



Understanding the Determinants of Substance Misuse

A Rapid Review

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Key Messages

1. Substance misuseⁱ refers to use of a substance in a way that can cause harm to the user or those around them.
2. Substance misuse is not due to any single cause. Rather, it is driven by a complex interaction of risk and protective factors. Many are shared with other problematic behaviours, such as violence and school dropout.
3. The Conceptual Framework of the Determinants of Substance Misuse organizes risk and protective factors at the individual, family, community, and societal levels. Substance misuse is influenced by:
 - A person's development, experiences and health at the individual level
 - Relationships at the family level
 - The school, workplace, and neighbourhood environments, and peoples' interactions within these, at the community level
 - Culture, policy and socioeconomic factors at the societal level
4. Risk and protective factors can vary over the life course and be related to changes to an individual's physiology or environmental context.
5. Population subgroups, such as those that are vulnerable, experience different levels of exposure to risk and protective factors.

ⁱ For the purposes of this research review and report, the term "substance misuse" is used.

Executive Summary

Issue

The Region of Peel – Public Health (ROP-PH) is working with stakeholders to create an Opioid Strategy for Peel. This strategy is grounded in the pillars of prevention, harm reduction, enforcement and treatment. ROP-PH's Chronic Disease and Injury Prevention (CDIP) division is leading the creation of the prevention pillar. This pillar is focused upstream to prevent the onset of prescription and illicit opioid use, misuse and addiction. To help focus prevention efforts, ROP-PH seeks to understand the determinants of substance misuse, which includes opioid misuse.

Research Question

Is there a conceptual model or framework that describes factors influencing substance misuse?

Methods and Results

A search for peer-reviewed and grey literature, as well as contact with key informants, yielded 735 results. After assessing relevance, four grey-literature documents were included in this review.

Synthesis of Findings

Substance misuse refers to use of a substance in a way that can cause harm to the user or those around them. This issue is not due to any single cause. Rather, it is driven by a complex interaction of risk and protective factors. Many are shared with other

problematic behaviours, such as violence and school dropout. These determinants are organized into four levels within the Conceptual Framework of the Determinants of Substance Misuse: individual, family, community and societal. Substance misuse is influenced by:

- A person's development, experiences and health at the individual level
- Relationships at the family level
- The school, workplace, and neighbourhood environments, and peoples' interactions within these, at the community level
- Culture, policy and socioeconomic factors at the societal level

The influence of these factors can vary over the life course and be related to changes to an individual's physiology or environmental context. Population subgroups, such as those that are vulnerable, experience different levels of exposure to risk and protective factors.

Recommendations

1. Solicit feedback on the Conceptual Framework from internal (ROP-PH) and external stakeholders, and revise as appropriate.
2. Use the term "substance use" when referring to the Conceptual Framework in knowledge translation materials and activities related to this research review.
3. Use the Conceptual Framework to help develop the prevention pillar of the Opioid Strategy. This should involve working with stakeholders to:

- a. Identify the determinants of substance misuse that are modifiable.
 - b. Examine available data to help identify risk and protective factors of local importance.
 - c. Prioritize the modifiable factors for intervention.
4. Use the Conceptual Framework to help develop broader ROP-PH programming for preventing substance misuse. This should involve:
 - a. Identifying the determinants of substance misuse that are modifiable and within public health's mandate.
 - b. Examining available data to help identify risk and protective factors of local importance.
 - c. Prioritizing the modifiable factors for intervention.

1 Issue

Canada is facing a national opioid crisis with rates of overdoses and deaths increasing in recent years. (1) All levels of government and various organizations are taking joint action to address this challenge. Locally, the Region of Peel – Public Health (ROP-PH) is working with stakeholders to create an Opioid Strategy for Peel. This strategy is grounded in the pillars of prevention, harm reduction, enforcement and treatment. It will identify and coordinate stakeholder actions to prevent, reduce and respond to opioid-related harms (See Appendix A). The Chronic Disease and Injury Prevention (CDIP) division is developing the strategy’s prevention pillar. This pillar is focused upstream to prevent the onset of prescription and illicit opioid use, misuse and addictionⁱⁱ.

CDIP seeks to understand the determinants of opioid misuse to help focus prevention efforts. With consideration of local context, this will help identify potential areas of intervention to address the root causes of this issue. It will also help distinguish areas of action between ROP-PH and other local partners in prevention.

CDIP initiated a research review to better understand the risk and protective factors for opioid misuse. The focus of the review was expanded recognizing that opioid misuse is part of the broader issue of substance misuse. This review aims to identify a conceptual framework or model of factors that influence substance misuse.

ⁱⁱ For the purposes of this research review and report, the term “opioid misuse” is used.

2 Context

In Peel, opioid-related deaths continue to rise. Between 2013 and 2017, the number of opioid-related deaths more than tripled from 21 (1.5 deaths/100,000 population) to 79 (5.2 deaths/100,000 population); with numbers generally increasing over this five-year period. (2) The number of opioid-related deaths in 2017 was the highest in the past 10 years. (2) Although Peel's opioid-related mortality rates continue to be below provincial rates (2,3), the increasing trend confirms the need for a region-wide opioid response.ⁱⁱⁱ

There are limited data on the prevalence of opioid misuse. However, some information is available about the student population in Peel. In 2015, 11 per cent of Peel students (grades 7-12) reported using opioid pain relief pills for non-medical purposes in the past year. (4) This is similar to the 10 per cent reported provincially. (4)

Efforts to prevent the onset of misuse are critical to a comprehensive opioid response. Under the Ontario Public Health Standards, public health units are required to develop and implement a program of public health interventions that addresses the risk and protective factors for substance use. (5) Understanding these determinants will help create a foundation for developing a comprehensive health promotion approach to prevent opioid misuse. It will also help guide ROP-PH's broader work in substance misuse prevention.

3 Literature Review Question

Is there a conceptual model or framework that describes factors influencing substance misuse?

ⁱⁱⁱ "Opioid response" refers to measures to address opioid-related harms and deaths.

4 Literature Search

In December 2017 and January 2018, CDIP conducted a search of peer-reviewed and grey literature. The peer-reviewed literature search included:

- EBM Reviews–Cochrane Database of Systematic Reviews
- Global Health
- Ovid Healthstar
- Ovid MEDLINE®
- Ovid MEDLINE® In-Process & Other Non-Indexed Citations
- PsycINFO
- SocINDEX
- Cumulative Index of Nursing and Allied Health Literature (CINAHL)

The grey-literature search was conducted using the following websites:

- Substance Abuse and Mental Health Services Administration (SAMHSA)
- National Institute on Drug Abuse (NIDA)
- Centre for Addiction and Mental Health (CAMH)
- Canadian Centre on Substance Use and Addiction (CCSUA)
- United Nations Office on Drugs and Crime (UNODC)
- Portico Network
- Canadian Institute for Substance Use Research (CISUR)
- Evidence Exchange Network for Mental Health and Addictions (EENet)
- Health Canada
- Public Health Agency of Canada (PHAC)

- Government of Canada
- Public Health Ontario (PHO)
- World Health Organization (WHO)
- Centers for Disease Control and Prevention (CDC)
- Google
- Turning Research Into Practice (TRIP) Medical Database

Four key informants were asked to recommend relevant resources. See Appendix B for the full search strategy.

5 Relevance Assessment

Documents were assessed for relevance based on the following criteria:

- Inclusion criteria: framework or conceptual model; describes factors influencing substance use, misuse, or abuse; English language; similar setting to Canada; published within the last five years^{iv}
- Exclusion criteria: duplicate or overlap; primarily focused on any one type of substance (except if it is focused on opioids); focused on a single risk or protective factor; focused on a narrow sub-population

At least two reviewers independently relevance screened the titles and abstracts of literature that were peer-reviewed or recommended by key informants. For the grey literature, one reviewer searched and screened the titles of search results to identify potential documents for primary relevance assessment. Two reviewers subsequently

^{iv} Documents were limited to the last five years to coincide with the time period in which the issue of opioid misuse gained widespread attention.

scanned through the initial pages of each grey-literature document for potential relevance.

At least two reviewers independently relevance screened the documents that were carried to full-text review. Discrepancies were resolved through discussion until consensus was reached or in consultation with a third reviewer.

The full project team further assessed frameworks or models within the relevant documents for inclusion based on comprehensiveness and utility.^v

6 Results of the Search

The literature search and key informants identified 735 results. After initial removal of duplicates, 664 documents were carried to primary relevance assessment. Thirty-seven documents were assessed in full text, of which 28 were excluded. The frameworks within the remaining nine documents were assessed for comprehensiveness and utility; six were excluded. Three documents were deemed relevant. From one of these three documents, a fourth relevant document was identified. This resulted in four included documents in total; all of which are grey literature. See Appendix C for literature search flow chart.

7 Critical Appraisal

No suitable tool exists to appraise the individual documents or the respective frameworks.

^v “Comprehensiveness” was defined as providing an appropriate level of detail for action. “Utility” was defined as being useful in helping identify the role of various stakeholders in prevention work.

Limitations of all four documents include:

- Not describing a systematic or transparent literature search;
- Not outlining specific methods for developing the frameworks;
- Not providing a detailed description of the risk or protective factors; and
- Not assessing the relationship between the risk and protective factors and substance misuse using criteria for causation, such as strength of association, consistency across studies, or whether the exposure preceded the outcome. (6)

8 Description of Included Documents

The four included documents are described in reverse chronological order below. See Appendix D for the data extraction tables.

U.S. Department of Health and Human Services, Office of the Surgeon General (2016): Facing addiction in America: The Surgeon General’s report on alcohol, drugs and health. (7)

This report is part of a series of publications by the U.S. Surgeon General to draw attention to important public health issues. The current edition reviews the evidence on substance use and health, and discusses approaches to addressing substance misuse and related consequences. Substance use is viewed on a continuum, ranging from positive physical, social, and mental health; substance misuse; to substance use disorder. Distinctions are made between the terms “substance use,” “substance misuse,” “substance misuse problems,” “substance use disorder,” and “substance

abuse.” The report focuses on substance use in the general population. It targets a broad range of stakeholders, including families, health care professionals and public policy makers.

The report outlines a framework of risk and protective factors that can be influenced through targeted and population-level interventions to address substance use in adolescents and young adults. Although the specific method for developing this framework is not stated, the reference citations provide some information on its evidence base. Information is referenced from 55 sources dated between 1982 and 2016. These sources vary in type (e.g. literature review, cross-sectional study) and focus (e.g. general substance use, alcohol). The authors also provide a general description of how they identified evidence to inform report findings. An electronic database search of research articles published in English was conducted, with priority given to systematic reviews and findings replicated by multiple controlled trials. Where this was not possible, the best available evidence was cited and labelled according to reporting conventions published by the CDC.

The framework organizes the determinants of substance use into socioecological levels to map the risk and protective factors at the individual/peer, family, school and community levels. Risk factors are defined as “factors that increase the likelihood of beginning substance use, of regular and harmful use, and of other behavioural health problems associated with use” (p. 3-4). Protective factors are “factors that directly decrease the likelihood of substance use and behavioural health problems, or reduce the impact of risk factors on behavioural health problems” (p. 3-4). The framework depicts whether or not each factor influences adolescents and/or young adults. A brief

definition of each specific factor is provided. The strengths of associations between each determinant and substance use are not described.

United Nations Office on Drugs and Crime (2015): World drug report 2015. (8)

Part of an annual series, this report provides an overview of, and outlines a collective response to, the production, trafficking, and use of illicit drugs on a global scale. It uses the terms “drug use” and “drug consumption”, which are viewed as neutral, to address the scientific and legal ambiguity in distinguishing between “drug use,” “drug misuse,” and “drug abuse.” These terms are not defined. Although the intended audience is not stated, the information pertains to the general population.

The report presents a framework to describe factors that increase vulnerability to drug use. The authors adapted the framework from a book on preventing mental, emotional and behavioral disorders in young people. Specific methods for identifying this source and adapting the framework are not described.

The framework organizes risk factors for drug use by socioecological groups that include individual, school/education and peers, family, media and community/society. Within the groups, factors are subdivided by developmental life stages, such as preconception, early childhood, adolescence, and young adulthood. Definitions of specific factors are not provided. The strengths of associations between each risk factor and drug use are not described.

New South Wales Ministry of Health (2014): Substance use and young people framework. (9)

The objective of this report is to provide clear principles and practical information on working with young people with substance use problems. The primary focus is on young people aged 14 to 18 years, although the authors state there is general relevance to younger and older populations. The target audience is practitioners in drug and alcohol, and health services that work with young people. Various terms are used to discuss the report's outcome of interest, including "substance use," "substance misuse" and "substance related problems." However, definitions of these terms are not provided.

The report presents a framework of risk and protective factors for substance use in young people. This framework was informed by a grey-literature report on the neuroscience of psychoactive substance use and a textbook on adolescent risk behaviours. Specific methods for identifying these sources and creating the framework are not described.

Risk and protective factors are organized into socioecological domains which include individual, family, friends, education/employment and community/environmental. Definitions of specific factors are not provided. The strengths of associations between each determinant and substance use are not described.

Crane, Buckley & Francis (2012): A framework for youth alcohol and other drug practice: youth alcohol and drug good practice guide. (10)

This document presents a guide for working with young people who are at risk of harm due to alcohol and other drug use. It pertains to young people in Queensland, Australia, and targets practitioners working with young people who have problematic alcohol and

other drug use. The guide focuses on “alcohol and other drug use”, and while this outcome is not defined, the authors provide criteria for problematic use.

This guide outlines risk and protective factors for problematic alcohol and other drug use among youth. The information was drawn from program guidelines that broadly target at-risk youth. It was further adapted using a grey-literature report on prevention approaches to crime, and a textbook on strengthening therapeutic practice frameworks in services for youth who use drugs. Specific methods for identifying these sources and creating the framework are not described.

Factors within the framework are organized into groups which include individual, family, peer, school, community and life events. These groups are further classified as either social-, environmental- or individual-type factors. From the report, risk factors are defined as those that increase vulnerability to problematic alcohol and other drug use, while protective factors protect or contribute to resilience. Definitions of specific factors are not provided. The strengths of associations between each determinant and substance misuse are not described.

9 Synthesis of Findings

All four documents focus on the broader issue of substance misuse and describe the determinants of substance misuse within a subsection of the report. Four frameworks list the risk factors for substance misuse (7-10); three list the protective factors. (7,9,10) Three frameworks focus on risk and protective factors for youth and/or adolescents (7,9,10), while one does not specify a population. (8)

- **Substance misuse refers to the use of any substance in a way that can cause harm to the user or to those around them.** (7) For certain substances or individuals, any use could be considered misuse, as in the case of underage drinking or injection drug use. (7) Only one document provided a definition of substance misuse.
- **Substance misuse is not due to any single cause.** The emergence, continuation or severity of substance misuse is driven by a complex interaction of risk and protective factors. (7-10) These factors exist at the individual level, as well as the social levels surrounding it. (7-10) Many of the determinants for substance misuse are shared with other problematic behaviours. (7-9) For example, the risk and protective factors influencing substance use are also associated with other problems, such as violence and school dropout. (7-9)
- **The Conceptual Framework of the Determinants of Substance Misuse organizes risk and protective factors at the individual, family, community, and societal levels.** The factors from the four included documents were synthesized to create a Conceptual Framework of the Determinants of Substance Misuse (the “Conceptual Framework”) (See Figure 1). The body of evidence describes a greater number of risk factors than protective factors. The relationships between these factors and substance misuse may not be causal. The factors in the Conceptual Framework are not weighted because the evidence does not describe the magnitude of the effect of each factor. The Conceptual Framework is summarized below:

- **At the individual level, a person's development, experiences, and health can influence substance misuse.**

Risk and protective: Social or emotional intelligence (7,10), degree of risk taking (8-10), sense of self (7,9,10) and life events (9,10) impact the likelihood of substance misuse. Sense of self can include both low self-esteem (10) or self-efficacy. (7,9,10) Life events can be positive (9) or negative; the latter of which can include death and loss, severe trauma, or homelessness. (10)

Risk: Mental health problems (8-10), genetic predisposition (7-9), poor health or development (8,10), favourable attitude towards drugs (7,8,10), problem behaviour or temperament (7,8,10), and early substance use (7,8) increase the likelihood for substance misuse. Poor health or development includes prenatal alcohol exposure (8), and poor physical, mental, and sexual health. (10) Examples of problem behaviour or temperament include antisocial behavior (8,10), rebelliousness (7,8) and poor impulse control. (8,10)

Protective: Being resilient (7,9,10), and having a pro-social attitude (10) and healthy lifestyle (9,10) are protective against substance misuse.

- **At the family level, relationships can influence substance misuse.**

Risk and protective: Parenting style or practices (7,8,10), as well as relationships or attachment (7-10) serve as both risk and protective factors for substance misuse. Examples of parenting style or practices

include low parental involvement (8) as well as recognition for positive behaviour. (7) Examples of relationships or attachment include low parental warmth (8,10), as well as nurturing, supportive attachments to family and extended kinship networks. (7,9,10)

Risk: Additional risk factors include family conflict or abuse (7-10), negative role modelling (7,8,10), and social deprivation. (9) Negative role modelling can include parental modelling of drug use (8,10) or parental attitudes that are favourable towards drugs. (7,8)

- **At the community level, the school, workplace, and neighbourhood environments, and peoples' interactions within these, can influence substance misuse.**

Risk and protective: Social integration, social influence, academic commitment or performance (7-10), and access to supports (10) can increase or decrease the likelihood of substance misuse. Social integration can include interpersonal alienation (8) or participation in community activities, such as sport and recreation. (10) Social influence largely relates to peer groups and can include peer substance use (7,8) or healthy beliefs and standards for behavior. (7)

Risk: Additional risk factors at the community level include a lack of sense of community (7), high substance availability (7-9), work stressors (9) and bullying. (8,10) As part of a lack of sense of community, low

neighbourhood attachment and community disorganization can increase the likelihood of substance misuse. (7)

Protective: High levels of social capital (7,9) (i.e. the value of a person's social network) (11) can help protect against substance misuse.

- **At the societal level, culture, policy, and socioeconomic factors can influence substance misuse.**

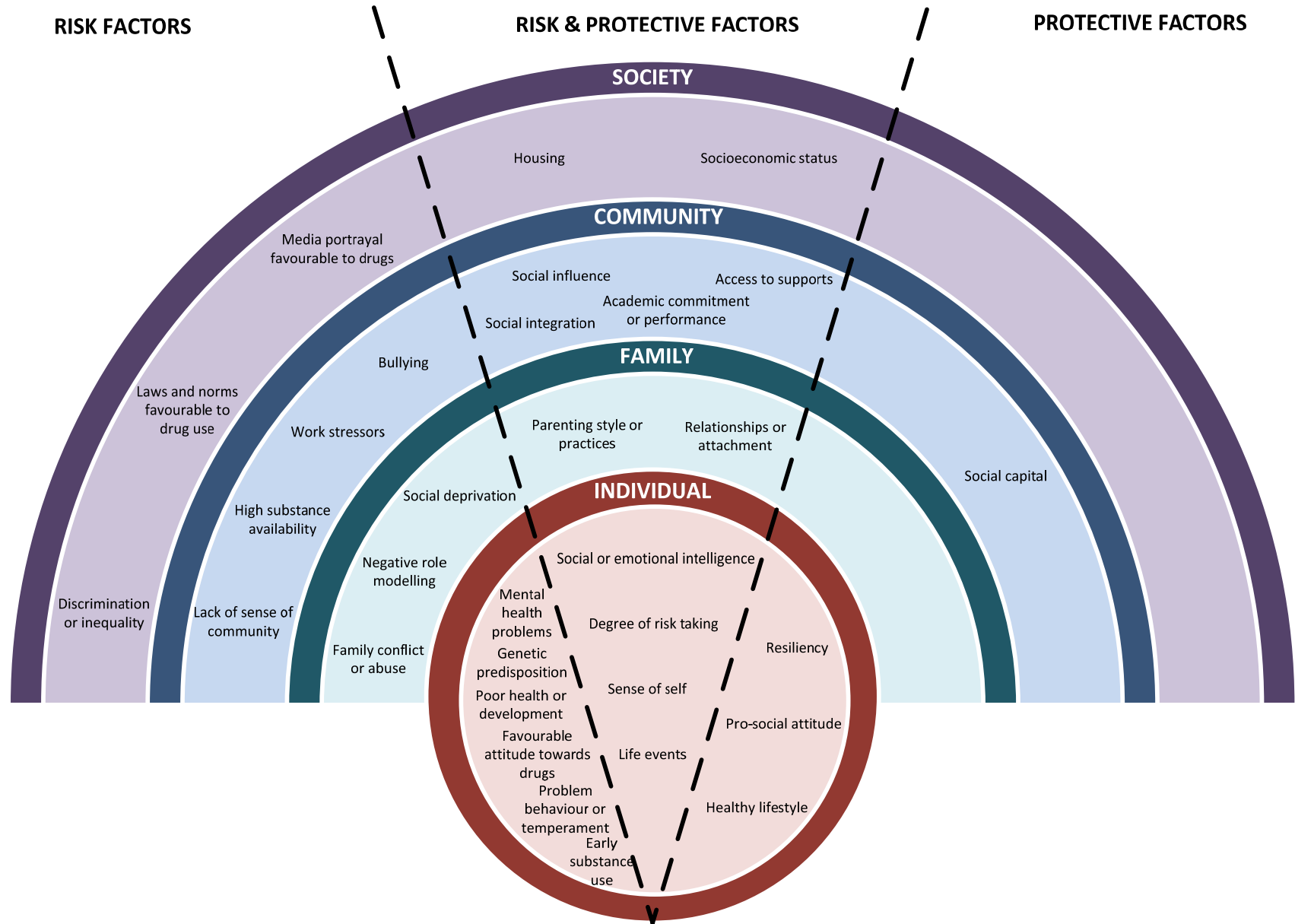
Risk and protective: Substance misuse can be influenced by factors related to housing (10) and socioeconomic status. (7-10)

Risk: Additional risk factors at the societal level include discrimination or inequality (9,10), laws and norms favourable to drug use (7-9), and media portrayal that is favourable to drugs. (7,8)

- **The influence of risk and protective factors varies.** Variation occurs over the life course (7,9) and can be related to changes to an individual's physiology (7) or environmental context. (7,9) Adolescence is a particularly at-risk period for the development of substance misuse problems. (7,8) During this period, there is a greater tendency towards risk taking and experimenting, and there are changes in the brain that can make it more vulnerable to substance use. (7) The risk factors for different stages and severity of use (i.e. initiation of use, continued use, abuse/dependence) also vary. (9)
- **Population subgroups experience different levels of exposure to risk and protective factors.** Some risk and protective factors appear to have a similar

effect across gender, race and ethnicity. However, vulnerable populations are generally exposed to more risk factors and fewer protective factors compared to the rest of the population. (7) Furthermore, the differences in drug use by gender are primarily due to differences in how men and women are influenced by the social or cultural environment, as opposed to inherent gender vulnerability. (8)

Figure 1: Conceptual Framework of the Determinants of Substance Misuse



Note: A new version of the Conceptual Framework was created upon completion of 20 this Rapid Review. Figure 1 is replaced by the new version in Appendix E.

10 Applicability and Transferability

A facilitated discussion with different levels of ROP-PH staff was held to discuss the rapid review findings, with a focus on the Conceptual Framework. A tool for assessing applicability and transferability was adapted for the discussion (See Appendix F).

Political and Social Acceptability

Participants saw the framework as politically and socially acceptable. It captures the complex underpinnings of substance misuse. It underscores the need for joint action to address this issue.

To increase acceptability, there may be a need to clarify the varied ways in which Public Health addresses some of the risk and protective factors for substance misuse. For example, the framework lists “laws and norms favourable to drug use” as a risk factor for substance misuse. Stakeholders may perceive a conflict between this prevention-focused message and ROP-PH’s harm reduction programming (e.g., needle exchange programs). ROP-PH needs to be clear on how public health prevention and harm reduction interventions can both influence some of the risk and protective factors identified in the framework.

When presenting the framework to stakeholders, information on the rigor of the research review process used to develop the framework would assist with acceptability. Actionable next steps and context on how this work fits with broader opioid response efforts and other substance-related work should be provided. Explanations of the

framework should include the need to view and address substance misuse from a life course approach.

While acknowledging the lack of standardized terminology in the literature, several participants expressed concerns with using the term “substance misuse”. Using non-stigmatizing language, such as “substance use”, in knowledge translation activities would build acceptance.

Organizational Expertise and Capacity

The Conceptual Framework is relevant to various priority issues and work in public health. For example, there are similarities between the determinants of substance misuse and that of other outcomes, such as homelessness and poverty. The framework has connections with departmental work, including: *Nurturing the Next Generation*, school mental health, health equity, and community safety and well-being. These connections present an opportunity to strategically plan and address the risk and protective factors of shared interest.

The Conceptual Framework has many potential applications. Internally, the framework sets a foundation for the Opioid Strategy’s prevention pillar as well as other substance-related work. It lends itself to cross-divisional discussions on shared roles in prevention. The framework could help identify areas of intervention by considering the determinants that fall within ROP-PH’s mandate. It could guide a current state assessment and gap analysis on efforts to prevent substance use across the department. Externally, the framework could be used as a discussion tool with stakeholders to identify areas of priority, alignment in work and potential collaborations.

Participants noted several barriers to using the conceptual framework. The lack of weighting for each factor presents a challenge when prioritizing areas of action for greatest impact. Staff interpretations of each factor may vary since there are no definitions. Given that ROP-PH has developed or adapted many other frameworks, it may be difficult to select the most appropriate one to use.

Actions Needed to Apply Framework

Participants echoed the report's recommendation on identifying the factors that are modifiable at a population-level. This will help determine areas of potential intervention.

A glossary of terms should accompany the Conceptual Framework. This will help staff understand the definition and scope of each determinant.

Once risk and protective factors are prioritized for public health intervention, discussions on how to share work with internal and external stakeholders will be important.

Health equity is a priority for public health. Discussions are needed on how the framework relates to vulnerable populations in order to support a comprehensive approach to substance misuse prevention.

Transferability

As the framework draws on literature focusing mostly on youth and adolescents, additional considerations on the risk and protective factors for adults may be needed.

Peel region has a diverse population. Differences in the influence of, and exposure to, risk and protective factors should be acknowledged.

11 Recommendations

1. Solicit feedback on the Conceptual Framework from internal (ROP-PH) and external stakeholders, and revise as appropriate.
2. Use the term “substance use” when referring to the Conceptual Framework in knowledge translation materials and activities related to this research review.
3. Use the Conceptual Framework to help develop the prevention pillar of the Opioid Strategy. This should involve working with stakeholders to:
 - a. Identify the determinants of substance misuse that are modifiable.
 - b. Examine available data to help identify risk and protective factors of local importance.
 - c. Prioritize the modifiable factors for intervention.
4. Use the Conceptual Framework to help develop broader ROP-PH programming for preventing substance misuse. This should involve:
 - a. Identifying the determinants of substance misuse that are modifiable and within public health’s mandate.
 - b. Examining available data to help identify risk and protective factors of local importance.
 - c. Prioritizing the modifiable factors for intervention.

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Appendices

Appendix A: Opioid Strategy for Peel

Appendix B: Search Strategy

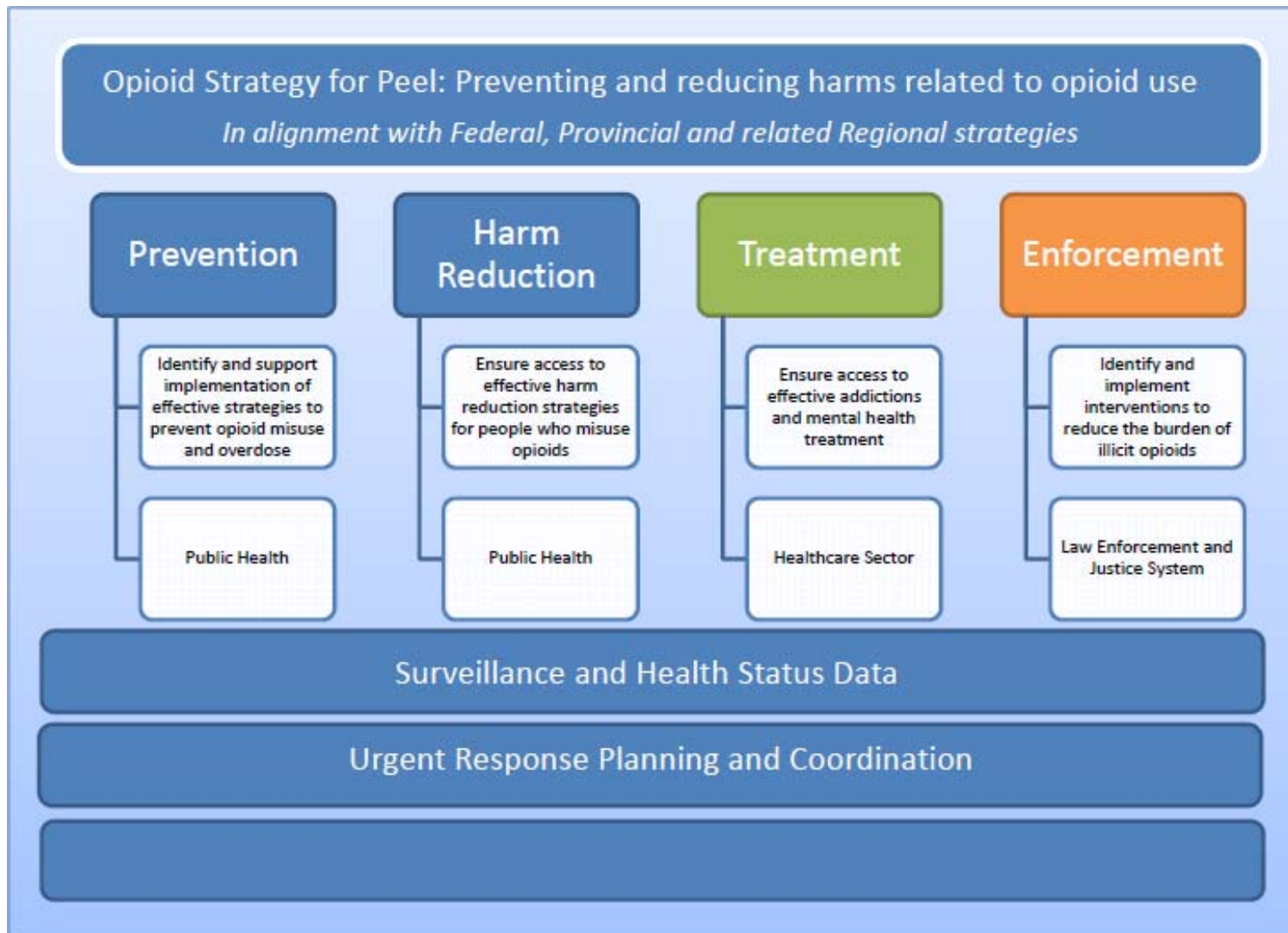
Appendix C: Literature Search Flowchart

Appendix D: Data Extraction Tables

Appendix E: Revised Conceptual Framework of the Determinants of Substance Use

Appendix F: Adapted Applicability and Transferability Worksheet

Appendix A: Opioid Strategy for Peel



Appendix B: Search Strategy






























OVID MEDLINE Suite

Database: EBM Reviews - Cochrane Database of Systematic Reviews <2005 to December 13, 2017>, Global Health <1973 to 2017 Week 48>, Ovid Healthstar <1966 to November 2017>, Ovid MEDLINE(R) <1946 to December Week 1 2017>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <December 13, 2017>, PsycINFO <2002 to November Week 2 2017>










































Search Strategy:

-
- 1 "concept* model*".ti,ab. (18933)
 - 2 "framework*".ti,ab. (432976)
 - 3 "theor*".ti,ab. (1078314)
 - 4 1 or 2 or 3 (1417261)
 - 5 Prescription Drugs/ (10203)
 - 6 "prescription*".ti,ab. (147294)
 - 7 "illicit*".ti,ab. (30598)
 - 8 exp Street Drugs/ (17176)
 - 9 5 or 6 or 7 or 8 (191719)
 - 10 "misuse*".ti,ab. (34643)
 - 11 "abuse*".ti,ab. (267392)
 - 12 "addiction*".ti,ab. (84715)
 - 13 exp Substance-Related Disorders/ (325446)
 - 14 exp Behavior, Addictive/ (11901)
 - 15 exp Prescription Drug Misuse/ (16243)
 - 16 10 or 11 or 12 or 13 or 14 or 15 (603706)
 - 17 4 and 9 and 16 (1440)
 - 18 ("rat" or "rats" or "animal*" or "mice*" or "sheep*" or "mouse").ti. (1819359)
 - 19 17 not 18 (1436)
 - 20 remove duplicates from 19 (913)
 - 21 limit 20 to english language [Limit not valid in CDSR; records were retained] (865)
 - 22 limit 21 to yr="2012 -Current" (361)

SocINDEX

S13	 S11 NOT S10	Limiters - Date of Publication: 20120101-20171231; Language: English Search modes - Boolean/Phrase	 View Results (224) 
S12	 S11 NOT S10	Search modes - Boolean/Phrase	 View Results (777) 
S11	 S4 AND S8 AND S9	Search modes - Boolean/Phrase	 View Results (783) 
S10	 "rat" OR "rats" OR "animal*" OR "mice*" OR "sheep" OR "mouse"	Search modes - Boolean/Phrase	 View Results (14,885)
S9	 (((DE "SUBSTANCE abuse") OR (DE "DRUG addiction")) OR (DE "ADDICTIONS")) OR (DE "MEDICATION abuse") OR "abuse*" OR "misuse**"	Search modes - Boolean/Phrase	 View Results (153,152)
S8	 S5 OR S6 OR S7	Search modes - Boolean/Phrase	 View Results (15,618)
S7	 DE "DRUGS of abuse" OR DE "CLUB drugs" OR DE "DESIGNER drugs" OR DE "SEDATIVE abuse"	Search modes - Boolean/Phrase	 View Results (2,196)
S6	 illicit*	Search modes - Boolean/Phrase	 View Results (8,087)
S5	 prescription*	Search modes - Boolean/Phrase	 View Results (7,404)
S4	 S1 OR S2 OR S3	Search modes - Boolean/Phrase	 View Results (355,101)
S3	 theor*	Search modes - Boolean/Phrase	 View Results (316,363)
S2	 framework*	Search modes - Boolean/Phrase	 View Results (62,290)
S1	 "concept* model**"	Search modes - Boolean/Phrase	 View Results (2,262)

CINAHL

S19	 S16 NOT S17	Limiters - Published Date: 20120101-20171231; English Language; Exclude MEDLINE records Search modes - Boolean/Phrase	 View Results (85) 
S18	 S16 NOT S17	Search modes - Boolean/Phrase	 View Results (495) 
S17	 "rat" OR "rats" OR "animal*" OR "mice*" OR "sheep" OR "mouse**"	Search modes - Boolean/Phrase	 View Results (186,899)
S16	 S4 AND S9 AND S15	Search modes - Boolean/Phrase	 View Results (499) 
S15	 S10 OR S11 OR S12 OR S13 OR S14	Search modes - Boolean/Phrase	 View Results (180,527)
S14	 addiction*	Search modes - Boolean/Phrase	 View Results (13,745)
S13	 abuse*	Search modes - Boolean/Phrase	 View Results (90,969)
S12	 misuse*	Search modes - Boolean/Phrase	 View Results (7,769)
S11	 (MH "Behavior, Addictive+")	Search modes - Boolean/Phrase	 View Results (76,046)
S10	 (MH "Substance Use Disorders+")	Search modes - Boolean/Phrase	 View Results (123,566)
S9	 S5 OR S6 OR S7 OR S8	Search modes - Boolean/Phrase	 View Results (55,479)
S8	 (MH "Street Drugs+")	Search modes - Boolean/Phrase	 View Results (4,187)
S7	 illicit*	Search modes - Boolean/Phrase	 View Results (4,907)
S6	 prescription*	Search modes - Boolean/Phrase	 View Results (48,084)
S5	 (MH "Drugs, Prescription")	Search modes - Boolean/Phrase	 View Results (15,586)
S4	 S1 OR S2 OR S3	Search modes - Boolean/Phrase	 View Results (209,346)
S3	 theor*	Search modes - Boolean/Phrase	 View Results (154,988)
S2	 framework*	Search modes - Boolean/Phrase	 View Results (80,749)
S1	 "concept* model**"	Search modes - Boolean/Phrase	 View Results (3,624)

Grey Literature

Note: Generally, each search involved reviewing only the first 50 hits. For searches where the number of hits per page could not be easily determined, a number close to 50 was reviewed.

Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
Targeted Websites							
SAMHSA	prescription AND (model OR framework OR theory)	1140	50	2	1	2	1
	illicit AND (model OR framework OR theory)	~4200	50	0	0		
	(Click search) SAMSHA Website > Programs & Campaigns > CAPT > Grantee Stories, Tools & Resources > Clicked all resource types (grantee stories, online courses, T/TA Tools, archived webinars, videos)	N/A	N/A	7	1		
	(Click search) Topics > Prevention of Substance Abuse and Mental Illness	N/A	N/A	1	0		
	(Click search) Topics > Alcohol, Tobacco, and Other Drugs	N/A	N/A	0	0		
	(Click search) Topics > Prescription Drug Misuse and Abuse	N/A	N/A	0	0		
NIDA	prescription AND (model OR framework OR theory)	~162,000	60	8	1	1	0
	illicit AND (model OR framework OR theory)	~115,000	60	4	0		
	substance AND (model OR framework OR theory)	~175,000	60	0	0		
	drug use AND (model OR framework	~173,000	60	1	0		

Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
	OR theory)						
	(Click search) Publications	N/A	N/A	1	0		
	(Click search) Related Topics > Prevention	N/A	N/A	0	0		
CAMH	prescription AND (model OR framework OR theory)	~272	50	0	0	0	0
	illicit AND (model OR framework OR theory)	~183	50	0	0		
	substance AND (model OR framework OR theory)	~1120	50	0	0		
	“risk factor” AND (model OR framework OR theory)	~134	50	0	0		
CCSUA	prescription AND (model OR framework OR theory)	106	50	1	0	0	0
	illicit AND (model OR framework OR theory)	111	50	0	0		
	substance AND (model OR framework OR theory)	258	50	0	0		
	(Publications search) model OR framework OR theory	201	50	0	0		
	(Click Search) Topics > Mental Health and Problematic Substance Use > Substance Use and Suicide among Youth: Prevention and Intervention Strategies (Topic Summary)	N/A	N/A	1	0		
	(Click Search) Topics > Prescription Drugs and Opioids	N/A	N/A	0	0		
	(Click Search) Topics > Substance Use Affecting the Workplace	N/A	N/A	1	0		
	(Click Search) Topics > Substance	N/A	N/A	1	0		

Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
	Use in Canada						
	(Click Search) Publications > (checked off the following subjects): Youth, Prevention, Prescription drugs	91	91	0	0		
UNODC	(Click Search) "Topics" sidebar > Drug prevention, treatment and care > Publications	N/A	N/A	3	1	1	1
	(Click Search) "Resources" sidebar > Research > Drug Use	N/A	N/A	0	0		
	prescription AND (model OR framework OR theory)	~1480	50	5	0		
	substance AND (model OR framework OR theory)	3330	50	0	0		
	substance AND (model OR framework OR theory)	~1610	50	1	0	0	0
Portico Network	illicit AND (model OR framework OR theory)	~244	50	0	0		
	prescription AND (model OR framework OR theory)	~334	50	0	0		
	"risk factor" OR "protective factor"	~274	50	0	0		
	model OR framework OR theory	Not stated	First 5 pages	0	0	0	0
CISUR	(Click search) Navigation > Publications & resources	N/A	Publications dating back to 2012	1	0		
	(Click search) Facts & Stats > Substance use in the general population	N/A	N/A	0	0		
	(Click search) Our Work, Get Help Now!	N/A	N/A	0	0		
EENet	substance AND (model OR	80	80	0	0	0	0

Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
	framework OR theory)						
	"risk factor" OR "protective factor"	2	2	0	0		
	(Click Search) View by Category > Resources	N/A	Resources dating back to 2012	0	0		
General Websites							
Health Canada	(Click search) Health > Healthy Living > Problematic substance use (substance abuse)	N/A	N/A	0	0	0	0
	(Click search) Health concerns > Drug Prevention and Treatment	N/A	N/A	0	0		
PHAC	(Click search) Chronic Diseases	N/A	N/A	0	0	0	0
	(Click search) Injury Prevention	N/A	N/A	0	0		
	(Click search) Health Promotion	N/A	N/A	0	0		
Govt. of Canada	prescription AND (model OR framework OR theory)	~14,700	50	1	0	0	
	"illicit drug" AND (model OR framework OR theory)	685	40	0	0		
	"substance misuse" AND (model OR framework OR theory)	~125	27	0	0		
PHO	model* OR framework* OR theor*	672	50	0	0	0	0
	prescription* AND (model* OR framework* OR theor*)	39	39	0	0		
	illicit AND (model* OR framework* OR theor*)	11	11	0	0		
	"substance misuse" AND ("risk factor" OR "protective factor")	65	34	0	0		
	(Click search) Browse by topic > Chronic Diseases and Injuries > Opioid-Related Harms, Evidence	N/A	N/A	0	0		

Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
	Briefs						
WHO	(Click search) Health topics > Substance abuse	N/A	N/A	0	0	0	0
	Prescription AND (model OR framework OR theory)	2060	50	0	0		
	"illicit drug" AND (model OR framework OR theory)	315	50	0	0		
	"substance misuse" AND (model OR framework OR theory)	76	26	0	0		
CDC	(Click Search) Healthy Living > (Specific Populations) Persons who use drugs	N/A	N/A	0	0	0	0
	(Click Search) More CDC Topics > Injury, Violence & Safety > Opioid Overdose	N/A	N/A	0	0		
	(Click Search) CDC Index A to Z > S > Substance Abuse	N/A	N/A	2	0		
	Prescription AND (model OR framework OR theory)	470	50	0	0		
	"illicit drug" AND (model OR framework OR theory)	125	50	0	0		
	"substance misuse" AND (model OR framework OR theory)	5	5	0	0		
Google	"prescription drug*" AND (model OR framework OR theory)	~21,300,000	50	0	0	2	1
	"illicit drug*" AND (model OR framework OR theory)	~658,000	50	0	0		
	"substance*" AND ("risk factor" OR "protective factor") AND (model OR framework OR theory)	~20,000,000	100	11	2		
TRIP	"substance*" AND ("risk factor" OR "protective factor") AND (model OR framework OR theory)	1,949	100	2	0	0	0

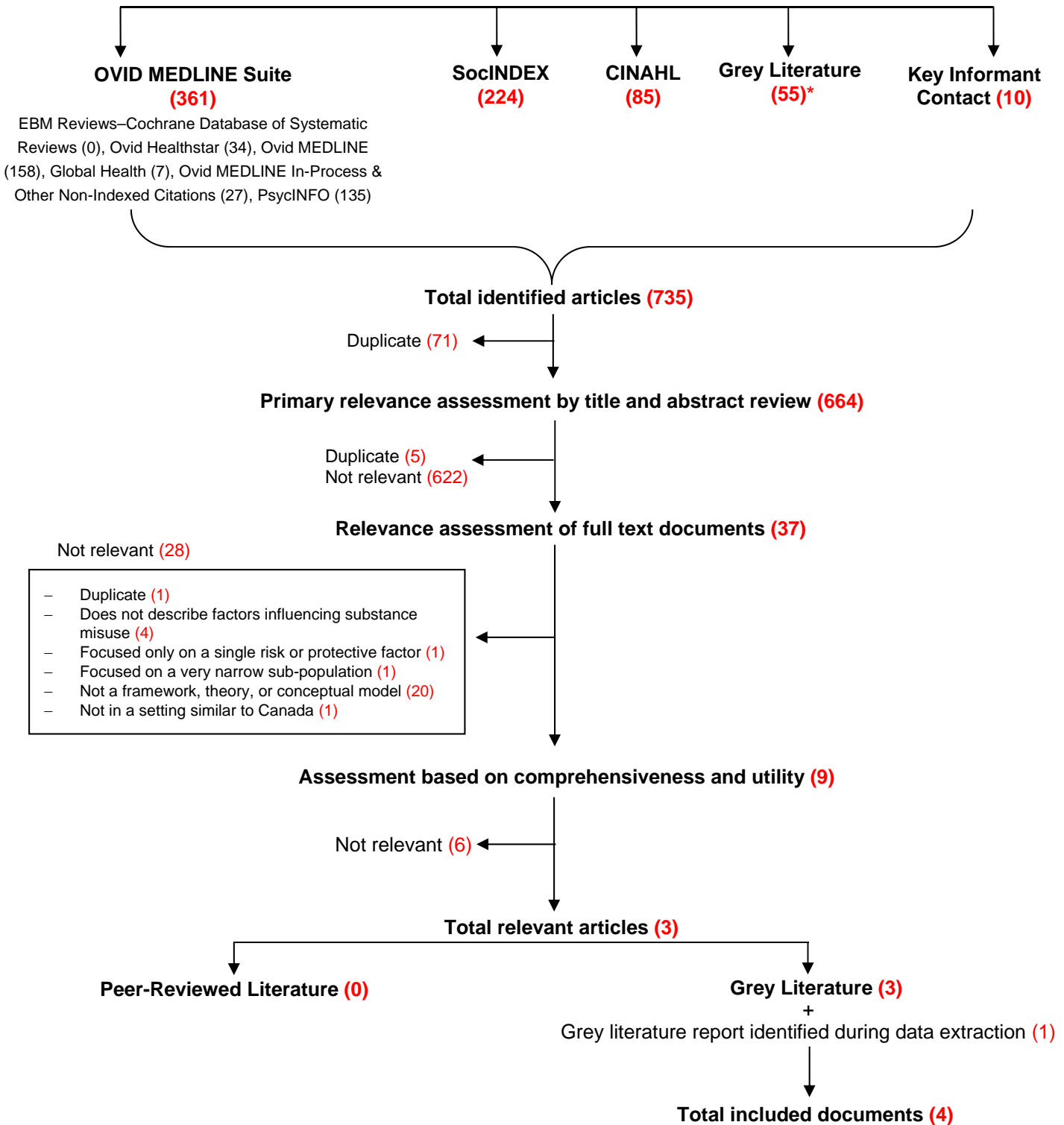
Website	Search Terms	# of Hits	Titles Screened	Primary Relevance Assessment	Full-Text Review	Comprehensiveness & Utility Assessment	Relevant
	framework OR theory) (Note: "Since 2012" option)						
	"prescription drug" AND (model OR framework OR theory) (Note: "Since 2012" option)	1,117	100	0	0		
	"illicit drug" AND (model OR framework OR theory) (Note: "Since 2012" option)	1,391	100	1	0		
	"prescription drug" AND ("risk factor" OR "protective factor") AND (model OR framework OR theory) (Note: "Since 2012" option)	223	100	0	0		
	"illicit drug" AND ("risk factor" OR "protective factor") AND (model OR framework OR theory) (Note: "Since 2012" option)	235	100	0	0		
Total			~2,395	55	6	6	3

Key Informants

Key Informant Organization	Date Contacted	Document Type	Number of Documents	Full-Text Review	Tertiary Relevance Assessment	Relevant
Public Health Ontario	January 2018	Mix of grey and peer-reviewed	7	2	2	0
NICE	January 2018	N/A	0			
CAMH	January 2018	N/A	0			
University of Miami*	January 2018	Peer-reviewed	3	0	0	0

*During relevance assessment, a researcher was contacted for a copy of their thesis and provided additional resources.

Appendix C: Literature Search Flowchart



*This is the number of grey literature search results that moved forward to primary relevance assessment. Detailed grey literature search results are provided in Appendix B.

Appendix D: Data Extraction Tables

Opioid Conceptual Framework Rapid Review Data Extraction Tables

Report #1: Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health	
Author, Date, Country	<ul style="list-style-type: none"> Office of the Surgeon General, U.S. Department of Health and Human Services; November 2016; United States
Report Purpose	<ul style="list-style-type: none"> To review the evidence on substance use and health, and how the evidence can be used to address substance misuse and related health consequences (ES-4)
Target Audience	<ul style="list-style-type: none"> “Individuals, families, community members, educators, health care professionals, public health practitioners, advocates, public policy makers, and researchers who are looking for effective, sustainable solutions to the problems created by alcohol and other substances” (pg 1-22)
Target Population	<ul style="list-style-type: none"> General population
Outcomes	<ul style="list-style-type: none"> Substance use (pg 1-6): <ul style="list-style-type: none"> The use of any substance, even if it is one time Substance misuse (pg 1-6): <ul style="list-style-type: none"> “The use of any substance in a manner, situation, amount, or frequency that can cause harm to users or to those around them” “For some substances or individuals, any use would constitute misuse (e.g. underage drinking, injection drug use)” Substance misuse problems (pg 1-6): <ul style="list-style-type: none"> Any health or social problem resulting from substance misuse These problems may affect the user or those around them, and may be acute or chronic “These problems may occur at any age and are more likely to occur with greater frequency of substance misuse.” Substance use disorder: <ul style="list-style-type: none"> A medical illness diagnosed through assessing cognitive, behavioral, and psychological symptoms according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Ed. (DSM-5) Caused by repeated substance misuse and “characterized by clinically significant impairments in health, social function, and impaired control over substance use” (pg 1-6) This disorder integrates two disorders in the former DSM-IV, substance abuse and substance

	<p>dependence (pg 1-17)</p> <ul style="list-style-type: none"> ○ Substance use disorders can range from mild to severe; temporary to chronic. The most severe form according to the report is addiction, which is “associated with compulsive or uncontrolled use of one or more substances”. “Addiction is not listed as a formal diagnosis in the DSM” (pg 1-6, 1-17) ● Substance Use Status and Care Continuum (pg 4-4): <ul style="list-style-type: none"> ○ Figure 4.1 illustrates a spectrum of substance use (positive physical/social/mental health, substance misuse, substance use disorder), which is aligned with a continuum of substance use care ● Misuse vs. abuse: <ul style="list-style-type: none"> ○ “This report uses the term substance misuse, a term that is roughly equivalent to substance abuse” (pg 1-16) ○ “Substance abuse is increasingly avoided by professionals because it can be shaming. Instead, substance misuse is now the preferred term. Although misuse is not a diagnostic term, it generally suggests use in a manner that could cause harm to the user or those around them.” (pg 1-16)
<p>Framework Purpose</p>	<ul style="list-style-type: none"> ● To outline risk and protective factors that can be reduced and promoted, respectively, through targeted programs and population-level interventions to influence substance use (pg 3-4)
<p>Framework Development</p> <ul style="list-style-type: none"> ● Databases searched ● Search terms ● Search period ● Date of search ● Inclusion/exclusion criteria ● Description of references used 	<ul style="list-style-type: none"> ● Findings in report are informed by electronic database searches of research articles published in English. Priority was given to systematic literature reviews and to findings that were replicated by multiple controlled trials. Where this was not possible, the best available evidence was cited and labeled according to the reporting conventions published by the Centers for Disease Control and Prevention (CDC): <ul style="list-style-type: none"> ○ Well-supported: Evidence derived from multiple controlled trials or large-scale population studies. ○ Supported: Evidence derived from rigorous but fewer or smaller trials or restricted samples. ○ Promising: Findings that do not derive from rigorously controlled studies but that nonetheless make practical or clinical sense and are widely practiced” (pg 1-23) ● “In cases in which evidence was based on findings of neurobiological research, the CDC standards were adapted” (pg 1-23) ● Databases searched, search terms, search period, date of search, and inclusion/exclusion criteria not stated ● 55 references cited for tables of risk and protective factors (references #30, 46-99 within Chapter 3) <ul style="list-style-type: none"> ○ Article types: <ul style="list-style-type: none"> ▪ Literature review: 12 ▪ Non-review (e.g. cross-sectional study): 42

	<ul style="list-style-type: none"> ▪ Textbook: 1 ○ Substance focus in articles: <ul style="list-style-type: none"> ▪ General substance use/combination of two or more substances: 26 ▪ Alcohol: 18 ▪ Cannabis: 2 ▪ Tobacco: 1 ▪ Can't tell: 8 ○ Article dates (references range from 1982 and 2016) <ul style="list-style-type: none"> ▪ 2008-2018: 14 ▪ 1998-2007: 22 ▪ 1997 and older: 19
Framework Organization	<ul style="list-style-type: none"> • The framework: <ul style="list-style-type: none"> ○ Organizes risk and protective factors that influence youth/adolescent substance use by socio-ecological groups (individual/peer, family, school, community) (pg 3-4) ○ Depicts whether each factor influences substance use in adolescents, young adults, or both (definitions of “adolescent” and “young adult” are not provided for the framework) (pg 3-4) ○ Uses the term “substance use” and draws on the report’s definition of risk and protective factors: <ul style="list-style-type: none"> ▪ Risk factors: “Factors that increase the likelihood of beginning substance use, of regular and harmful use, and of other behavioural health problems associated with use” (pg 3-4) ▪ Protective factors: “Factors that directly decrease the likelihood of substance use and behavioral health problems or reduce the impact of risk factors on behavioral health problems” (pg 3-4)
Risk and Protective Factors for Substance Misuse	<ul style="list-style-type: none"> • The authors note that “although substance misuse problems and disorders may occur at any age, adolescence and young adulthood are particularly critical at-risk periods” (pg 1-15). A key aspect of the adolescent developmental period is risk taking and experimentation (pg 2-21). The brain also undergoes significant changes during this period that make it vulnerable to substance exposure (pg 2-21). • The association between each factors and adolescent or young adult substance use is denoted below by (A) and (YA), respectively (Note: the list of factors within the report is not exhaustive). <p><u>Risk factors (pg 3-5):</u></p> <ul style="list-style-type: none"> ○ Individual/Peer <ul style="list-style-type: none"> ▪ Early initiation of substance use: engaging in alcohol or drug use at a young age (A, YA) <ul style="list-style-type: none"> • “Not all adolescents who experiment with alcohol, cigarettes, or other substances go on to develop a substance use disorder, but research suggests that those who do progress to more harmful use may have pre-existing differences in their

brains.” (pg 2-22)

- **Early and persistent problem behavior:** emotional distress, aggressiveness, and “difficult” temperaments in adolescents (A)
 - **Rebelliousness:** high tolerance for deviance and rebellious activities (A, YA)
 - **Favourable attitudes toward substance use:** positive feelings toward alcohol or drug use, low perception of risk (A, YA)
 - **Peer substance use:** Friends and peers who engage in alcohol or drug use (A, YA)
 - **Genetic predictors:** Genetic susceptibility to alcohol or drug use (A, YA)
 - “Genetic factors are thought to account for 40-70% of individual differences in risk for addiction” (pg 2-22)
- Family
 - **Family management problems (monitoring, rewards, etc.):** Poor management practices, including parents’ failure to set clear expectations for children’s behavior, failure to supervise and monitor children, and excessively severe, harsh, or inconsistent punishment (A, YA)
 - **Family conflict:** Conflict between parents or between parents and children, including abuse or neglect (A, YA)
 - **Favourable parental attitudes:** Parental attitudes that are favourable to drug use and parental approval of drinking and drug use (A, YA)
 - **Family history of substance misuse:** Persistent, progressive, and generalized substance use, misuse, and use disorders by family members. (A, YA)
 - School
 - **Academic failure beginning in late elementary school:** Poor grades in school (A, YA)
 - **Lack of commitment to school:** When a young person no longer considers the role of the student as meaningful and rewarding, or lacks investment or commitment to school (A, YA)
 - Community
 - **Low cost of alcohol:** Low alcohol sales tax, happy hour specials, and other price discounting (A, YA)
 - **High availability of substances:** High number of alcohol outlets in a defined geographical area or per a sector of the population (A, YA)
 - **Community laws and norms favourable to substance use:** Community reinforcement of norms suggesting alcohol and drug use is acceptable for youth, including low tax rates on alcohol or tobacco or community beer tasting events (A, YA)
 - **Media portrayal of alcohol use:** Exposure to actors using alcohol in movies or television (A)

- **Low neighborhood attachment:** Low level of bonding to the neighborhood (A)
- **Community disorganization:** Living in neighborhoods with high population density, lack of natural surveillance of public places, physical deterioration, and high rates of adult crime (A)
- **Low socioeconomic status:** A parent's low socioeconomic status, as measured through a combination of education, income, and occupation (A)
- **Transitions and mobility:** Communities with high rates of mobility within or between communities (A)

Protective factors (pg 3-6):

○ Individual

- **Social, emotional, behavioural, cognitive, and moral competence:** Interpersonal skills that help youth integrate feelings, thinking, and actions to achieve specific social and interpersonal goals (A, YA)
- **Self-efficacy:** An individual's belief that they can modify, control, or abstain from substance use (A, YA)
- **Spirituality:** Belief in a higher being, or involvement in spiritual practices or religious activities (A, YA)
- **Resiliency:** An individual's capacity for adapting to change and stressful events in healthy and flexible ways (A, YA)

○ Family, School, and Community

- **Opportunities for positive social involvement:** Developmentally appropriate opportunities to be meaningfully involved with the family, school, or community (A, YA)
- **Recognition for positive behavior:** Parents, teachers, peers and community members providing recognition for effort and accomplishments to motivate individuals to engage in positive behaviors in the future (A, YA)
- **Bonding:** Attachment and commitment to, and positive communication with, family, schools, and communities (A, YA)
- **Marriage or committed relationship:** Married or living with a partner in a committed relationship who does not misuse alcohol or drugs (YA)
- **Healthy beliefs and standards for behavior:** Family, school, and community norms that communicate clear and consistent expectations about not misusing alcohol and drugs (A, YA)

- "No single individual or community-level factor determines whether an individual will develop a substance misuse problem or disorder" (pg 1-15). "Specific combinations of factors can drive the emergence and continuation of substance misuse and the progression to a disorder or an addiction" (pg 2-3)

	<ul style="list-style-type: none"> • “Some risk and protective factors appear to have consistent effects across cultural and gender groups, although low-income and disadvantaged populations are generally exposed to more risk factors...and fewer protective factors than are other groups in the population.” (pg 3-5) “Despite the similarities in many identified risk factors across groups, it is important to examine whether there are subpopulation differences in the exposure of groups to risk factors” (pg 3-5) • “Well-supported scientific evidence exists for robust predictors (risk and protective factors) of substance use and misuse from birth through adulthood. These predictors show much consistency across gender, race and ethnicity, and income.” (pg 3-2) • During development, risk and protective factors become influential at different times, and often relate to physiological changes (e.g. puberty) or to a person’s environment (e.g. attending a new school, parental divorce) (pg 3-4) • “Most risk and protective factors associated with substance use can predict other problems affecting youth, including delinquency, psychiatric conditions, violence, school dropout” (pg 3-5)
<p>Application of Framework for Public Health</p>	<ul style="list-style-type: none"> • “A public health systems approach to substance misuse and its consequences, including substance use disorders aims to: <ul style="list-style-type: none"> ○ Define the problem through the systematic collection of data on the scope, characteristics, and consequences of substance misuse; ○ Identify the risk and protective factors that increase or decrease the risk for substance misuse and its consequences, and the factors that could be modified through interventions; ○ Work across the public and private sector to develop and test interventions that address social, environmental, or economic determinants of substance misuse and relate health consequences; ○ Support broad implementation of effective prevention and treatment interventions and recovery supports in a wide range of settings; and ○ Monitor the impact of these interventions on substance misuse and related problems as well as on risk and protective factors” (pg 1-4) • “Most risk and protective factors can be modified through preventive programs and policies to reduce vulnerability” (pg 1-16)
<p>Limitations Outlined by Report Authors</p>	<ul style="list-style-type: none"> • None identified

Report #2: World Drug Report 2015	
Author, Date, Country	Research and Trend Analysis Branch, Division for Policy Analysis and Public Affairs, United Nations Office on Drugs and Crime; May 2015; Austria
Report Purpose	<ul style="list-style-type: none"> • The report “presents a comprehensive annual overview of the latest developments in the world’s illicit drug markets by focusing on the production of, trafficking in, and consumption of the main illicit drug types and their related health consequences.” (Executive Summary) • To provide research and inform collective responses to the challenges posed by the production, trafficking, and use of illicit drugs (Preface)
Target Audience	<ul style="list-style-type: none"> • Information not provided
Target Population	<ul style="list-style-type: none"> • General population
Outcomes	<ul style="list-style-type: none"> • “Since there is some scientific and legal ambiguity about the distinctions between ‘drug use’, ‘drug misuse’ and ‘drug abuse’, the neutral terms ‘drug use’ and ‘drug consumption’ are used in the present report.” (Explanatory Notes) • Definitions not provided
Framework Purpose	<ul style="list-style-type: none"> • To describe the factors that increase vulnerability to drug use (pg 18)
Framework Development <ul style="list-style-type: none"> • Databases searched • Search terms • Search period • Date of search • Inclusion/exclusion criteria • Description of references used 	<ul style="list-style-type: none"> • Framework adapted from the report, Preventing Mental, Emotional, and Behavioral Disorders Among Young People: Progress and Possibilities (National Research Council, Institute of Medicine; 2009) <ul style="list-style-type: none"> ○ The list of risk factors for substance abuse in Appendix E (Table E-3, pg 528) of this report was used to inform the framework ○ 3 references cited for Table E-3 in this report <ul style="list-style-type: none"> ▪ Literature review: Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention (Hawkins, Catalano, Miller; 1992) ▪ Textbook: <i>Developmental pathways to substance abuse</i> (Mayes and Suchman, 2006) ▪ Literature review: <i>The development of alcohol use disorders</i> (Sher, Grekin, Williams; 2005) • Search terms, search period, date of search, inclusion/exclusion criteria not described
Framework Organization	<ul style="list-style-type: none"> • The framework organizes risk factors for drug use by socio-ecological groups (individual, school/education and peers, family, media, community/society)(pg 19)
Risk and Protective Factors for	<u>Factors increasing vulnerability to drug use (pg 19):</u> <ul style="list-style-type: none"> ○ Individual

<p>Substance Misuse</p>	<p><i>Preconception</i></p> <ul style="list-style-type: none"> ▪ Genetic predisposition ▪ Prenatal alcohol exposure <p><i>Early childhood</i></p> <ul style="list-style-type: none"> ▪ Difficult temperament <p><i>Middle childhood</i></p> <ul style="list-style-type: none"> ▪ Poor impulse control ▪ Low harm avoidance ▪ Sensation seeking ▪ Lack of behavioural self-control regulation ▪ Aggressiveness ▪ Antisocial behaviour ▪ Anxiety, depression ▪ ADHD, hyperactivity ▪ Early persistent problem behaviours ▪ Early substance use <p><i>Adolescence</i></p> <ul style="list-style-type: none"> ▪ Behavioural disengagement coping ▪ Negative emotionality ▪ Conduct disorder ▪ Favourable attitudes towards drugs ▪ Antisocial behaviour ▪ Rebelliousness ▪ Early substance use <p><i>Young adulthood</i></p> <ul style="list-style-type: none"> ▪ Lack of commitment to conventional adult roles ▪ Antisocial behaviour <ul style="list-style-type: none"> ○ Family <p><i>Early childhood</i></p> <ul style="list-style-type: none"> ▪ Cold and unresponsive mother behaviour ▪ Parental modelling of drug use <p><i>Childhood/adolescence</i></p> <ul style="list-style-type: none"> ▪ Permissive parenting ▪ Parent-child conflict ▪ Low parental warmth ▪ Parental hostility
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- Harsh discipline
- Child abuse/maltreatment
- Parental/sibling modelling of drug use
- Parental favourable attitudes towards drugs
- Inadequate supervision and monitoring
- Low parental involvement
- Low parental aspirations for child
- Lack of or inconsistent discipline
- Young adulthood*
 - Leaving home
- School/Education and Peers
 - Childhood/adolescence*
 - School failure
 - Low commitment to school
 - Not college bound
 - Deviant peer group
 - Peer attitudes towards drugs
 - Associating with drug-using peers
 - Aggression towards peers
 - Interpersonal alienation
 - Peer rejection
 - Young adulthood*
 - Attending college
 - Substance using peers
- Community/Society
 - Laws and norms favourable towards drug use
 - Availability
 - Accessibility
 - Extreme poverty
 - Anti-social behaviour in childhood
- Media
 - Norms (e.g. advertising) favourable towards drugs

- “There is no single cause of drug use and addiction.” (pg 18) “Vulnerability to drug use is due to a variety of factors, whether stemming from the individual or from developmental contexts. The interplay between these factors ultimately either increases or attenuates an individual’s vulnerability

	<p>to substance use” (pg 18) “The more distinct the risk factor, the greater the likelihood of drug use. In contrast, protective factors buffer the impact of risk factors” (pg 19)</p> <ul style="list-style-type: none"> • “Drug use should be seen as an unhealthy behaviour linked to the developmental process.” (pg 18). “In this context, it is important to note that what occurs during adolescence very much depends on what happened earlier on in an individual’s development, during childhood and early adolescence.” (pg 18) • “In many individuals, drug use is often only one of a number of risky behaviours that share several vulnerability factors. For example, many of the risk factors linked to substance use are also linked to outcomes such as violence, dropping out of school, and risky sexual behaviour” (pg 21) • There are differences in drug use between men and women (e.g. globally, men are three times more likely than women to use cannabis, cocaine or amphetamines, while women are more likely to misuse prescription drugs) (pg 13). “This mainly reflects differences in opportunities to use drugs due to the influence of the social or cultural environment rather than intrinsic gender vulnerability.” (pg 13). “A large body of evidence has shown that processes of drug use initiation, social factors and characteristics related to substance use, biological responses and progression to the development of problems related to substance use vary considerably between men and women” (pg 13)
Application of Framework for Public Health	<ul style="list-style-type: none"> • Information not identified
Limitations Outlined by Report Authors	<ul style="list-style-type: none"> • None identified

Report #3: Substance Use and Young People Framework	
Author, Date, Country	<ul style="list-style-type: none"> New South Wales Ministry of Health, September 2014, Australia
Report Purpose	<ul style="list-style-type: none"> To provide clear principles and practical information on working with young people with substance use concerns (pg 4, 7)
Target Audience	<ul style="list-style-type: none"> Practitioners in drug and alcohol support services where young people are present, and more broadly, health services (pg 4, 6)
Target Population	<ul style="list-style-type: none"> The primary focus is young people aged 14 to 18 years. While there is relevance to younger and older populations, some considerations are age specific (pg 7)
Outcomes	<ul style="list-style-type: none"> The following terms are used throughout the report: 'substance use', 'substance use/drug problem/issues', 'substance misuse', 'substance use concerns', 'substance related harm/problems', 'substance abuse', 'drug dependence', 'problematic substance use', 'drug use' Definitions not provided
Framework Purpose	<ul style="list-style-type: none"> To present the risk and protective factors for substance use in young people (pg 13)
Framework Development <ul style="list-style-type: none"> Databases searched Search terms Search period Date of search Inclusion/exclusion criteria Description of references used 	<ul style="list-style-type: none"> Content in the report was "developed by reviewing existing policies, guidelines and literature on service provision for young people with an alcohol or other drug problem" (pg 6) Databases searched, search terms, search period, date of search, and inclusion/exclusion criteria not stated 2 references used to develop framework: <ul style="list-style-type: none"> Grey literature report: Neuroscience of psychoactive substance use and dependence (World Health Organization, 2004) Textbook: <i>Adolescent health: Understanding and preventing risk behaviours (DiClemente, Santelli, Crosby; 2009)</i>
Framework Organization	<ul style="list-style-type: none"> The framework (pg 13): <ul style="list-style-type: none"> Organizes risk and protective factors into socio-ecological domains: individual, family, friends, education/employment, community/environmental Uses the term "substance use"
Risk and Protective Factors for Substance Misuse	<u>Risk factors (pg 13):</u> <ul style="list-style-type: none"> <i>Individual</i> <ul style="list-style-type: none"> Genetic disposition Personality disorder Depression and suicidal behaviour

- *Family*
 - Family disruption and dependence problems
 - Social deprivation
 - Victims of child abuse
- *Friends*
 - Peer culture
 - Cultural norms, attitudes
- *Education/employment*
 - Poor performance at school
 - Occupational stressors
- *Community/environmental*
 - Drug availability
 - Poverty
 - Drug policies
 - Discrimination
 - Inequality

Protective factors (pg 13)

- *Individual*
 - Good coping skills
 - Self-efficacy
 - Risk perception
 - Optimism
 - Health-related behaviour
 - General health behaviour
- *Family*
 - Assistance to attend and maintain treatment
 - Social support
 - Knowledge of individual's history
- *Friends*
 - Ability to resist peer pressure
 - Social integration
 - Positive life events
- *Education/employment*
 - Social integration
 - Income

	<ul style="list-style-type: none"> ○ <i>Community/environmental</i> <ul style="list-style-type: none"> ▪ Situational control ▪ Social capital ▪ Social change • “There is no definitive list or model of risk and protective factors for substance abuse” (pg 13). The aetiological process is complex, with risk factors in different domains (e.g. individual, family, peer, school, local community, or macro environment) interacting with each other (pg 13) • “Risk factors for initiation of use, continued use, and abuse/dependence differ”. • “No single risk factor predicts problematic substance use. Rather it is the number of risk factors, or the balance of the number of negative risk factors relative to the number of protective factors that predicts use” (pg 13) • “Risk factors can be situational; for example, features of licensed premises can impact upon levels of violence” (pg 13) • Risk factors vary, and are cumulative, across the life course. They also vary with historical period (pg 13) • “Many of the risk factors for substance abuse are shared with adolescent problem behaviours” (pg 13). Appendix 3 examples: delinquency, teen pregnancy, school dropout, violence, depression and anxiety (pg 35)
Application of Framework for Public Health	<ul style="list-style-type: none"> • Information not identified
Limitations Outlined by Report Authors	<ul style="list-style-type: none"> • None identified

Report #4: A Framework for Youth Alcohol and Other Drug Practice: Youth Alcohol and Drug Good Practice Guide	
Author, Date, Country	<ul style="list-style-type: none"> Phil Crane, Jeff Buckley, Cameron Francis; 2012; Australia
Report Purpose	<ul style="list-style-type: none"> “To present a framework for working with young people whose alcohol and other drug use creates significant vulnerability to current or future harm” (pg 11)
Target Audience	<ul style="list-style-type: none"> “Practitioners who work with young people who have problematic alcohol and other drug use and the managers of these practitioners” (pg 11)
Target Population	<ul style="list-style-type: none"> Young people in Queensland
Outcomes	<ul style="list-style-type: none"> ‘Alcohol and other drug use’ – phrase not defined ‘Problematic alcohol and other drug use’ – characterized by one or more of the following (pg 37): <ul style="list-style-type: none"> “A need for a drug in order to get through the day (dependence) “Drug use dominating daily life at the expense of other activities (drug use dominating) Unpleasant physical and psychological effects (negative effects)
Framework Purpose	<ul style="list-style-type: none"> To outline risk and protective factors for problematic youth alcohol and other drug use (pg 27, 28)
Framework Development <ul style="list-style-type: none"> Databases searched Search terms Search period Date of search Inclusion/exclusion criteria Description of references used 	<ul style="list-style-type: none"> “This Guide draws on a mix of sources: research, practice literature, Dovetail resources and services, practice experience from Queensland youth alcohol and drug use practitioners, and analysis by the authors” (pg 11) Databases searched, search terms, search period, date of search, and inclusion/exclusion criteria not stated Framework taken from the report, At Risk Initiative-Program Guidelines, Version 1, and adapted using two references (pg 28): <ul style="list-style-type: none"> Grey literature report: Pathways to Prevention: Developmental and Early Intervention Approaches to Crime in Australia (Homel et al., 1999) Textbook: <i>A Resource for Strengthening Therapeutic Practice Frameworks in Youth Alcohol and Other Drug Use Services</i> (Bruun and Mitchell, 2012)
Framework Organization	<ul style="list-style-type: none"> The framework (pg 27, 28): <ul style="list-style-type: none"> Organizes risk and protective factors into groups and sub-groups based on the type of factor and location, respectively Focuses on the youth population Uses the term “problematic alcohol and other drug use” and draws on the report’s definition of risk and protective factors: <ul style="list-style-type: none"> Risk factors: factors that “render some young people more vulnerable to

	<ul style="list-style-type: none"> ▪ problematic alcohol and other drug use” (pg 27) ▪ Protective factors: factors that can “protect or contribute to ‘resilience’” (pg 27)
<p>Risk and Protective Factors for Substance Misuse</p>	<p><u>Risk factors (pg 27, 28)</u></p> <p><i>Individual Factors</i></p> <ul style="list-style-type: none"> ○ <i>Individual</i> <ul style="list-style-type: none"> ▪ Offending history ▪ Poor social skills ▪ Low self-esteem ▪ Self-injury ▪ Substance misuse/dependency ▪ Anti-social attitudes and behaviour ▪ Low self-control ▪ Disregard for others ▪ Poor physical, mental, or sexual health <p><i>Social Factors</i></p> <ul style="list-style-type: none"> ○ <i>Family</i> <ul style="list-style-type: none"> ▪ Family conflict and violence ▪ Neglect or abuse ▪ Parental rejection ▪ Lack of consistent nurturing and supervision ▪ Family poverty and isolation ▪ Parental offending ▪ Drug and alcohol dependencies ○ <i>Peer</i> <ul style="list-style-type: none"> ▪ Associating with offending peers ▪ Participating in anti-social behaviour ○ <i>School</i> <ul style="list-style-type: none"> ▪ Academic challenges ▪ Truancy ▪ Peer rejection ▪ Bullying ▪ Suspension and exclusion ▪ Perceived irrelevance of school ▪ Lack of support for learning needs ▪ Ascertained learning difficulties <p><i>Environmental Factors</i></p>

- *Community*
 - Lack of support services
 - Socio-economic disadvantage
 - Discrimination
 - Lack of training or employment
 - Non-participation in sport or social/recreational clubs and activities
 - Lack of income and housing security
- *Life events*
 - Death and loss
 - Severe trauma
 - Repeated out-of-home-placements
 - Exiting care
 - Early pregnancy
 - Homelessness

Protective factors (pg 27, 28)

Individual Factors

- Individual
 - Pro-social attitudes
 - Competent social skills
 - Regard for self and others
 - Substance avoidance
 - Self confidence
 - Positive sense of identity and belonging
 - Healthy diet, weight, activity, fitness and mental wellbeing
 - Sexual health

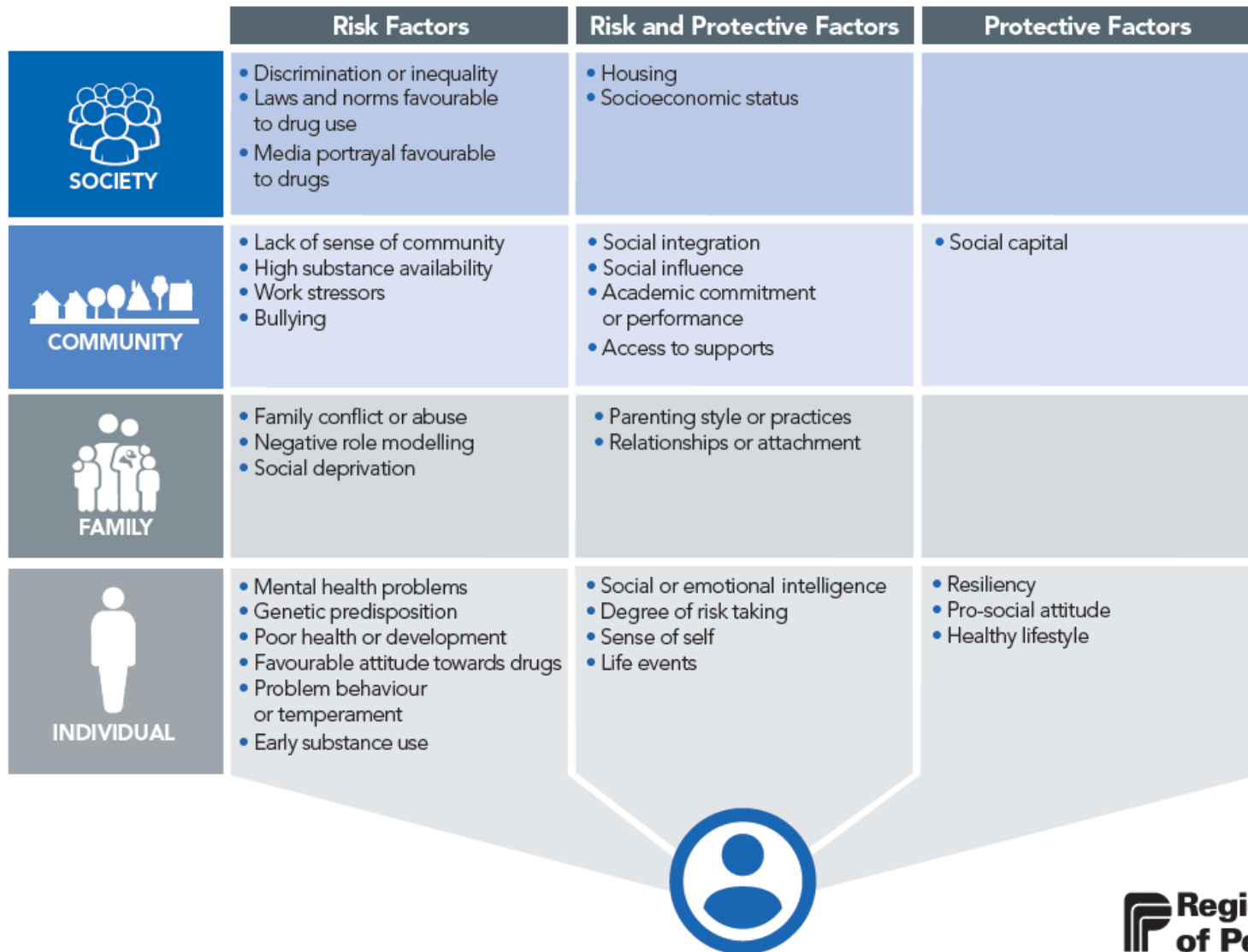
Social Factors

- *Family*
 - Nurturing, supportive attachments to family and extended kinship networks
 - Parental supervision and interest in child's growth and development
 - Parent access to relevant resources and support
- *Peer*
 - Associating with pro-social peers
- *School*
 - Regular school attendance
 - Positive relationships with teachers, coaches and peers

	<ul style="list-style-type: none"> ▪ Participation and achievement in school activities ▪ Access to personal, interactional and academic support <p><i>Environmental Factors</i></p> <ul style="list-style-type: none"> ○ <i>Community</i> <ul style="list-style-type: none"> ▪ Stable and affordable housing ▪ Access to services ▪ Participation in community activities, such as sport and recreation ▪ Involvement with supportive adults ▪ Income security ○ <i>Life events</i> <ul style="list-style-type: none"> ▪ Avoiding, surviving and recovering from the harm caused by loss and trauma <ul style="list-style-type: none"> • There are multiple and inter-related factors associated with alcohol and other drug use by young people. These factors can be a cause or consequence of their use (e.g. alcohol and other drug use, and homelessness)(pg 13)
Application of Framework for Public Health	<ul style="list-style-type: none"> • “A clear message from practitioners and research is that in order to respond to a young person’s vulnerability, a broad rather than narrow approach is needed. A broad approach sees various factors and pathways into and out of problematic alcohol and other drug use by young people” (pg 11)
Limitations Outlined by Report Authors	<ul style="list-style-type: none"> • None identified

Appendix E: Revised Conceptual Framework of the Determinants of Substance Use

The Determinants of Substance Use





Appendix F: Adapted Applicability and Transferability Worksheet

Applicability and Transferability Worksheet

Note: Worksheet adapted for “Understanding the Determinants of Substance Misuse” rapid review

Factors	Questions	Notes
General Feedback on Conceptual Framework		
	<ul style="list-style-type: none"> Is the level of detail provided in the conceptual framework enough to create an understanding of the factors that influence substance misuse? Do the factors fit together logically? Is anything missing? Are the key messages that accompany the conceptual framework clear? Could the visual design of the conceptual framework be improved? If yes, how? 	
Applicability (feasibility)		
Political and social acceptability	<ul style="list-style-type: none"> Would the conceptual framework be supported in the current political climate (within the organization, by our regional council, with our local partners, in the province)? Would our partners accept the conceptual framework in its current format? Why or why not? Will staff and/or management find the conceptual framework acceptable? Why or why not? How could you see the conceptual framework being used internally/externally? 	
Organizational expertise and capacity	<ul style="list-style-type: none"> How does the conceptual framework align with any work happening across the Department that is focused on substance misuse or opioid misuse? Is the conceptual framework relevant to any existing programs (internally or externally)? Does conceptual model lend itself to cross-departmental/divisional collaboration? What would be the barriers to using this conceptual framework? 	



Available essential resources	<ul style="list-style-type: none"> • What information would staff require to understand and apply this conceptual framework to their work? 	
Transferability (generalizability)		
	<ul style="list-style-type: none"> • Is this conceptual framework generalizable to Peel Region? Will any differences in the characteristics of our target population impact the use of the conceptual framework locally? • What would need to be modified when we use it here? 	
<p>Proposed Direction (after considering the above factors):</p>		

Form Completed by: _____

Worksheet adapted from: Buffet C., Ciliska D., and Thomas H. National Collaborating Centre for Methods and Tools. November 2007. *Can I Use this Evidence in my Program Decision? - Assessing Applicability and Transferability of Evidence.*