded by:



In collaboration with:



Access to traditional Indigenous foods in public institutions

Food is *affordable* and there is adequate income to purchase foods

Over half a million British Columbians can't afford a basic healthy diet.



Increasing **financial resources** to afford food

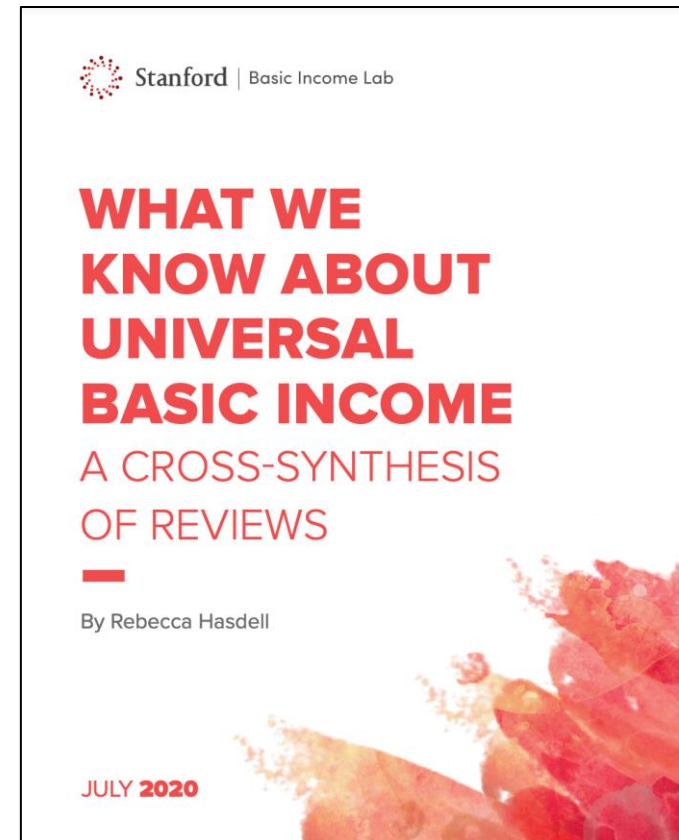
A guaranteed income is a ***monthly, cash payment*** given directly to individuals. It is ***unconditional***, with ***no strings attached***

Increasing **financial resources** to afford food

Decrease in poverty

Limited impact on labour market participation

Positive impact on short-term health and education outcomes



Income and household food insecurity: Evidence from working tax benefits and child tax credits

Earned Income Tax Credit (US)

Lump sum tax refund for low-income working families that phases in with every dollar earned and phases out at higher earning levels; average refund of \$3000

Consistent evidence for decrease in child food insecurity, and food insecurity in primarily female-led households (Batra and Hamad 2021; Andrade et al. 2019; Rehkopf et al 2014; Schmidt et al. 2016)

Canada Child Benefit (Canada)

Lump-sum income tested refund to families with children, average refund of \$6800

Overall improvement to food security following CCB implementation, with most significant benefits to households experiencing severe food insecurity (Brown and Tarasuk 2019)

Activity

In the chat, type in your responses to the following questions, but WAIT TO SUBMIT.

If you had a magic wand that can grant any food security-related wish, what would you wish for?

Consider what courageous conversations (i.e. interventions) are we not talking about. What could spark that conversation?

Everyone has a role in supporting a population health approach to food security

- Recognize the impact structural and social determinants of health has on individual health
- Recognize the limitations of charitable food-based responses
- Advocate to policymakers around the need to address both the structural and social determinants of health

Summary

- Food insecurity is when factors outside an individual's control negatively impact their access to enough health-promoting foods.
- Food insecurity increases the risk of T2DM and makes it more difficult to manage.
- A population health approach that addresses the root causes of health disparities is needed to adequately address food insecurity.

Questions

Connect:

Rebecca.Hasdell@bccdc.ca

Henry.Lau@bccdc.ca