



# Locally Driven Collaborative Project

Analyzing Risk/Protective Factors, and understanding Preventive Intervention Strategies against Opioid and Unregulated Drug Use (Ages 14-25)





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The presenters report no conflict of interest.



# Land Acknowledgement

- We acknowledge that the lands on which we are hosting this meeting include the traditional territories of many Indigenous nations.
- Grey Bruce Public Health (GBPH) and Applied Health Research Centre (AHRC) recognize that the many injustices experienced by the Indigenous Peoples of what we now call Canada continue to affect their health and well-being.
- We respect that Indigenous people have rich cultural and traditional practices that have been known to improve health outcomes.
- I invite all of us to reflect on the regions/territories you are calling in from, as we commit ourselves to gaining knowledge; forging a new, culturally safe relationship; and contributing to reconciliation.





# Outline

- Background
- Phase I Systematic Review
- Phase II Survey and Qualitative synthesis
- Conclusion and takeaway messages
- Q&A

# Webinar Objectives

**By the end of this round, you will be able to:**

1. Explain the risk, protective factors, and challenges faced by youth (15 -24) years of age related to opioids and unregulated substances from systematic reviews on evidence-based primordial and primary interventions.
2. Identify evidence-based strategies in public health units to prevent substance use among 15 to 24-year-olds.
3. Assess programs identified in the study and their effects on successful youth substance use prevention.
4. Reflect on your own public health practice including how to use continuous evaluation, best practice sharing, and adjustments in the field of youth substance use prevention.



# Background

## Youth Opioid-Related Deaths

Opioid-related deaths among Ontario youth aged 15 to 24 years have surged nearly 7-fold from 2003 to 2020.

This dramatic increase is part of a larger trend of rising substance-related harms among youth, which has been further exacerbated by the challenges posed by the COVID-19 pandemic.

The rate of opioid-related fatalities in this demographic has skyrocketed from 1.4 to 9.7 per 100,000 individuals over this 17-year period, raising critical concerns.



Gomes T, Murray R, Kolla G, Leece P, Bansal S, Besharah J, Cahill T, Campbell T, Fritz A, Munro C, Toner L, Watford J on behalf of the Ontario Drug Research Network, Office of the Chief Coroner and Ontario Agency for Health Protection and Promotion (Public Health Ontario).

Changing Circumstances Surrounding Opioid-Related Deaths in Ontario During Covid-19 Pandemic. Toronto, ON: Ontario Drug Policy Research Network; 2021.





# Background

## LDCP Study



**Scope:** current practices in public health units across Ontario compared to practice in systematic reviews



**Focus Areas:** The project specifically concentrates on primordial prevention and primary prevention.



**Addressing Pandemic Impact:** The project seeks to understand the impact of the pandemic on substance use



**Role of Public Health Units:** This project aims to enhance their practices by providing insights into evidence-based approaches and regional variations in implementation.



**Outcome:** Ultimately, this project aims to build a knowledge base that informs strategies to effectively address substance-related harms across the diverse communities of Ontario.



# Research Questions

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## Phase I Systematic review

- Protective and risk factors across the socio-ecological model (SEM)
- What are the evidence-based programs and strategies that are implemented across the socio-ecological model (SEM) that aim to promote health around substance use and decrease related harms in youth

## Phase II Scan survey and qualitative study results

- How are prevention programs implemented among Public Health Units (PHUs) across Ontario, including their adaptation to diverse settings and culturally appropriate engagement of diverse populations?
- How do the interventions work in the real world and how do PHUs ascertain they produce the intended effects? What indicators do public health units and key stakeholders use to monitor or evaluate the existing practice, including representing diverse perspectives and assessing gaps in implementation
- What indicators do public health units and key stakeholders use to monitor or evaluate the existing practice, including representing diverse perspectives and assessing gaps in implementation?





# **Phase I: Systematic Reviews**

Risk/Protective Factors

Preventive Intervention Studies

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Grey Bruce Public Health



# Literature search

## 1. Literature Search:

- Shared Library Services Partnership conducted a literature search in Nov. 2022
- Five databases (Ovid MEDLINE, APA PsycINFO, CINAHL Complete, Cochrane Database of Systematic Reviews (SRs), and Epistimonikos)
  - Search terms: a) opioids/illicit drugs, and b) primary/primordial prevention strategies.
  - Search Criteria – English language; published 2018-2022

## 2. Selection

- 1,498 studies were selected after the removal of the duplications and single studies.

## 3. Extraction

- Abstract scan – **AMSTAR-II**
  - 72 studies were selected for assessment of risk/ protective factors
  - 39 articles were selected for primordial/primary prevention strategies.

## 4. Full Text Review

- **GRADE** – to assess quality and strength of evidence of the selected studies.
  - GRADE - The Grades of Recommendation, Assessment, Development and Evaluation (GRADE) for Systematic Reviews
  - Five criteria of GRADE – methodological quality/risk of bias; directness of evidence; heterogeneity; precision of effect estimates; risk of publication bias.
  - 19 interventions
  - 26 risk/protective factors

## 5. Literature Synthesis

- Findings from the selected studies based on the GRADE assessment was synthesized based effectiveness of intervention and certainty of risk and protective factors related to substance use and prevention.

Resource/Database searched on November 4, 2022	Initial Results	Results after duplicates removed
Ovid MEDLINE	790	789
APA PsycINFO	423	280
CINAHL Complete	532	306
Cochrane Database of Systematic Reviews	51	44
Epistimonikos	108	79
Total	1904	1498



# Summary of Literature review

<b>ABSTRACT REVIEW</b>	
ABSTRACTS REVIEWED N=1904	
ABSTRACTS SCREENED AFTER DUPLICATE REMOVAL N=1498	
<b>FULL TEXT SCREEN-AMSTAR II</b>	
INTERVENTION ARTICLES SELECTED N=39	RISK AND PROTECTIVE FACTORS N=72
<b>FULL-TEXT SCREEN-GRADE</b>	
INTERVENTION ARTICLES SELECTED N=19	RISK AND PROTECTIVE FACTORS N=26





# Findings: Protective and Risk Factors



- INDIVIDUAL (n=17)
- INTERPERSONAL/PEER INFLUENCE (n=3)
- MICROSYSTEM – School/Family (n=5)
- MACROSYSTEM – Community/Society (n=6)



# INDIVIDUAL Factors

Individual Factors Studied	Risk Factors	Protective Factors
<b>Genetics</b>	Genetic predisposition or family history of substance use disorders	Cultural identity Ethnic identity
<b>Mental Health – Internalizing vs Externalizing</b>	Mental health conditions, such as depression, anxiety, or conduct disorders.	Reflective process Optimism
<b>Impulsivity/Self Control</b>	Impulsivity and sensation-seeking tendencies in early years	Self-control/regulation in early years
<b>Self Esteem</b>	Low self-esteem/self-worth	
<b>ACES and History of Trauma</b>	Cumulative effects of ACES/Trauma	
<b>Parental Separation &lt;18 years</b>	Parental separation	



# INTERPERSONAL/PEER Factors

Interpersonal/Peer Factors	Risk Factors	Protective Factors
<b>Peer Use of Drugs</b>	Association with peers who engage in drug use or have positive attitudes toward drug use.	Peer influence discouraging risky behaviour
<b>Prosocial Network</b>	Lack of positive social support or prosocial peer networks	Prosocial peer network against bullying
<b>Communication Skills</b>	Inadequate communication and conflict resolution skills	
<b>Peer Pressure</b>	Peer pressure and influence to experiment with drugs.	





# MICROSYSTEM Factors

Microsystem Factors	Risk Factors	Protective Factors
<b>Academic performance</b>	Poor academic performance or school disengagement.	
<b>Parental substance use</b>	Parental substance use or drug availability within the household. Maternal factors e.g., prenatal maternal smoking; poor maternal psychological control.	
<b>Parental supervision/household environment</b>	Inadequate parental supervision or inconsistent discipline or regulation impairment Neglect Household trauma and or abuse Low parental education uncontrolled pocket money for youth in high-income families. Prolonged/ uncontrolled screen time Alexithymia associated with difficulties in attachment and interpersonal relations	Positive family relationships, parental involvement, Family role and parental monitoring Intact families with warmth and predicted social ties. Family socioeconomic status Residential stability
<b>School environment</b>	Lack of positive school environment and engagement	Strong social support networks, and participation in extracurricular activities.
<b>Exposure to bullying or violence</b>	Exposure to violence or bullying in school or community settings	



# MACROSYSTEM Factors

Macrosystem Factors	Risk Factors	Protective Factors
<b>Cultural Norms</b>	Cultural norms and attitudes that tolerate or glamorize drug use	
<b>Media Portrayal of Drug Use</b>	Media portrayal of drug use as normative or desirable	
<b>Social Determinants of Health</b>	Neighborhood poverty, crime rates, and availability of drugs Limited access to education, employment, and recreational opportunities Inadequate drug prevention and treatment resources in the community	Community monitoring Community support



# Findings: Interventions

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- A Systematic and in-depth review of the literature exploring prevention themes across the Socio Ecological Model (SEM) uncovered in 19 studies :
- five primordial prevention interventions that address SDOH and ACEs focused on youth outcomes
- 14 studies primarily focused on primary prevention in school settings, with or without family involvement.
  - ❖ Varied levels of prevention with outcomes focusing on youth in three reviews
  - ❖ children in four reviews,
  - ❖ children, and youth in two reviews,
  - ❖ family in two reviews,
  - ❖ community in three reviews





# 1 - Teacher-Provided Interventions

## Theme

behavioural interventions

## Objectives

- Placed emphasis on 5 learning points
- Parent skills
- Use of school-based multiple prevention strategies
- Implementing booster sessions
- Developing healthy peer-drug refusing skills early in adolescent's life
- Focusing on common risk and protective factors for multiple problem behaviour

## Setting

School-based

## Outcome

- Substance initiation index (SII)
- Sexual protective and risk behaviours
- Family adaptability substance initiation index
- Rates of antisocial behaviours in youth from families engaged in these programs



## 2 - Computer technology and theory-based targeting primary prevention

### Theme

- Youth and behaviour problems

### Objectives

1. Improve resilience
2. Primary prevention of substance use

### Setting

School-based

### Outcome

- Improved resilience for primary prevention
- In addition to successful outcomes for harm reduction as secondary prevention
- Prolonged use of intervention was associated with stronger effects and more significant knowledge gain and more likelihood of implementing protective factors

# 3 - Multi-modal Family and Community

## Theme

Developmental ecology

## Setting

Family and community focus

## Objectives

- Intervention to prevent volatile substance misuse (VSM) including adhesives, solvents and gases to achieve intoxication leading to a perceived change in mental state use among children.

## Outcome

- Community mobilization involving key government and nongovernmental systems.
- It is multi-modal family and community







## 4 – Youth Participatory Approach

### Theme

An approach that provides a youth perspective to the research and community. It holds promise to influence the prevention outcome.

### Objectives

- To provide youth the opportunity to study social problems affecting their lives and action to solve these problems.

### Setting

Empiric and community based

### Outcome

- Youth engagement in social action in the school and community at the policy level, in addition to peer support, is critical.

## 5 - Universal Family-Based Preventive Programs & Strengthened Family Programs (SFP)

### Theme

- Focus on building preventive capacity with a universal context that can be culturally adapted.

### Objectives

- Effectivity may involve encouraging interactions between children and parents. e.g., socio-educational strengthened family program.

### Setting

School and community

### Outcome

- Behavioural problems (self-control)
- Resistance to peer group pressure
- Parental skills and family relations







# Other Preventive Interventions

Intervention Programs focusing on children with parents with opioid disorders

Programs helping adolescents to thrive

Optimal Opioid Stewardship

Cultural Adaptation tailoring of the intervention

Ahern NR, Mechling B, Palumbo R, Woodard E. Children of Parents with Opioid Use Disorder. *J Psychosoc Nurs Ment Health Serv*. 2021 Mar 1;59(3):28-34. doi: 10.3928/02793695-20201203-03.

Epub 2020 Dec 10. PMID: 33301046.

Kelley-Quon LI, Kirkpatrick MG, Ricca RL, Baird R, Harbaugh CM, Brady A, Garrett P, Wills H, Argo J, Diefenbach KA, Henry MCW, Sola JE, Mahdi EM, Goldin AB, St Peter SD, Downard CD, Azarow

KS, Shields T, Kim E. Guidelines for Opioid Prescribing in Children and Adolescents After Surgery: An Expert Panel Opinion. *JAMA Surg*. 2021 Jan 1;156(1):76-90. doi: 10.1001/jamasurg.2020.5045.

Erratum in: *JAMA Surg*. 2021 Apr 1;156(4):403. PMID: 33175130; PMCID: PMC8995055

# Phase II: Scan Survey and Qualitative Study Results

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AHRC – Unity Health Toronto



# What did we want to understand?

- What are the programs and strategies that are implemented among PHUs across Ontario?
- How do these interventions work?
- What are the benefits, from the PHU staff perspective?






# How did we do it? Methodology and Design







# Data Generation & Analysis

## Phase IIA – Review of locally-implemented preventive strategies

-  Survey developed and piloted with 5 health units
-  Recruitment via Council of Medical Officers of Health of Ontario (COMOH) members
-  Descriptive analysis conducted and thematic synthesis of open-ended survey responses

## Phase IIB – Qualitative study using semi-structured interviews

-  Purposive sampling strategies used to select programs
-  Semi-structured interviews conducted with health units in Spring 2023
-  Interviews ranged from 30-92 minutes (on average 55 minutes) were audio recorded, transcribed, and reviewed and quality checked.
-  Reflexive thematic analysis employed

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4), 589-597.

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and psychotherapy research*, 21(1), 37-47.





**What did we find?**

# Who participated?

## Survey/Quantitative Results

PHU Characteristics	PHU Demographics	N =	%
<b>Number of Participating PHUs</b>	Participation	22 of 34	64.7
<b>Health Unit Region</b>	Central West	6	27.3
	Central East	4	18.2
	Southwest	4	18.2
	East	3	13.6
	Northeast	3	13.6
	Northwest	2	9.1
<b>Health Unit Population Size</b>	<100,000	3	13.6
	100,000 to 200,000	8	36.4
	200,001 to 1,000,000	9	40.9
	1,000,001 +	2	9.1
<b>Health Unit Peer Group</b>	Mainly Rural	4	18.2
	Sparsely Populated	3	13.6
	Urban-Rural Mix		
	Urban Centres	3	13.6
	Urban-Rural Mix	12	54.6

Table: Public Health Unit Demographic Profile

# Scan Survey Results

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- A total of 99 interventions (average 4.5 per unit)
- Mix of universal & targeted approaches
- Individual, family, and community-based levels
- Risk & protective factors across multiple levels
- Key evaluation indicators and sources of evidence for planning and evaluation



# Interviews/ Qualitative Results







## Experiences:

**How is it to plan, deliver, and evaluate the interventions and strategies?**

- Understanding local burden of substance use among youth
- Range of data sources employed, yet limited local population-level data available
- Challenges measuring success of interventions



*We do rely a lot on the Ontario Drug Youth and Health Survey data, the challenge being we don't always get local data. So, we're sometimes making assumptions that we're similar to the provincial trends. (PHU 04)*

# Partners, Public Health, and Youth: Roles and Partnerships

- Extensive network of partnerships and critical importance of collaboration
- Diverse role of public health
- Engaging youth and priority populations was highlighted as a vital, yet involvement across all stages of implementation varied.



*In public health we have a unique role looking at addressing root causes. And I think, having a collaborative approach to addressing those root causes is where we can see where we're going.*

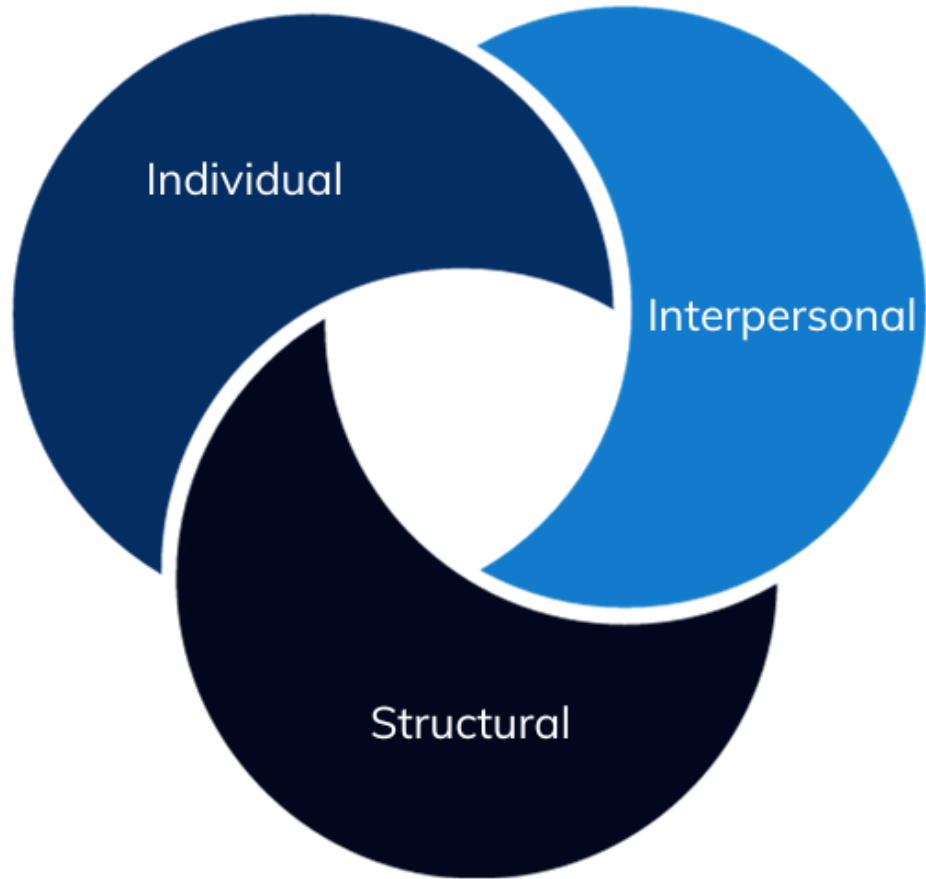
*Collaborating with the community, collaborating within divisions or within the department, I think looking at it from a similar lens, but also our different unique roles. I don't know that other health organizations are doing that - I think the term is primordial prevention. I think that's where we have a unique role. (PHU 07)*

# Context Matters: Planning, Implementing, and Evaluating Strategies

- Impact of public health measures during COVID-19 pandemic & recovery on programs, partners & structures
- Vertical structures and delivery of strategies and programs
- Balancing competing public health priorities
- Underlying influence of policy and funding context

*I think it's just a balancing of priorities right now. We are really being pulled with some of the harm reduction policy work in the opioid emergency. (PHU 11)*





## What are the risk and protective factors?

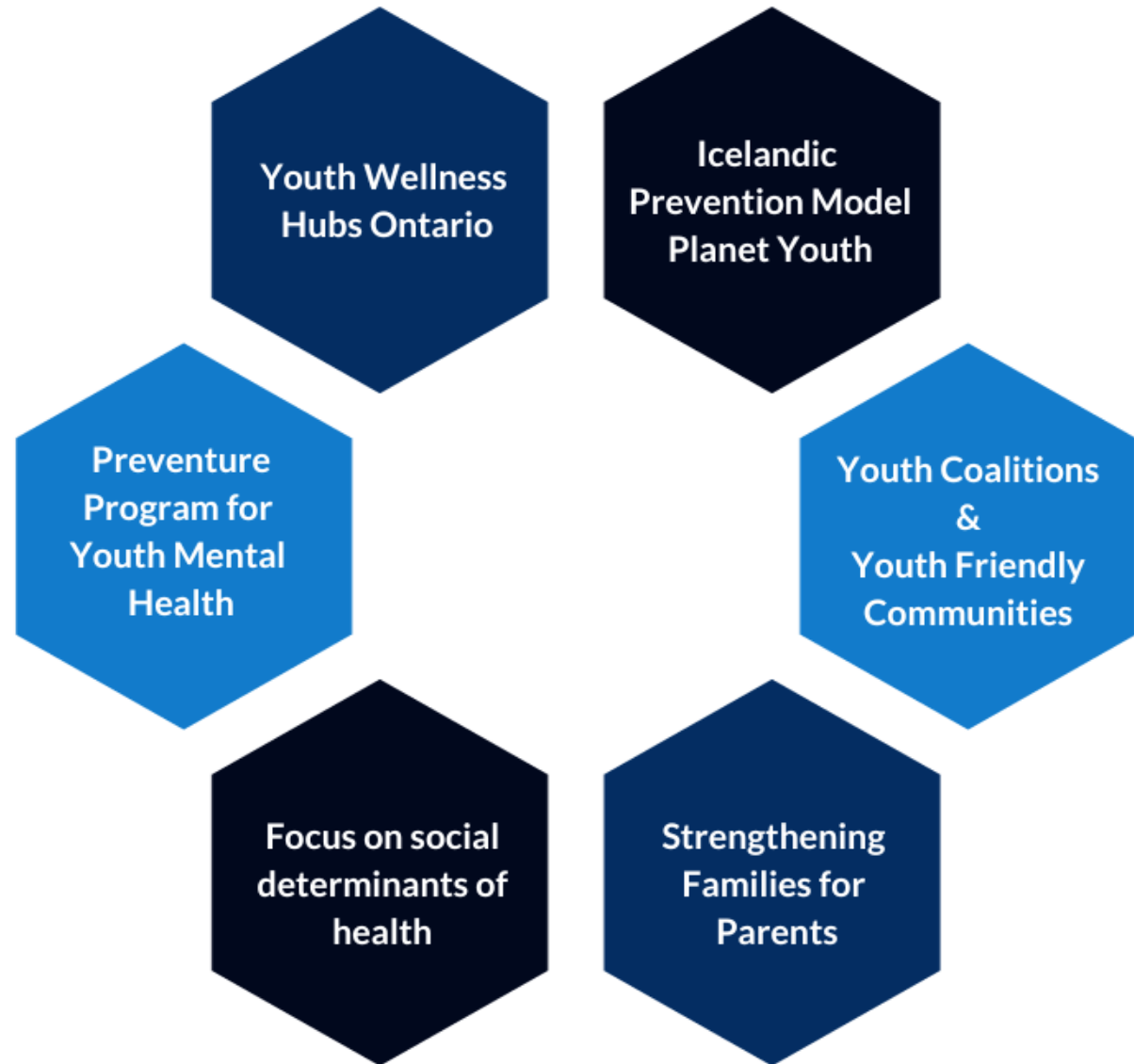
- Paradigmatic shift and increased focus on risk/protective factors
- Broad, open-ended scope challenges demonstrating impact of primordial interventions for youth substance use
- Substance use prevention is a complex, multi-dimensional challenge

*The best prevention measures often have nothing to do with substance use at all, while the ultimate goal is to reduce substance use and prevent youth from using substances...upstream efforts often seem unrelated to substance use, as opposed to like specific substance use policies or education. We're addressing substance use, without talking about substances at all. (PHU 20)*

# What is working so far?

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Examples of novel and upstream primordial and primary strategies to prevent substance use among youth





## **Study Considerations for Qualitative Study**

- Diverse range of initiatives (1-15) submitted by health units
- Varied interpretation of “protective factors”
- Upstream initiatives are cross-cutting
- Social desirability effect
- Study timing

# Recommendations

- Upstream interventions
- Partnerships
- Share lessons, resources & tools
- Increased youth engagement





# What do you think?

- Do these results resonate with you?
- What do you think these results have not captured?



# Conclusion

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# Health Units' Perspectives

- The prevention of youth substance use is a complex and multi-dimensional challenge deeply connected to and impacted by individual, community, structural, risk and protective factors.
- Nearly all public health staff underscored prioritizing preventive strategies and interventions as essential.







# Health Units' Perspectives- cont'd

The implementation of primary and primordial prevention strategies in practice were shaped by:

- the complexities of partnerships with different stakeholders for program planning, delivery and evaluation
- the flexibility needed to have different roles
- systemic factors such as public health and funding priorities
- the different contexts, and the relatively recent emphasis on risk and protective factors.

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# Evidence-Based Tools from Literature

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Reach and  
Accessibility

Implementation  
Fidelity

Participant  
Engagement and  
Satisfaction

Health  
Outcomes

Equity and  
Disparities

Stakeholder  
Engagement and  
Collaboration







## **Takeaway Messages**

# Foundational Pillars & Determinants

A close-up photograph of a person's hands playing chess. The person is wearing a blue shirt. The chessboard is in the foreground, with several white and blue pieces visible. The person's right hand is in the process of moving a white king piece. The background is blurred, showing the person's face and upper body. The lighting is soft and focused on the chessboard.

- Addressing risk and protective factors, including ACEs, SDOHs and a range of other risk and protective factors, is increasingly acknowledged as an essential strategy to effectively prevent substance use amongst youth.



# Protective Factors

- An emphasis should be placed on key **protective factors** such as enhancing parent skills to provide a supportive and nurturing environment, utilizing school-based and multiple prevention strategies in combination.
- Implementing of booster sessions to ensure sustained intervention effects and developing healthy peer refusing skills at an early stage in adolescence to support resilience.
- Targeting common risk and protective factors for multiple problem behaviors through integrating mental health/wellness enhances program effectiveness.

# System Level Collaboration

- Efforts to address underlying influences of substance use prevention demand a systems-level and community-wide approach.
- Integrating programs and prioritizing intersectoral collaboration, implementation, and management can substantially enhance future preventive interventions for youth substance use.







# Formalized Partnerships

- Limited local, recent, and disaggregated data are overcome by developing formalized partnerships with non-health stakeholders may represent an avenue for future exploration and investment.
- Leveraging further opportunities to align public health efforts with existing community-based initiatives and partnerships.
- Strategic opportunities for inter-sectoral collaboration should be explored, such as Community Safety Wellbeing Plans, to promote community, structural factors, including safe and enabling environments for youth.





# Youth Participation

- Interventions should prioritize the active and meaningful engagement of youth in all stages of design, implementation, and evaluation.
- Involving diverse youth in decisions that affect them is essential to improving their health and wellbeing including those at higher risk for substance use based on literature review, or youth with lived experiences of using substances.

# Intervention Selection

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- Programs that offer tangible strategies to address the social determinants of health, foster protective factors of youth/families/communities.
- Programs that focus on youth at highest risk for substance use and mental health challenges.



# Evaluation Considerations

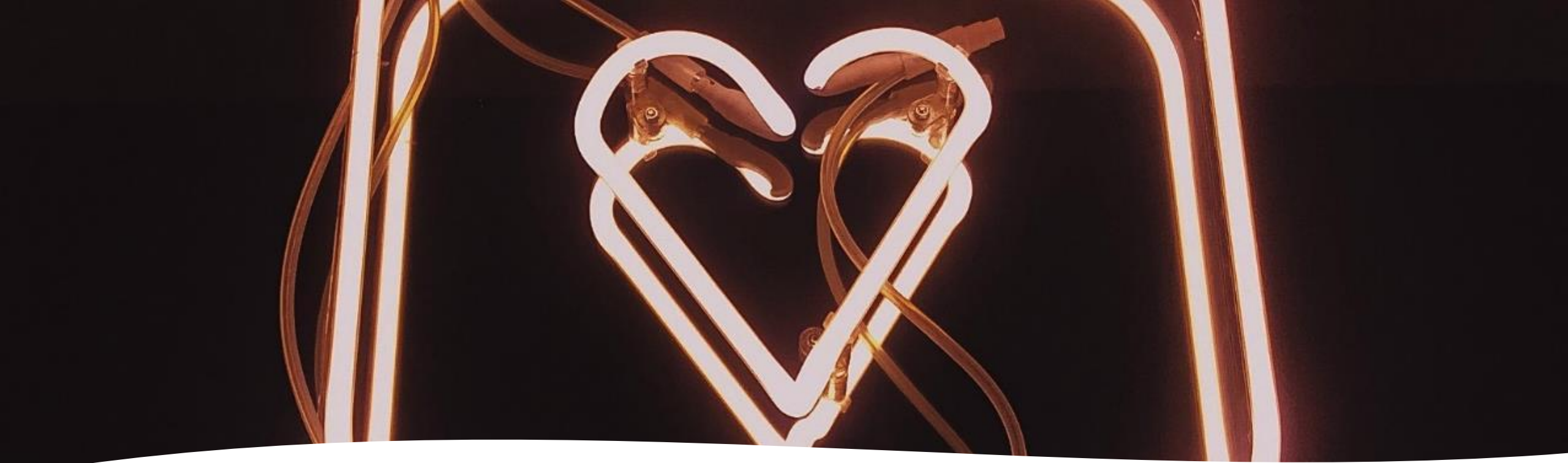
- In practice, many primordial interventions are in nascent stages of implementation.
- Documenting and sharing lessons learned and best practices of these upstream interventions will be important to ensure future funding and support, and to catalyzing sustained changes in youth mental health, wellbeing, and substance use behaviours.
- Duration of evaluation and previous cohorts (6m-9.5 y)
- Small equity-based interventions with a wide impact on resilience are helpful
- Combination of small universal interventions may have a high public health benefits

# Beyond Conventional Evaluation

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- Social connectedness
- Community partnerships
- Supportive community and school environments for youth
- Youth leadership
- Individual and community resilience





**Words of Thanks**



# Contact

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