Island Health

Island Health Youth Mental Health and Resilience Measurement Framework

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1 BACKGROUND & PURPOSE

Enhancing youth mental health and resilience is a key element of Island Health's vision for healthy communities and is particularly relevant to goal four of the 2020-25 Strategic Framework (improving the health and wellness of the population). More specifically, Island Health's 2023-2024 Organization-wide Priorities and Outcomes document identifies a Youth Mental Health and Resilience Framework (YMHR Framework) as a deliverable under Outcome Goal 25. The development of the YMHR Framework also supports Goal 1 (Healthy Life Course), Objective 3 (coordinated and collaborative population health assessment as a foundational component of program and policy development, implementation and evaluation) of the recently developed Population and Public Health (PPH) Strategic Plan (2023-2028).

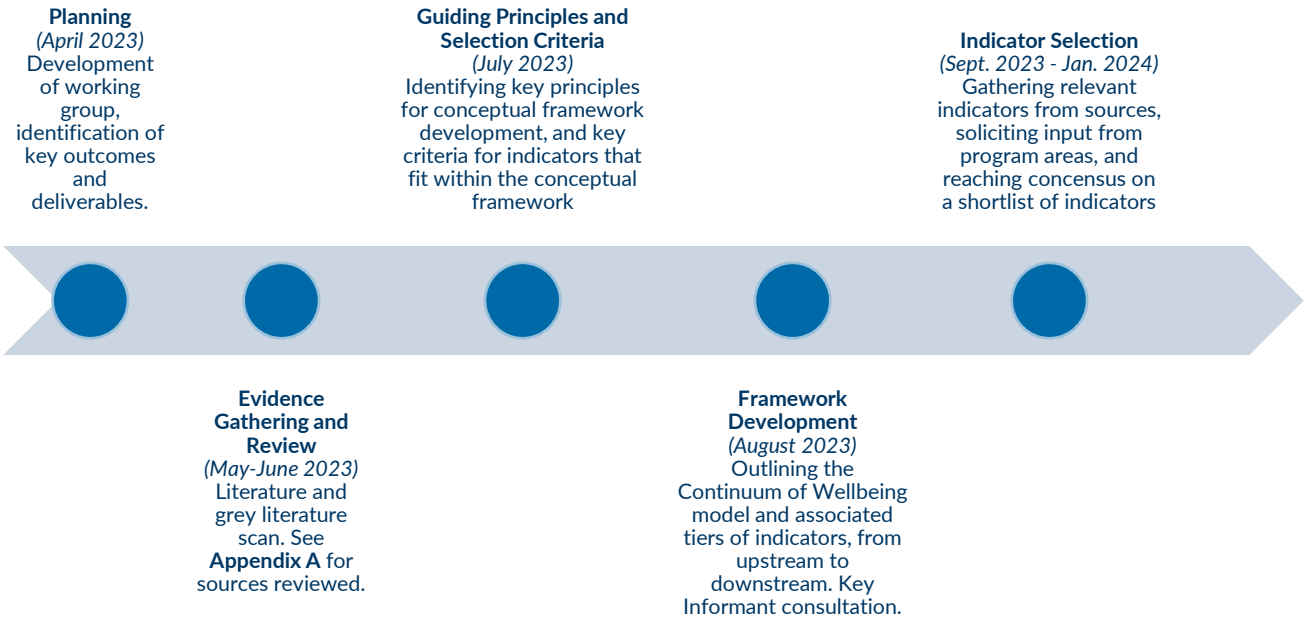
Island Health programs and resources supporting mental health and substance use among youth have historically focused on downstream interventions that primarily include services to address acute needs and mitigating already existing negative outcomes. To support interventions that focus on prevention, Island Health's Population and Public Health (PPH) teams developed a set of indicators along a continuum of wellbeing, from upstream determinants and protective factors to further downstream risk factors and finally outcomes such as self-harm, suicide, substance-use disorder, and mental health and substance use related hospitalization. Using the Continuum of Wellbeing Model as a basis for a YMHR Framework supports a more complete approach to monitoring and supporting youth mental wellbeing. Regular YMHR Framework reporting can inform planning, policy development, resource allocation, and community partnership.

For the purposes of this framework, youth are defined as those age nine to19 years, noting that age ranges for the various data sources vary and some determinants of health include infants < one-year (e.g., youth living in low-income households, Statistics Canada).

2 DEVELOPMENT PROCESS SUMMARY

The development of the Continuum of Wellbeing model and indicator framework began in April 2023 and was completed in March 2024. The timeline in Figure 2.1 summarizes the key work over this period.

Figure 2. Continuum of Wellbeing Model and YMHR Framework Development Timeline

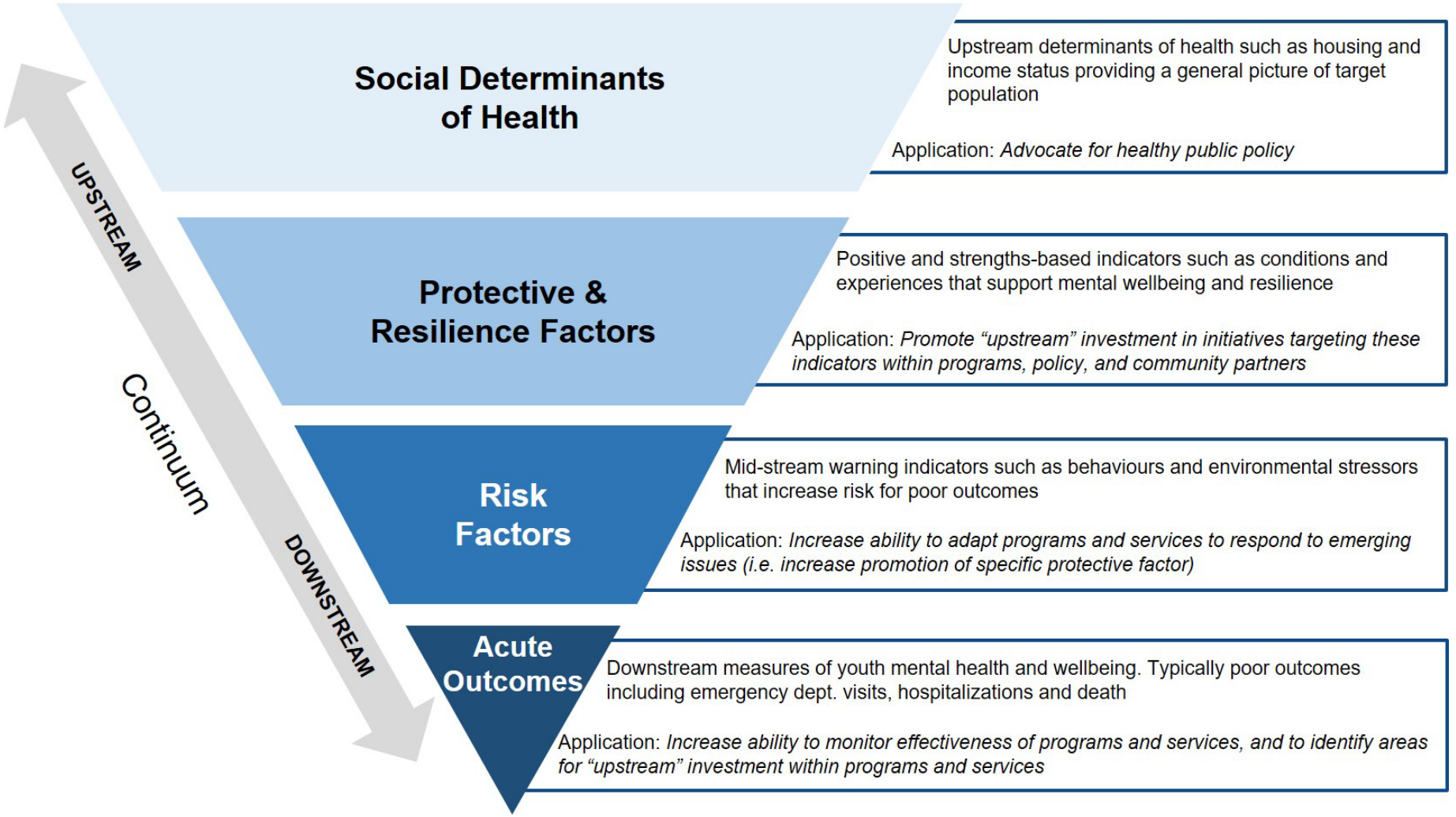


The YMHR Framework is intended to be reviewed and updated regularly as new evidence and information becomes available (e.g., refreshed BC Guiding Framework for Public Health, updated Child Health BC Report). Indicators may be added, revised, or removed, or different data sources selected, as appropriate. For a more detailed account of the YMHR Framework development process, please refer to Appendix A.

3 CONCEPTUAL FRAMEWORK: CONTINUUM OF WELLBEING MODEL

A Continuum of Wellbeing Model was used to conceptualize four levels of mental health and resilience indicators, and how they relate to one another. This model was adapted from the Psychosocial and Mental Wellbeing Plan developed by the New Zealand Ministry of Health (1). A visualization of Island Health's Continuum of Wellbeing Model is included in Figure 3.1.

Figure 3. Continuum of Wellbeing Model



Overview of Model

This model takes a socioecological approach to understanding mental health outcomes, considering pre-existing conditions and upstream interventions in youths' lives that can act as either protective or risk factors for poor outcomes. Along this continuum, upstream generally refers to conditions and opportunities that youth are exposed to as parts of their daily lives, while downstream generally refers to experiences, conditions, and behaviours that are associated with, or the outcomes of, poorer mental health.

The purpose of utilizing this approach is to identify and act on opportunities around youth mental health at a more upstream level, influencing quality of life and more positive outcomes for youth. By identifying increases in upstream risk factors (e.g., rates of youth living below the low-income cut-off), or decreases in upstream protective factors (e.g., feelings of community belonging among youth), earlier interventions and services can be targeted to promote mental health and to reduce poor outcomes.

Description of Model Levels

Each of the four levels or tiers illustrated in the Continuum of Wellbeing Model refer to a different level of experience for the individual, and opportunities for intervention. It is important to note that at all levels of this model, the data intended to be collected are at the population level; the data cannot be used to identify specific individuals who may need services, the data are only able to help understand opportunities for upstream investment in youth mental health.

Social Determinants of Health

Social determinants of health refer to the set of conditions known to have broad and significant impacts on individuals' health and mental wellbeing. These include income and poverty, housing sufficiency and stability, and education. Social determinants of health are associated with society-wide conditions of relative equity or inequity shaped by influences beyond the health care system. They are a key focus of PPH advocacy work and partnerships These conditions are important to monitor to understand the population-level risks for poor mental health outcomes among youth (e.g., rates of youth living with insufficient housing).

Protective and Resilience Factors

Protective and resilience factors refer to conditions and experiences of youth that promote mental well-being and resilience. These factors may help to mitigate or buffer challenges in youths' lives. As such, this level represents the most upstream level in which

regular YMHR framework reporting could provide evidence and context on which type of interventions might be most needed for promoting youth mental health resilience. Some examples of factors that would fall within this tier of the model include the proportion of youth involved in extracurricular activities, and proportion of youth who have a safe adult to talk to if they are experiencing a problem.

Risk Factors

Risk factors represent conditions and experiences of youth associated with poorer mental health outcomes compared to peers without those conditions and experiences; these factors help to provide a sense of what proportion of youth may already be at high risk for poorer mental health outcomes. This tier of the model represents a level at which Island Health interventions may be more urgent and able to be targeted to specific at-risk populations but fall short of the need for acute care services. Examples of factors in this tier are 'number of children and youth in need of protection', and the 'proportion of youth who report having experienced bullying'.

Acute Outcomes

Acute outcomes refers to the most severe mental health outcomes for youth. At this level, Island Health's interventions typically consist of hospitalization and facility-based care services. Examples of acute outcomes relevant to this model include mental health and substance use-related emergency department (ED) visits and hospitalizations.

4 RECOMMENDATIONS

This section outlines the issues and associated indicators at each of the four levels of the Continuum of Wellbeing Model recommended for inclusion in the Youth Mental Health and Resilience Measurement Framework (the Framework). For a full list of indicators see **Appendix B**.

It is important to keep in mind that the list of issues or factors, and associated indicators, included in each section is not exhaustive; these are merely a subset of the influences that can, and do. impact youth mental health and resilience. The purpose of the Framework is to provide a high-level overview of youth mental health within the Island Health region using a manageable number of indicators for reporting purposes. The authors recognize that youth mental health and wellbeing relates to a wide variety of outcomes and behaviours, and there is a multitude of sources and indicators that could be considered relevant in developing this Framework. Efforts were focused on using reliable, validated indicators from trustworthy sources, in the B.C. context, that could potentially be affected by programs or interventions by Island Health. The authors acknowledge that gaps may

exist. For more information on how indicators were selected for inclusion, please refer to Section 2. As new data sources become available, or existing surveying and data collection programs change over time, the Framework may be revisited and revised to better align with emerging best practices in youth mental health promotion.

Social Determinants of Health

Socioeconomic status, and in particular, income, are well-established in literature as being major determinants of physical and mental wellbeing. As a result, indicators of household financial security among youth are included in the Social Determinants of Health category. In addition, an overall count of youth is included to provide a picture of the size of the population of interest. Table 4.1 below summarizes the indicators within this level of the model.

Table 4.1 Social Determinant Indicators

Factor or Issue of Interest	Relevance to Mental Health	Indicators Selected (Source)
Youth population size	While not specific to mental health and resilience, population distribution and size provide context for the youth population within Island Health.	Proportion of the population aged 9 to 18. (BC Stats: Population Estimates & Projections for British Columbia)
Socioeconomic status	Socioeconomic status is closely linked to mental health. Canadian data show that youth in lower-income households are less likely to report very good or excellent mental health than those in higher-income households (2,3)	Proportion of children and youth (aged 0 to 17) in private households with low income (using the LIM-AT indicator). (Statistics Canada)
		Proportion of households spending 30% or more on shelter costs. (Statistics Canada)

Resilience and Protective Factors

The Continuum of Wellbeing Model identifies resilience and protective factors that support positive mental health and resilience. Unlike socioeconomic status in the Social Determinants of Health section (above), only one indicator is selected for each protective factor identified as being of interest in this Framework. Summaries of each of these indicators are below.

Table 4.2 Resilience and Protective Factor Indicators

Factor or Issue of Interest	Relevance to Mental Health	Indicator Selected (Source)
Connectedness to Community	Community connectedness is the sense of belonging and inclusion within a community. It supports both physical and mental wellbeing and is closely linked to feeling safe in one's neighbourhood. Strong connectedness and safety are associated with better self-esteem, academic performance, and emotional health (4,5).	Proportion of youth respondents (aged 12 to19) who report feeling that they are at least "quite a bit" a part of their community. (BC AHS)
Connectedness to a Safe Adult	Positive, supportive relationships with adults are associated with better social outcomes, lower engagement in risk-taking behaviours, and greater resilience against adverse experiences related to poverty and discrimination (6,7).	Proportion of youth respondents (aged 12 to19) who indicate they have an adult they can talk to if experiencing a problem either within their family or outside of their family. (BC AHS)
Participation in Extracurricular Activities	Participation in after-school activities supports social relationships, school connectedness, self-worth, physical health, and academic success. It is also linked to lower engagement in problem behaviours and, among youth in B.C., to fewer reports of suicidal thoughts or attempts (5,8)	Proportion of youth respondents (aged 12 to19) who indicate involvement in extracurricular activities outside of class hours. (BC Student Learning Survey)
Positive Self-Esteem	Evidence highlights the importance of positive self-esteem in reducing rates of depression, suicidality, and behavioural adjustment issues during adolescence (5).	Proportion of youth respondents (grades 4, 7, 10 and 12) who report feeling good about themselves, at least most of the time. (BC Student Learning Survey)
Self-Efficacy	A sense of self-efficacy among youth, defined as their belief in their ability to exert control over themselves and their environment, is associated with greater resilience (9,10).	Proportion of youth respondents (aged 12 to19) who indicate that they can think of something they are really good at. (BC AHS)
Self-rated Mental Health	Positive self-rated mental health is linked to better quality of life, including greater satisfaction with oneself, relationships, school, and overall life. It is also a reliable indicator of overall mental health (5,6).	Proportion of youth respondents (grades 7, 10, and 12) who report good or better self-rated mental health. (BC Student Learning Survey)

Risk Factors

Risk factors in the Continuum of Wellbeing Model identify experiences, circumstances, or behaviours among youth that are associated with poor mental health outcomes such as those indicators identified in the Acute Outcomes section of the Continuum. It is important to note that the Continuum of Wellbeing Model does not make assumptions regarding the causality of poor mental health outcomes and these risk factors or indicators. For some indicators, the experience may be the cause of poor mental health outcomes (e.g., incidence of abuse or neglect); for others, the indicator may be a symptom or coping mechanism being used by youth already experiencing poor mental health or even may have a reciprocal relationship with poor mental health (e.g., alcohol use). As a high-level suite of indicators intended to provide an overall snapshot of youth mental health within Island Health, these indicators should be considered as indicative of overall trends and potential level of need for more intensive community intervention, prevention efforts and mental health services.

Table 4.3 Risk Factor Indicators

Factor or Issue of Interest	Relevance to Mental Health	Indicator Selected (Source)
Child Vulnerability	Development in the five core domains (social competence, emotional maturity, physical health and well-being, language and cognitive development, and communication skills and general knowledge) serves as predictive factors for long-term developmental outcomes (6,11).	Proportion of kindergarten students identified as vulnerable by their teacher. (Early Development Instrument)
Bullying	Bullied children often experience higher psychological distress, including increased anxiety, depression, and PTSD. They may also show poorer academic performance, lower self-control and self-worth, and reduced social confidence. Bullying is also linked to a higher risk of engaging in behaviours such as substance use (5,6).	Proportion of youth (grades 4, 7, 10 and 12) who reported feeling bullied at school. (BC Student Learning Survey)
Access to Mental Health Care	Measuring the proportion of youth with unmet mental healthcare needs helps assess how accessible and available services are. Delays in getting care can worsen outcomes for youth and increase impacts on families and costs (12).	Proportion of youth respondents (aged 12 to19) who reported needing emotional or mental health services in the past year but did not get them. (BC AHS)
Discrimination	Research indicates that students who experience discrimination are more likely to	Proportion of youth aged 12 to 19 who report having

Factor or Issue of Interest	Relevance to Mental Health	Indicator Selected (Source)
	report feeling sad, discouraged, or hopeless in the past 30 days, express dissatisfaction with school, and to have seriously considered suicide in the past 12 months (9).	experienced discrimination based on their ethnic background, sexual orientation, gender or sex, disability, physical appearance, or socioeconomic status. (BC AHS)
Children and Youth in Need of Protection	Child abuse and neglect can have long-lasting impacts, including physical and mental health problems, lower educational attainment, and increased risk of homelessness and involvement in criminal activity (13,14).	Rate per 1,000 youth aged 0 to18 for whom a formal report was made to the Ministry of Child and Family Development (MCFD) for abuse and/or neglect. (BC MCFD)
Risk-Taking Behaviours, Substance Use	Alcohol is a leading contributor to injury, violence, and higher risk sexual activity among youth. Early and heavy use, including binge drinking, increases the risk of long-term harms such as dependence and alcohol-related cancers (5,6).	Proportion of youth (aged 12 to 19) who reported drinking alcohol at least once in the past month among those who had ever tried alcohol. (BC AHS)
	Frequent cannabis use during adolescence is linked to poorer cognitive functioning, lower educational attainment, and a higher risk of dependence, with daily use posing the greatest risk (5,6).	Proportion of youth (aged 12 to 19) who reported one or more days of cannabis use in the past month among those who had ever tried cannabis. (BC AHS)
Risk-Taking Behaviours, Sexual Activity	Research indicates a correlation between mental health conditions such as mood disorders (i.e., anxiety and depression) and engaging in sexual risk-taking behaviours, including unprotected sexual encounters, and having multiple sexual partners (15,16).	Proportion of youth (aged 12 to 19) who reported that a barrier method was used during their most recent sexual encounter, among those who had ever had intercourse. (BC AHS)
Children and Youth in Care	Children in care are more prone to experience adverse educational outcomes, mental health challenges, behavioural and emotional difficulties, and developmental delays. These unfavorable outcomes may stem from experiences preceding their placement in care, as well as the circumstances children and youth encounter while under provincial guardianship (5,17).	Rate per 1,000 children (aged 0 to 18), who are under the guardianship of the provincial director of child welfare. (BC MCFD)

Acute Outcomes

The final tier of the Continuum of Wellbeing Model, acute outcomes, considers the most severe mental health outcomes among youth. While outcomes at this level represent youth experiencing serious challenges and mental health crises, and care for this group will consist of acute, typically inpatient services, the outcomes are included in this framework for evaluative purposes. The intention of this framework is to direct programs and service further upstream with their intervention, with the goal of decreasing rates of acute outcomes (e.g., hospitalization for mental health reasons) over time.

Table 4.4 Acute Outcome Indicators

Factor or Issue of Interest	Relevance to Mental Health	Indicator Selected (Source)
Mental Health and Substance Use-related Acute Care Encounters	Emergency department visits for mental health and substance use related complaints are indicative of acute help seeking behaviour among youth. Studies suggest that such encounters, particularly repeated ones, are associated with an elevated risk of self-harm and subsequent death by suicide (18,19). Hospitalization for mental health or substance use reflect persistent and severe outcomes in which inpatient care is required. Inpatient programs have a large economic burden, and the clinical significance of improved outcomes is not well understood. Available research supports the importance of upstream and community-based interventions that are more readily accessible to youth (20,21).	Proportion of youth (aged 9 to 18) who visited the emergency department with a presenting complaint related to mental health or substance use. (FirstNet & CernerPM) Proportion of youth (aged 9 to 18) admitted to hospital (via the emergency department) with a presenting complaint related to mental health or substance use. (FirstNet & CernerPM)
Mood and Anxiety Disorders	Mood and anxiety disorders are the most commonly diagnosed chronic conditions for Island Health's population; they are associated with immediate and long-term physical health and chronic disease outcomes, health risk behaviors, and impacts to social relationships, education, and employment (22,23).	Crude incidence of mood and anxiety disorders among those aged 1 to 19. (BCCDC Chronic Disease Registry)
Depression	Depression is a subset of mood and anxiety disorders, which are the most diagnosed chronic conditions for Island Health's population and are associated with chronic disease, health risk behaviors, social relationships, education, and employment (22,23).	Crude incidence of depression among those aged 1 to 19. (BCCDC Chronic Disease Registry)

Factor or Issue of Interest	Relevance to Mental Health	Indicator Selected (Source)
High School Completion	High school completion rates are strongly associated with youth mental health and wellbeing. The completion of high school serves as a protective factor against future adverse health and social outcomes, including poverty, homelessness, substance use, and mental health challenges in adulthood (5)	Rate of students who have completed high school within six years of starting grade 8. (BC Ministry of Education Report)
Death Due to Intentional Self-Harm or Unintentional Injury	Mortality represents the extreme end of the wellbeing continuum, indicating the most severe outcomes. Mortality related to suicide, overdose, and injury is closely linked to poor mental health. By tracking trends in mortality, we gain valuable insights into the effectiveness of upstream interventions aimed at addressing youth mental health and resilience (23).	Incidence of youth deaths (aged 9 to 18), caused by intentional self-harm or unintentional injury. (BC Vital Statistics)

Data Sources

As noted in the 'Indicators' columns in Tables 4.1 through 4.4, a variety of surveys and administrative data sets will be drawn on as sources for YMHR Framework reports. Each of these sources has different methods, time frames for updating, and other details (**Appendix C**). Further information about how indicators were selected can be found in Section 2 and **Appendix A**.

Data Limitations

Many indicators in the Framework draw on the BC Adolescent Health Survey, the BC Student Learning Survey, and the UBC HELP Early Development Indicators. It is important to note that all these data collection approaches draw on school enrollment as the sample frame, often limited to public schools only. This means that the data reflected in reporting based on this framework will systematically miss key populations of youth, particularly those who may already be at higher risk for poor mental health outcomes.

Missed groups of youth include those who are being homeschooled; youth who have dropped out of school; youth who are being kept out of school for medical or other personal reasons; and youth who are not in school because they are otherwise institutionalized, such as those in correctional facilities. Crucially, these groups of children and youth are being missed yet are also most at risk of poor psychosocial and mental health outcomes, or may already be experiencing poor outcomes (e.g., involvement with the justice system, school non-completion).

Purpose and Use of YMHR Framework

The YMHR Framework and Reporting Tool is intended to be a living document. The indicators and sources listed in the framework were identified as relevant to Island Health's goals and strongly associated with broader mental wellness and health measures, at the time of its development. The Framework may be updated periodically, including substituting, removing, or adding indicators as necessary or appropriate to Island Health's goals.

The purpose of monitoring the status of these indicators for youth mental health and resilience is threefold: to better intervene in mental health and wellness care for youth; to strengthen and support programs and services that support youth mental wellbeing and resilience for youth; and to inform advocacy for broader environmental and socio-economic interventions that affect youth mental health but may be outside of the scope of direct intervention by Island Health. The purpose of using the Continuum of Wellbeing Model is to consider what interventions can be undertaken at various levels along the continuum, moving in the general 'upstream' direction.

Reporting Approach

The intention is for data elements and sources included in **Appendix C** to be compiled on a regular basis (for data sources where updates are available less than yearly, the most recent available data will be used) in a report on the state of mental health and resilience among youth in Island Health. Depending on accessibility of data, breakdown of measures for indicators will be provided at the School District (SD), Local Health Area (LHA), HSDA, or Island Health-wide level.

Island Health Initiatives and Work Relevant to YMHR

The following programs, services, and initiatives are expected to benefit from the information captured in the YMHR Framework Reports, including, but not limited to:

- Heath Promotion and Public Policy (i.e. Healthy Schools, Public Health Dietitians, & Community Health Promotion)
- Communicable Disease
- Public Health Nursing: (i.e., Youth Clinics, Perinatal and Early Years)
- Injury Prevention
- Tobacco & Vapour Prevention & Control

- Addictions Medicine and Substance Use
- Mental Health & Substance Use
- Others, including Community Granting Programs, Community Health Networks and other community partnerships.

Potential applications for the information that will be collected and disseminated in routine reports include strategic planning, program evaluation, budget allocation, grant initiatives, support for key community partnerships, and advocacy for health and equitable public policy

5 APPENDIX A: DEVELOPMENT PROCESS

Stage	Timeframe	Activities or Tasks Completed
Planning	*April 2023*	▸ Working Group established ▸ Key outcomes and deliverables identified ▸ Outcome goal summary approach drafted ▸ Scope and key deliverables established by working group
Evidence Gathering and Review	*May – June 2023*	▸ Literature review, grey literature scan completed (see **Appendix D** for full list of resources reviewed)
Guiding Principles and Selection Criteria	*July 2023*	▸ Key principles for conceptual framework development identified ▸ Key criteria for identifying indicators that align with conceptual framework established
Conceptual Framework Development	*August 2023*	▸ Continuum of Wellbeing model outlined. ▸ Tiers of indicators associated with each step of model, from upstream to downstream, clarified ▸ Key informant consultation (Dr. Hasina Samji- BCCDC)
Indicator Selection	*September 2023 – January 2024*	▸ Relevant indicators with potential for use in framework gathered and summarized (approximately 60 in total identified) ▸ Subject matter experts and relevant program areas consulted for input on indicators of highest importance. ▸ Consensus-seeking process involving 2 MHOs and multiple program areas conducted, with target of approximately 20 final indicators selected for reporting. ▸ Final list of 24 indicators recommended, with acknowledgement that revisions and updating may be necessary in future years

6 APPENDIX B: SUMMARY OF INDICATORS

Level Within Continuum	Factor or Issue of Interest	Indicator
Social Determinants of Health	Youth Population Size	1. Proportion of the population aged 9 to 18, by HSDA
	Socioeconomic Status	2. Low Income: Proportion of Children and Youth in Low-Income Households
		3. Housing: Proportion of Children and Youth in households with a shelter-cost-to-income ratio above 30%
Resilience and Protective Factors	Connectedness to Community	4. Proportion of youth who report that they feel they are at least 'quite a bit' a part of their community
	Connectedness to a Safe Adult	5. Proportion of youth who indicate they have an adult they can talk to if experiencing a problem
	Participation in Extracurricular Activities	6. Proportion of youth who indicate involvement in extracurricular activities outside of class hours
	Positive Self-Esteem	7. Proportion of youth who report feeling good about themselves at least most of the time
	Self-Efficacy	8. Proportion of youth who indicate that they can think of something they are really good at
	Self-Rated Mental Health	9. Proportion of youth who report good or better self-rated mental health
Risk Factors	Child Vulnerability	10. Proportion of kindergarten students identified as vulnerable by kindergarten teacher
	Bullying	11. Proportion of youth who reported feeling bullied at school
	Access to Mental Health Care	12. Proportion of youth who report needing emotional or mental health services in the past year but did not get them
	Discrimination	13. Proportion of youth who report having experienced discrimination
	Children and Youth in Need of Protection	14. Rate per 1,000 children and youth (aged 0 to 18) for whom a formal report was made for abuse and/or neglect
	Risk-taking Behaviours, Substance Use	15. Proportion of youth who reported drinking alcohol at least once in the past month, among those who had ever tried alcohol
		16. Proportion of youth who reported one or more days of cannabis use in the past month, among those who had ever tried cannabis
	Risk-Taking Behaviours, Sexual Activity	17. Proportion of youth who reported that a barrier method was not used during their most recent sexual encounter, among those who had ever had intercourse

	Children and Youth in Care	18. Rate per 1,000 children and youth (aged 0 to 18) who are under the guardianship of the provincial director of child welfare
Acute Outcomes	Mental Health and Substance Use Related Acute Care Encounters	19. Proportion of youth (aged 9 to 18) who visited the emergency department with a presenting complaint related to mental health or substance use
		20. Proportion of youth (aged 9 to 18) who were admitted to hospital via the emergency department with a presenting complaint related to mental health or substance use
	Mood and Anxiety Disorders	21. Crude incidence of mood and anxiety disorders among children and youth (aged 1 to19)
	Depression	22. Crude incidence of depression among children and youth (aged 1 to 19)
	High School Completion	23. Six-year high school completion rate
	Death Due to Intentional Self-Harm or Unintentional Injury	24. Incidence of youth deaths (aged 9 to 18) caused by intentional self-harm or unintentional injury

7 APPENDIX C: SUMMARY OF DATA SOURCES

Data Source	Definition	YMHR Indicators	Limitations / Additional Information	Suppression
BC Stats: Population Estimates & Projections for BC	A population estimate is a measure of the current or historical population. A population projection is a forecast of future population growth. All population estimates and projections are as of July 1st (24).	• Population aged 9 to 18 by Health Service Delivery Area	Data from MSP clients is used to inform estimates for small geographies, which in turn are used to build the estimates for larger geographies such as HSDA. Population projections and estimates may be less precise between periods of census data integration. The effects of the COVID-19 pandemic, the overdose crisis, migration and changing climate conditions may not be reflected in this data (24).	N/A
Statistics Canada: Census of the Population	The Census of the Population is a nationwide survey used to collect socioeconomic data on specific sub-populations, it is mandated by law and completed **every five years** (25)	• Socioeconomic Status: Low Income • Socioeconomic Status: Income-to-Housing Ratio	A 100% sample of population of households was used (25). Questions asked on the long-form census are asked to 1 in 4 households; sampling methodology allows for reliable estimates at small geographies. Imputation is used to weight the responses to the entire population (25).	Statistics Canada used primary suppression (cell specific) and secondary suppression (data across sources or series) to ensure that no data is released which could identify a person (25).
McCreary Centre Society: BC Adolescent Health Survey	The Adolescent Health Survey (AHS) is a province wide survey of youth in grades 7 to 12 that has been ongoing **every 5 years** since 1992 (26).	• Feel like part of their Community • Have an adult they can talk to if they had a serious problem	The AHS uses a sampling framework that is designed to produce statistically reliable estimates at the HSDA level of geography. This means that comparisons between school districts are not statistically	Data is suppressed when the standard error is above an accepted threshold due to sampling variability. Data is also

Data Source	Definition	YMHR Indicators	Limitations / Additional Information	Suppression
		• Can think of something they are really good at • Access to mental health services • Experience of discrimination (any basis) • Alcohol Use • Cannabis Use • Barrier used at last sexual encounter	appropriate. The survey excludes students enrolled in private schools, alternative education programs, custody centres, provincial resource centres, distance education, continuing education, electronic delivery schools, and those being home schooled, which could impact the representativeness of the results (27).	suppressed when there is a risk that deductive disclosure could jeopardize the anonymity of the respondent (27). For a more detailed list of exclusions, refer to the 2023 BC Adolescent Health Survey: Methodology Fact Sheet.
BC Ministry of Education: Student Learning Survey	The Student Learning Survey (SLS) is an **annual** census of students in grades 4, 7, 10 and 12 that has been ongoing since 2001 (28).	• Participation in organized activity outside of required school courses • Proportion of students saying they feel good about themselves • Self-Rated Mental Health Status • Experiences of bullying at school	For the indicators used in this report, students outside of the public school system were excluded, this may affect the representativeness of the results. The survey takes a census approach to surveying students in Grades 4, 7, 10, 12 in public schools in BC. Surveys are administered in an online format on computers during the school day, at workstations prepared by the school / school district. Core questions are asked in the SLS, with school districts able to add up to a certain number of questions from a pre-existing bank, to collect	Data from small student groups is masked to protect student privacy (28).

Data Source	Definition	YMHR Indicators	Limitations / Additional Information	Suppression
			information and address concerns relevant to local interest (28).	
UBC Human Early Learning Partnership: The Early Development Instrument	The Early Development Instrument (EDI) is a voluntary survey that is administered by kindergarten teachers every three years. The EDI asks questions across five domains that are considered to predict future health, education and social outcomes (29).	• Proportion of kindergarten students rated as vulnerable on at least one scale of the EDI instrument, as graded by their teacher	Participation in the survey is voluntary. This may impact the representativeness of the results to the whole population (30).	Data is publicly suppressed when there are fewer than 35 children within an administrative boundary (30).
BC Ministry of Children and Family Development	The Ministry of Children and Family Development administers a corporate database to support its responsibilities; this includes information about children and youth (31).	• Rate per 1,000 children and youth age 0-18 for whom a formal report was made to the BC Ministry of Children and Family Development (MCFD) for physical, sexual, or emotional abuse and/or neglect. • Rate per 1,000 of children (age 0 to 18) under the guardianship of the provincial Director of Child Welfare	Children and Youth in Care can reflect court order for protection or Voluntary Care or Special Needs Agreement with parents (32).	Data is suppressed when there are less than 10 children within a geography (31).
CernerPM and FirstNet via the Island Health	Data electronically collected at emergency departments attached to	• Mental Health and Substance Use	Emergency department presenting complaints is only available for a subset of EDs and UCCs which use	Counts less than 5 are suppressed.

Data Source	Definition	YMHR Indicators	Limitations / Additional Information	Suppression
Enterprise Data Warehouse	acute inpatient hospitals and urgent care centres are accessible through the Enterprise Data Warehouse.	Emergency Department Visits • Mental Health and Substance Use Hospitalizations	FirstNet. Data from 8 FirstNet ED's and one UCC was included. The patient's home LHA was used to assign geography. Date was determined by the fiscal year of discharge. Only admissions made through the ED were captured. Data from this source is not publicly available.	
BC Office of the Provincial Health Officer, BC Chronic Disease Registry	The BC Office of the Provincial Health Officer provides data to the BC Centre for Disease Control Observatory, who calculates rates and other metrics included in the BC Chronic Disease Registry (BCCDR). The BCCDR has been **released annually** since the 1990s to monitor trends in non-communicable diseases within the province (22).	• Crude incidence and prevalence of depression among youth • Crude incidence and prevalence of mood and anxiety disorders among youth	To inform the BCCDR, administrative health data is gathered from the client roster, medical service plan, PharmaNet and the discharge abstract Database. Chronic disease counts and rates may be an underrepresentation due to the sensitivity / specificity of case finding algorithms and the inability to detect cases who do not interact with the healthcare system (22).	One data point for Depression in Cowichan Valley West is suppressed for Males.
BC Vital Statistics Agency	The BC Vital Statistics Agency is responsible for the administration of data including birth, deaths and marriages that occur within the province.	• Percentage of deaths attributed to suicide, overdose, injury, and other top causes	BC Vital Statistics data specific to Island Health is up to date until the end of December 2023 (33).	Counts less than 5 are suppressed.
BC Ministry of Education and Child Care, Education Analytics Office	The six-year completion rate was developed to estimate the percentage of students who graduate (34)	• Six-year high school completion rate, by school district	Students who receive a BC School Completion Certificate (an "Evergreen") are excluded from this data. The school district where the student graduates is the geography	When there are fewer than 10 students in a cohort the data is suppressed (35).

Data Source	Definition	YMHR Indicators	Limitations / Additional Information	Suppression
			used for the completion rate. The estimation attempts to account for students who move to BC during their 6-year cohort or move away before graduation. School district rates only include public schools (35).	

8 APPENDIX D: SUMMARY OF LITERATURE SCAN

Peer Reviewed Literature

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