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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

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

Drs. Rim Zayed & Lami Sadare
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.

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

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.



Summary of Literature review

ABSTRACT REVIEW	
ABSTRACTS REVIEWED N=1904	
ABSTRACTS SCREENED AFTER DUPLICATE REMOVAL N=1498	
FULL TEXT SCREEN-AMSTAR II	
INTERVENTION ARTICLES SELECTED N=39	RISK AND PROTECTIVE FACTORS N=72
FULL-TEXT SCREEN-GRADE	
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
Genetics	Genetic predisposition or family history of substance use disorders	Cultural identity Ethnic identity
Mental Health – Internalizing vs Externalizing	Mental health conditions, such as depression, anxiety, or conduct disorders.	Reflective process Optimism
Impulsivity/Self Control	Impulsivity and sensation-seeking tendencies in early years	Self-control/regulation in early years
Self Esteem	Low self-esteem/self-worth	
ACES and History of Trauma	Cumulative effects of ACES/Trauma	
Parental Separation <18 years	Parental separation	



INTERPERSONAL/PEER Factors

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



MICROSYSTEM Factors

Microsystem Factors	Risk Factors	Protective Factors
Academic performance	Poor academic performance or school disengagement.	
Parental substance use	Parental substance use or drug availability within the household. Maternal factors e.g., prenatal maternal smoking; poor maternal psychological control.	
Parental supervision/household environment	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
School environment	Lack of positive school environment and engagement	Strong social support networks, and participation in extracurricular activities.
Exposure to bullying or violence	Exposure to violence or bullying in school or community settings	



MACROSYSTEM Factors

Macrosystem Factors	Risk Factors	Protective Factors
Cultural Norms	Cultural norms and attitudes that tolerate or glamorize drug use	
Media Portrayal of Drug Use	Media portrayal of drug use as normative or desirable	
Social Determinants of Health	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

A woman with her hair in a bun is sitting at a desk by a window, looking out at a building. The scene is dimly lit, with light coming from the window. There is a plant on the windowsill and a cup of coffee. The image is partially obscured by a large white circle on the right side of the slide.

Findings: Interventions

-
- 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

Drs. Jannah Wigle and Clara Juando-Prats

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 =	%
Number of Participating PHUs	Participation	22 of 34	64.7
Health Unit Region	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
Health Unit Population Size	<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
Health Unit Peer Group	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

- 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.



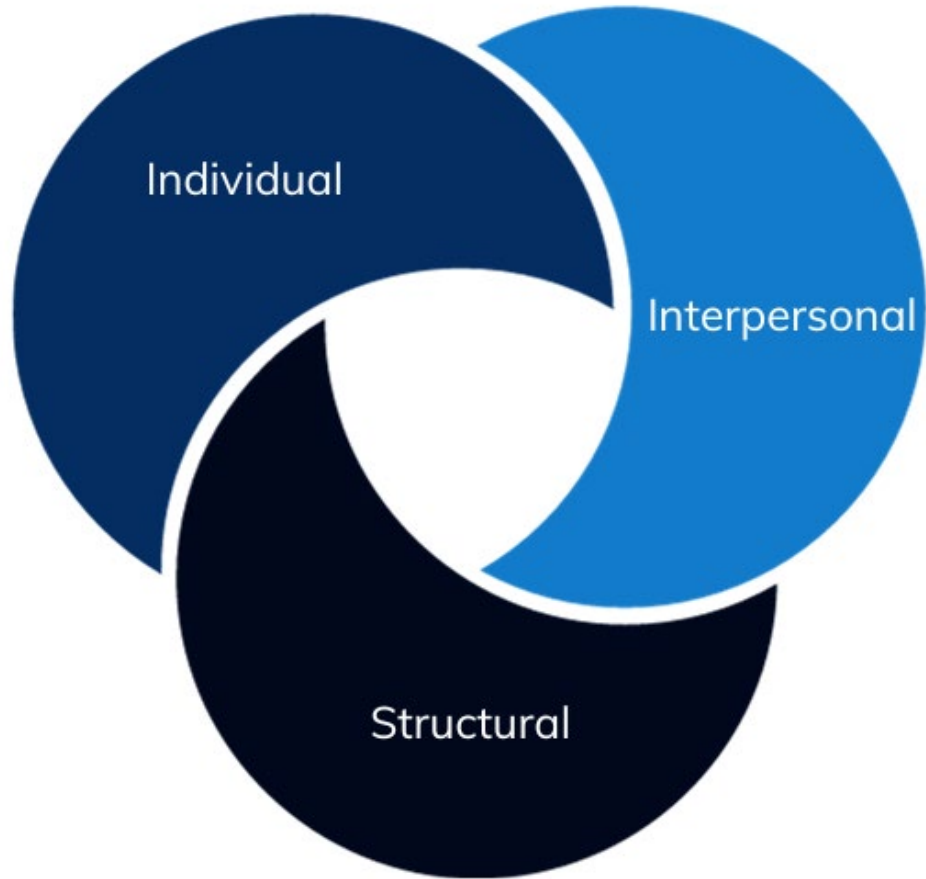
In public health we have a unique role looking at addressing root causes. And I think, having a collaborative approach to addressing those root causes is where we can see where we're going.

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)



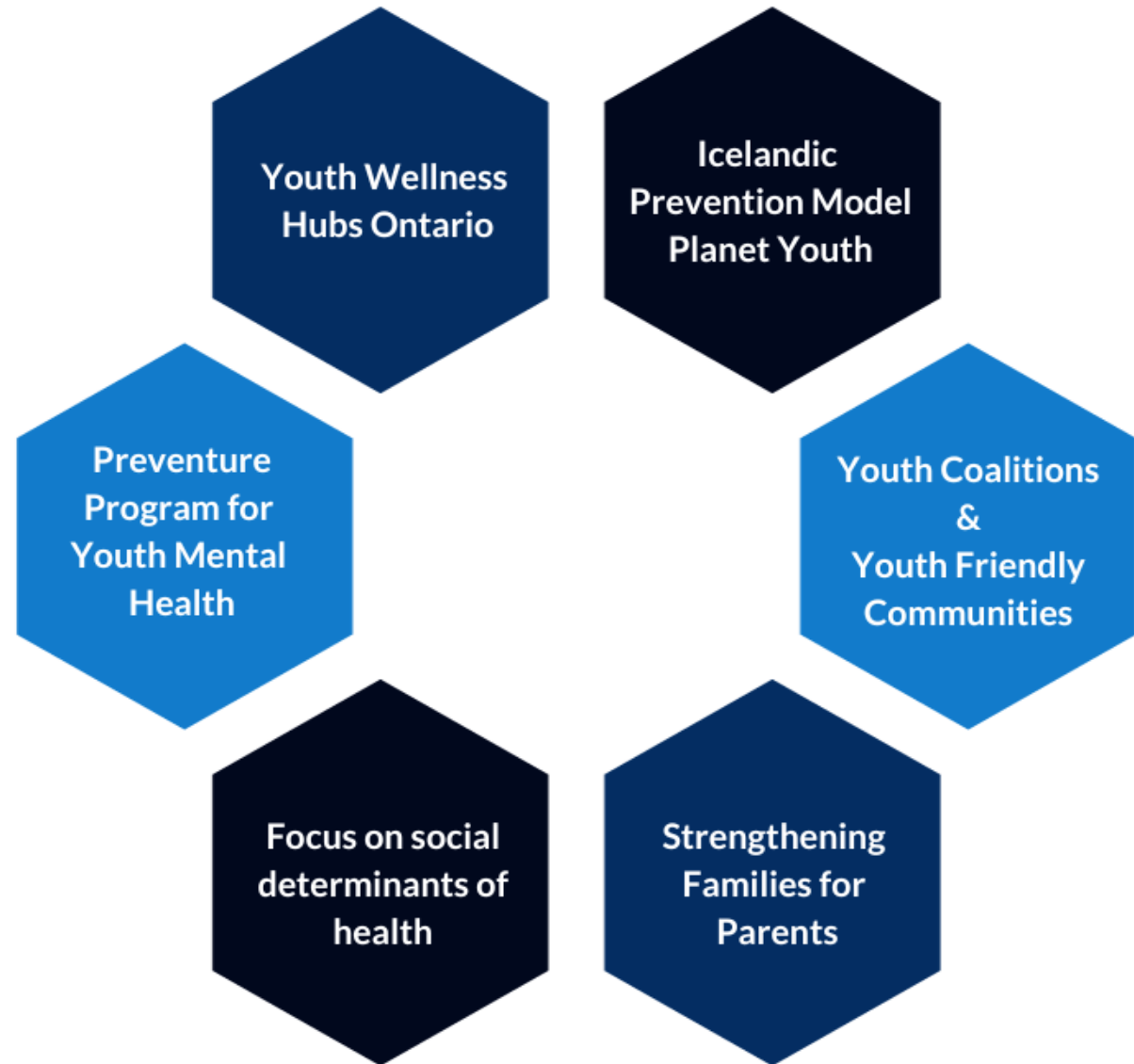
What are the risk and protective factors?

- 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?

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



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.

Evidence-Based Tools from Literature

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 holding a white king piece, and their left hand is resting on the board. The background is blurred, showing the person's face and upper body. The lighting is soft and natural.

- 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

- 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.



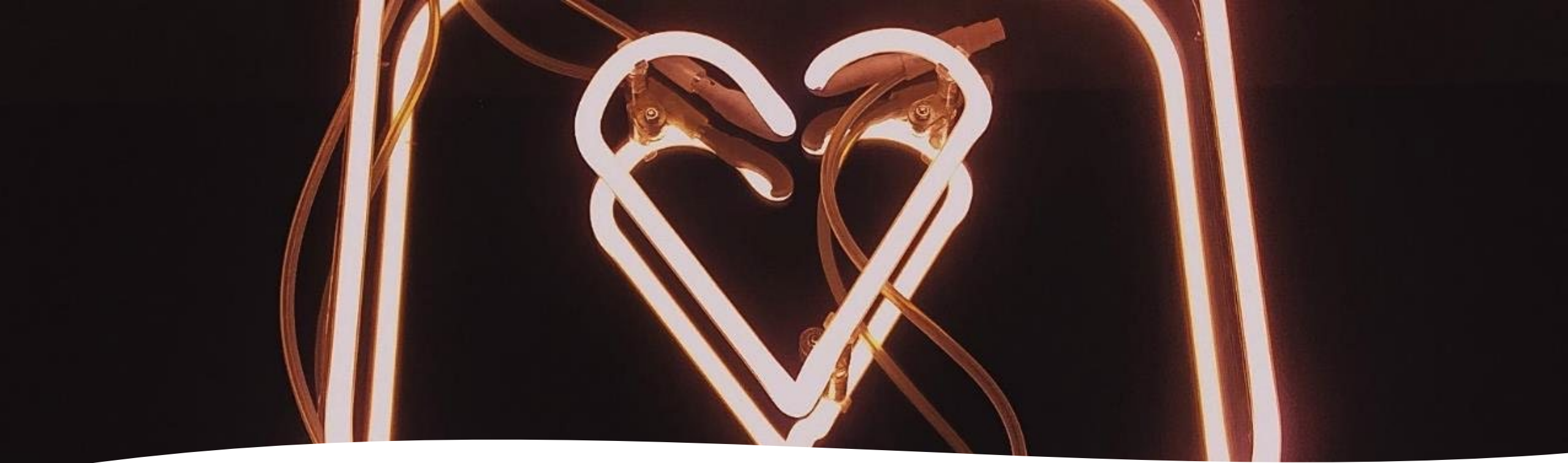
Evaluation Considerations

- 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

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





Words of Thanks

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