

Working paper: Review of suicide and self-harm monitoring indicators

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Te Hiringa Mahara was set up in February 2021 and works under the Mental Health and Wellbeing Commission Act 2020. Our purpose is to contribute to better and equitable mental health and wellbeing outcomes for people in Aotearoa New Zealand.

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Contents

Recommended indicators	3
1 Introduction	4
1.1 Objectives.....	4
1.2 Approach.....	4
1.3 Method	4
1.4 A note on analysis and reporting of indicators.....	6
2 Potential indicators for national monitoring of suicide and self-harm	7
2.1 Suicide and self-harm outcome indicators	7
2.2 Social determinants.....	11
2.3 Family-level factors.....	16
2.4 Individual-level factors	18
3 Long list and recommended indicators	25
References	31

Recommended indicators

We recommend monitoring suicide and self-harm outcomes only as a first step (five indicators shown below). This provides a small set of indicators at the highest level of suicide and self-harm surveillance.

Indicator		Definition
Suicide and self-harm outcomes		
1	Suicide rate	Age-standardised rate of suicide per 100,000 population
2	Suspected self-inflicted death rate	Age standardised rate of suspected self-inflicted death per 100,000 population
3	Self-harm hospitalisation rate	Age standardised rate of non-fatal intentional self-harm hospitalisation per 100,000 population
4	Ambulance attendances for self-harm	Number of ambulance attendances for self-harm
5	Police attendances for crises	Number of 1X (threatens/attempts suicide) coded responses to call-outs*

*Further work is needed to confirm the suitability of this indicator.

1 Introduction

This paper presents a focused review of suicide and self-harm¹ monitoring indicators.² We did this review to inform an approach to independent system-level monitoring of suicide prevention as outlined in our 2024/25 Statement of Performance Expectations. The purpose of the review was to select a small set of indicators to recommend to Te Hiringa Mahara Board as part of their consideration of our future role in monitoring suicide prevention. Recommended measures in this working paper will be included in our future system performance monitoring planned for publication in May 2026.

1.1 Objectives

The primary objective of the review was to identify indicators that reflect:

- a. high-level outcomes of suicide and self-harm
- b. the influence of social determinants
- c. established risk factors³ at a population level.

1.2 Approach

We have focused on population level outcomes and indicators of risk and protective factors. We have prioritised indicators with strong empirical links to suicide and self-harm risk, feasibility of measurement from existing national data sources, and relevance to priority populations, particularly Māori and young people. We have excluded potential societal level indicators relating to access to means due to the sensitivity of these measures in public reporting and the absence of national data for some means.

1.3 Method

We examined suicide and self-harm monitoring systems and frameworks from selected high-income countries.

¹ We define self-harm as 'self-poisoning or injury, irrespective of apparent purpose of the act' (National Institute for Health and Care Excellence, 2022, p 77). We recognise that the term 'self-harm' may not accurately reflect the lived experience of individuals, the term is used in this context as it describes a defined measure.

² We use Results Based Accountability terminology. This means we use the term 'indicators' in relation to whole populations and 'measures' in relation to people who use services. For ease of use in this paper, the term 'indicators' has been used throughout.

³ Franklin et al (2017, p.4) describe a risk factor as "a special type of correlate that precedes the outcome of interest and can be used to divide the population into high- and low-risk groups. ..., if people with depression symptoms (at Time 1) were more likely than others to attempt suicide (at Time 2), depression symptoms would be a risk factor for suicide attempts. Cross-sectional studies are sufficient to establish correlates or concomitants, but longitudinal studies are necessary to identify risk factors".

The following sources were used to identify indicators:

- a. National suicide and self-harm prevention strategies, health agency and statistical agency websites and reports from New Zealand, Australia, Canada, the United Kingdom, the United States, selected European countries and Japan.
- b. International agency websites and reports (e.g., the World Health Organization) that describe indicator frameworks or cross-country comparisons.
- c. Academic review literature (narrative reviews, systematic reviews, and meta-analyses), population and cohort studies focused on risk factors, social determinants, and suicide and self-harm monitoring.
- d. Suicide Mortality Review Committee reports (New Zealand).

Key sources included:

- a. Canada's *Suicide Surveillance Indicator Framework* (Public Health Agency of Canada) (health-infobase.canada.ca/ssif/)
- b. the United States' *ASTHO Suicide Indicator Tool* (Association of State and Territorial Health Officials) (astho.org/topic/population-health-prevention/social-behavioral-health/injury-suicide-violence-prevention/suicide-indicator-tool/)
- c. Australia's *Suicide and Self-Harm Monitoring* website (Australian Institute of Health and Welfare) (aihw.gov.au/suicide-self-harm-monitoring)
- d. Ireland's *Self-Harm Registry* (National Suicide Research Foundation) (nsrf.ie/registry/), and
- e. England's *Suicide Prevention Profile* (Office for Health Improvement and Disparities) (fingertips.phe.org.uk/profile-group/mental-health/profile/suicide).

Indicators were grouped into several broad categories:

- high-level outcomes
- social determinants
- family and individual-level factors.

1.3.1 Criteria for including indicators in the review

Indicators were included in the review if they:

- were in active use or formally proposed within national suicide or mental health monitoring frameworks of high-income countries
- were described in government and international agency documents and data, or peer-reviewed literature published between 2005 and 2025.

Due to the scope of this paper, indicators were excluded if they were focused on interventions,⁴ including programme outputs or implementation; or clinical outcomes. In considering a set of monitoring indicators, we used the criteria shown in Table 1 as a guide.

⁴ See Fortune et al. (2023) for a synthesis of the evidence for interventions (suicide prevention and postvention).

Table 1: Indicator criteria

Criterion	Description	Assessment guide
Data quality	Indicator supported by regularly available reliable, valid, and consistently collected data	Data are currently available or could be made available with acceptable effort. Data are comparable over time.
Relevance	Aligns with evidence supporting national suicide prevention monitoring frameworks	Indicators reflect issues of concern and can help track progress or identify gaps relevant to suicide and self-harm prevention.
Population sensitivity	Enables equity-focused reporting	Data can be meaningfully disaggregated for key population groups, ⁵ especially for Māori and youth.
Sensitivity to change	Reflects change over time	Data reflects change over a reasonable time period, particularly in response to interventions or changing conditions.

Source: Amended from the US Association of State and Territorial Health Officials Suicide Indicator Explorer Guide (ASTHO, 2024).

1.4 A note on analysis and reporting of indicators

Analysing and interpreting the types of data discussed in this review will require epidemiological, cultural and lived experience expertise.

In particular, any indicator of suicide and self-harm outcomes or risk factors among Māori must take account of multiple factors. Primarily, they must be based on the recognition that data related to Māori health and wellbeing tend to undercount and miscount Māori (Theodore et al., 2023). As Māori experience disparities related to suicide and self-harm, it is vital that indicators to measure suicide prevention do not further exclude and marginalise Māori.

People with diverse sexual orientations and gender identity expressions also experience higher rates of suicide and self-harm but capturing accurate and reliable data is highly challenging (Alaçam & Yilmaz, 2025). It cannot be assumed that the number of people who are part of this community is constant. Further, people may not disclose their sexual orientations and gender identity to others.

⁵ The Suicide Prevention Action Plan 2025-2029 (Ministry of Health, 2025) provides examples of key population groups that experience disproportionately higher suicide rates: Māori, youth, Pacific peoples, Asian people, users of mental health services, males, people in rural locations, LGBTI+ people, men in the construction industry, young people in care, young disabled people, consumers of excessive amounts of alcohol, pregnant women and new mothers. Almost all of the indicators discussed in this paper can be disaggregated by ethnic group, sex, and age. For some indicators further disaggregation may be possible. Separate research will be required for some of the groups listed.

2 Potential indicators for national monitoring of suicide and self-harm

This section of the paper discusses potential indicators largely drawn from monitoring frameworks or registers used in Australia, Canada, England, Finland, Ireland, and the United States. The indicators are categorised into suicide and self-harm outcomes, social determinants, family, and individual-level factors. The indicators are discussed with reference to the international evidence for the association of the topic with suicide and self-harm, and the data quality to support using the indicator in New Zealand.

2.1 Suicide and self-harm outcome indicators

2.1.1 Suicide and suspected self-inflicted death rates

The suicide mortality rate is an internationally used outcome indicator for suicide prevention strategies. The age standardised rate of suicide deaths per 100,000 population and the age standardised rate of suspected self-inflicted deaths per 100,000 population will be included in our set of indicators.⁶ They suspected rate is reported through our System Performance Framework and both are included as longer-term outcome measures in the Suicide Prevention Action Plan 2025-29 (Ministry of Health, 2025).

2.1.2 Hospital admissions and short stay emergency department events

Non-fatal self-harm is considerably more prevalent than suicide. It is also a predictor of future suicide particularly in the 12 months after the event (Carroll et al., 2014; Hawton et al., 2015; Witt et al., 2019).

Emergency department (ED) data are more inclusive than hospitalisation data, as patients who present to ED but are not admitted to hospital will be included. There are data limitations with our two proposed indicators (see Table 2). In New Zealand, Fortune et al. (2022) note that the data on presentations to public hospitals undercount self-harm presentations by (an estimated) 50-60 percent.

Note that the 'number of self-harm hospitalisations per 100,000 population' is also included in the Suicide Prevention Action Plan 2025-29 (Ministry of Health, 2025) as a longer-term outcome measure.

2.1.3 ACC claims for self-harm injuries

A majority of episodes of self-harm do not come to medical (or other service) attention (Geulayov et al., 2018; Hawton et al., 2012). Accident Compensation

⁶ Suicide is the act of intentionally taking one's own life. A death that appears to be a suicide, but for which a coroner has not yet completed their findings, may be considered a 'suspected intentionally self-inflicted death'. See the Technical Information from the Ministry of Health's [suicide web tool](#).

Corporation (ACC) claims for self-harm injuries data potentially complement other self-harm data (e.g., including cases of physical injury without attendance at ED or being hospitalised). However, many self-harm events do not lead to a claim⁷ or are ineligible (e.g., there is no physical injury). Claiming may also be less prevalent among particular groups. ACC have identified that Māori, Pacific people, and Asian people, have lower claim rates than other population groups (even when adjusted for age) (ACC, 2025). Further, information on the type of injury is not made available in their structured data set (ACC, 2024). These limitations limit meaningful description of the data.

2.1.4 Primary care self-harm encounters

Little is known about the frequency of self-harm in primary care patient populations, nor how predictive of future self-harm any primary care consultations are. However primary care is a point of contact with the health system and some individuals who self-harm engage with general practitioners before or after episodes (Allothman et al., 2024; DelPozo-Banos et al., 2024). Including data from primary care provides a more comprehensive picture of self-harm, although methods of calculating the incidence or presentation rates are complex (Carr et al., 2016). The literature on this topic comes largely from the UK,, particularly large-scale population studies in England and Wales (Allothman et al., 2024; DelPozo-Banos et al., 2024). Comparisons with New Zealand may be limited in particular by differences in direct costs to individuals of seeing a GP in New Zealand, and lower access rates for particular groups (Irurzun-Lopez et al., 2021).

We do not have access to data to support the potential indicator (rates of new cases of self-harm in primary care per 100,000 population) for this topic. It is possible that data may become available through the National Primary Care Dashboard.⁸

2.1.5 Emergency service attendance

Ambulance and police data provide a view of non-fatal self-harm that may not result in hospital presentation, especially for people who seek help in less acute settings (Lubman et al., 2020). Regional analysis of police and/or ambulance attended self-harm and suicide-related events also helps identify areas where mental health crisis services – and emergency services more generally – are insufficient.

Our potential indicator for ambulance attendance (number of ambulance attendances for self-harm⁹) can be disaggregated by key demographic characteristics.

⁷ ACC have worked with the Ministry of Health and Stats NZ to include injury-related questions in the 2025/26 New Zealand Health Survey (NZHS) – an ongoing nationally representative population survey linked in the IDI. This will improve estimates of the levels of access to ACC (ACC, 2025).

⁸ See <https://www.tewhatauora.govt.nz/for-health-professionals/data-and-statistics/primary-care/primary-health-organisation-performance>

⁹ Ambulance organisations events (SNOMED) coded to self-harm are classified by the presence of self-harm preceding (past 24 hours) or during the ambulance attendance, with four categories of self-harm related ambulance attendances defined and coded as: (a) self-injury: non-fatal intentional injury without suicidal intent; (b) suicidal ideation: thinking about killing oneself without acting on the

However, analysis must take account of barriers to accessing emergency services. For example, Lilley et al (2024) have shown overlapping disparities of geography and ethnicity in out of hospital emergency service transport.

Police data (number of responses to 1X (threatens/attempts suicide) calls) record Police attendance to events and do not provide demographic information about the people involved in events. We note that recent changes in police response to these call outs will affect data comparisons over time.

2.1.6 Contacts with helplines

We do not have a potential population level indicator of suicide or self-harm related contacts to phone or digital helplines. In New Zealand, suicide and self-harm related calls are handled by multiple helplines. There is not a single, standardised method for categorising suicide or self-harm related contacts, or established procedures for data sharing.

thoughts; (c) suicide attempt: non-fatal intentional injury with suicidal intent, regardless of likelihood of lethality; (d) suicide: fatal intentional injury with suicidal intent.

Table 2: Potential suicide and self-harm outcome indicators

Indicator	Definition	Data source	Data quality	Population sensitivity*	Recommendation
Suicide rate	Age-standardised rate of suicide per 100,000 population	Health NZ, New Zealand Mortality Collection	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Suspected self-inflicted death rate	Age standardised rate of suspected self-inflicted death per 100,000 population	Health NZ, Ministry of Justice's case management system	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Self-harm hospitalisation rate	Age standardised rate of non-fatal intentional self-harm hospitalisation per 100,000 population	Health NZ, National Minimum Data Set	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
ACC claims for self-harm injuries	Number of self-harm claims and self-harm claims as a percentage of all ACC claims	ACC	Incomplete	-	Exclude
Primary care self-harm encounters	Age standardised rate of new cases of self-harm in primary care per 100,000 population	-	-	-	Exclude
Ambulance attendances for self-harm	Number of ambulance attendances for self-harm	Ambulance services electronic patient care records (ePCR)	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Police attendances for crises	Number of 1X (threatens/attempts suicide) coded responses to call-outs	Police	Data available annually. Recent changes in response will affect comparison over time.	Data not available by ethnicity, sex, age group	Include - noting that further work is needed to confirm the suitability of this indicator.

*Rates for some variables may be suppressed if based on very small numbers. Data may also be available for other variables.

2.2 Social determinants

The research literature shows a relationship between social determinants of health¹⁰ and suicide and self-harm (Gallagher et al. 2025). Internationally, indigenous peoples experience relatively poorer social conditions and are disproportionately affected by high rates of suicide and self-harm (and other negative health outcomes) (WHO, 2025). The relationship between social determinants and suicide is complex, but all factors, in some way, reflect social determinants (Pirkis et al., 2024). Indicators for the selected social determinants discussed below are listed in Table 3.

2.2.1 Education

Education engagement and school belonging are protective factors in youth suicide prevention. Conversely, early school leaving, absenteeism, and educational exclusion are linked with higher rates of adolescent self-harm and suicidal behaviour (Castellví et al., 2020; Clark et al., 2022; Diogu et al., 2025; Epstein et al., 2019; Ngā Pou Arawhenua et al, 2020). In New Zealand, Māori are more likely to be absent (Ministry of Education, 2025), leave school early (Ministry of Education, 2023), and be excluded from school (after controlling for variables associated with school exclusion) (Agnew et al., 2024). Low education levels are associated with self-harm in young adults (post-school) (Lunde et al., 2020) and older adults (60+ years) (Troya et al., 2019).

Internationally, adolescent bullying victimisation (by another student or students but not necessarily at school) is significantly associated with higher odds for a suicide attempt (Koyanagi et al., 2019).

Administrative data is available annually (or more often) to monitor early school leaving, absenteeism, and exclusions, and young people not in education, training or employment. Data for the other youth-focused education related indicators (engagement and bullying) will come from the three-yearly Youth Health and Wellbeing Survey.¹¹ Data for an adult education level indicator could come from Stats NZ's Household Economic Survey. However this indicator lacks sensitivity (that is, the aggregate education level of adults changes slowly over time).

2.2.2 Unemployment

Amongst social determinants relating to suicide mortality (of adults), much of the available evidence relates to unemployment and job insecurity (Gallagher, 2025). Unemployment is associated with increased odds of suicidality (Amiri, 2021) with long-term unemployment associated with a greater incidence of suicide (Milner et al., 2013). Data for our potential indicator (the unemployment rate) comes from Stats NZ's continuous Household Labour Force Survey.

¹⁰ The social determinants of health are the conditions in which people are born, grow, work, live and age, and the wider forces that shape the conditions of daily life (World Health Organization, 2025).

¹¹ Involving 13–19-year-olds.

2.2.3 Housing deprivation

In a systematic review of international studies of the health effects of housing unaffordability and foreclosure, Downing (2016) concluded that housing unaffordability was related to poorer self-reported health but not related to psychological distress in the same way as foreclosure on a mortgage. A later systematic review of studies from OECD countries exploring the association between housing insecurity and mental health among renters drew a similar conclusion, finding that ‘the evidence for other mental health outcomes such as ..., suicidal ideation or behavior ... was more limited and inconsistent’ (Talmatzky et al., 2023, p.23).

People experiencing homelessness face significantly higher rates of suicidal ideation and attempts compared to the general population (Ayano et al., 2019). Several large-scale studies, including from Canada (Hwang et al., 2009; Sinyor et al. 2017), and Denmark (Nilsson et al., 2014) demonstrate that homelessness and precarious housing are correlated with higher rates of suicide and suicidal ideation. This appears to be related to the prevalence of co-occurring factors including substance misuse and mental illness. However, Brackertz (2020) notes the small evidence base on the links between homelessness and suicide.

In New Zealand, census data (five yearly) previously provided the most robust estimates of housing deprivation¹² (Ministry of Housing and Urban Development, 2025). With the cessation of the census, it is not yet known how or whether this data will be collected. Service data, such as applications for social housing, does not measure homelessness. Service data is also subject to shifting criteria for eligibility.

2.2.4 Discrimination

Internationally, and in New Zealand, experiences of racial or ethnic discrimination – irrespective of the basis – are associated with psychological distress, self-harm, and suicide risk, particularly among minority populations (Coimbra et al., 2022; Goodwill et al., 2021; Talamaivao et al., 2020) – including the Asian population in New Zealand (Suicide Mortality Review Committee, 2019). People in sexual minority groups have higher rates of suicidal thoughts and behaviour than heterosexual young people (Turecki and Brent, 2016; Yildiz, 2018). Discrimination associated with minority sexual orientation is considered to at least partly explain this (Haas et al., 2010).

We monitor discrimination currently in our He Ara Oranga framework using data from the (previously) biennial General Social Survey (the percentage of people who report experiencing discrimination in the last year). This survey collects data from 15+ year olds. However, Stats NZ will not run the General Social Survey in 2025/2026 as they are exploring other options for collecting wellbeing data. The New Zealand Health Survey periodically include a module on racial discrimination for 15+ year olds. For younger people, the Youth Health and Wellbeing Survey (13–19-year-olds) may be a

¹² The Stats NZ (2024) definition of homelessness (or severe housing deprivation) contains four groups: without shelter, in temporary accommodation, sharing someone else’s private dwelling, in uninhabitable housing.

source of data; this would be available three-yearly. The upcoming Child and Youth Mental Health and Addiction Prevalence Study may be a source of data about discrimination experienced by children.

2.2.5 Child poverty

Suicide is associated with economic deprivation (Gibson et al., 2017). Research also suggests an association between economic deprivation and children and adolescents self-harming (Lodebo et al., 2017). This association is stronger in those experiencing consistently lower parental socioeconomic position (Hoffman, et al., 2020; Page et al., 2013).

Our potential indicators of child poverty are the percentage of children living in households with less than 50 percent of the median equivalised disposable household income before and after housing costs are deducted. These indicators use data from Stats NZ's cross-sectional Household Economic Survey.¹³ While data from the HES does not reflect cumulative patterns of poverty, or all mediating factors, it does usefully track child poverty.

¹³ It involves comparing a household's income for the previous 12 months with the median for all households for the year. For this measure to decrease over time, the incomes of low-income households would need to rise by more than the rise in the median household income.

Table 3: Potential indicators of social determinants of suicide and self-harm

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
School belonging	Percentage of young people (13-19-year-olds) who agree or strongly agree that they feel they belong at their school	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time.	Data available by ethnicity, sex, age group	Include
Education - attendance	Percentage of students who attend regularly (more than 90% of half-days)	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Education - exclusion	Age-standardised rate of student exclusions from New Zealand schools, by ethnic group	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Education - early leaving	Percentage of 15-year-old students enrolled in school who have an early leaving exemption approved	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Education - NEET	Percentage of youth (15-19 years) not in education, employment or training	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Education - adult attainment	Percentage of population (aged 25 to 64) with above upper secondary attainment	Stats NZ, Household Economic Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Exclude (lacks sensitivity to change)
Bullying victimisation	Percentage of young people (13-19-year-olds) bullied in the last 30 days	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	Include

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
Unemployment	Rate of unemployment	Stats NZ, Household Labour Force Survey	Data available quarterly and comparable over time	Data available by ethnicity, sex, age group	Include
Housing deprivation	Number of primary applicants on the social housing register	MSD, Social Housing Register	Data available quarterly and comparable over time	Age and ethnicity of primary applicant only	Exclude
	Rate of homelessness per 100,000 population	Formerly available through Census data	-	-	Exclude
	Number of people in temporary (transitional and emergency) housing				Exclude
Discrimination	Percentage of people who report experiencing discrimination in the last year	For young people, MSD's Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	Include
		For people 15+, the Ministry of Health's NZ Health Survey racism module	Data available irregularly and comparable over time	Data available by ethnicity, sex, age group	Include
Child poverty	Percentage of children living in households with less than 50 percent of the median equivalised disposable household income before housing costs are deducted	Stats NZ, Household Economic Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
	Percentage of children living in households with less than 50 percent of the median equivalised disposable household income after housing costs are deducted	Stats NZ, Household Economic Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include

2.3 Family-level factors

Various family interaction factors are strongly associated with self-harm and suicidal behaviours in young people (Fong et al., 2021; Fortune et al., 2016; Kushal et al., 2020; McEvoy et al., 2023). For adults also self-harm has been related to poor family functioning (Buckmaster et al., 2018).

The family-level indicators shown in Table 4 rely on survey data. We currently report on the percentage of people who rate their family wellbeing highly in our He Ara Oranga framework. Data for this indicator (for those aged 15+) comes from the NZ Health Survey and is available annually.

Data for children and youth could come from the Youth Health and Wellbeing Survey, and the upcoming Child and Youth Mental Health and Addiction Prevalence Survey.

For a variety of reasons parental and family mental health and addiction issues are associated with self-harm and suicidal behaviour in young people (Hawton et al., 2012; Hu et al., 2019; Pisinger et al., 2018). However, we do not have a data source to support including family mental health or addiction indicators.

Table 4: Potential indicators of family-level protective and risk factors for suicide and self-harm

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
Family relationships	Percentage of young people (aged 13-19) who agree or strongly agree that they get parental emotional support	MSD, Youth Health and Wellbeing Survey	Data available three yearly and comparable over time	Data available by ethnicity, sex, age group	Include
	Percentage of people who rate their family wellbeing highly	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Family mental health or addiction	Percentage of population aged 15+ with one or more family members who have problems with their emotions, mental health, or use of alcohol or drugs	-	-	-	Exclude
	Among those with one or more family members who have problems with their emotions, mental health, or use of alcohol or drugs, percentage who report that their life is affected some or a lot by their family member's problems	-	-	-	Exclude

2.4 Individual-level factors

A wide range of individual level risk factors are identified in the literature. These risk (and protective) factors reflect that suicide is multifactorial involving psychological, emotional and behavioural challenges. As noted previously, all factors, in some way, reflect social determinants (Pirkis et al., 2024). Indicators for the selected individual-level factors discussed below are listed in Table 5.

2.4.1 Social connectedness

There is a positive and direct relationship between suicide mortality and social isolation and loneliness in all age groups (Blázquez-Fernández et al., 2023). Our potential indicator is the percentage of population aged 15+ who report feeling lonely a little or none of the time in the last four weeks. We currently monitor this indicator in our He Ara Oranga framework, using data from the General Social Survey. This data is also collected in the core New Zealand Health Survey (available annually). Data for children and young people may come from the upcoming Child and Youth Mental Health and Addiction Prevalence Survey, or from the Youth Health and Wellbeing Survey.

2.4.2 Physical health

Research links poor physical health with increased suicide risk in adults (Ahmedani et al., 2017; Qin et al., 2022; Troya et al., 2019). Ahmedani et al's (2017) study of the risk of suicide among people with major physical health conditions in the US general population found several conditions (back pain, sleep disorders, and traumatic brain injury) associated with increased suicide risk. People with multiple chronic conditions were at significantly increased risk for suicide. Our suggested indicator (the percentage of the population (aged 15+) who rate their health status as good, very good or excellent) is available annually from the NZ Health Survey.

2.4.3 Psychological distress

High levels of psychological distress are associated with greater risk for both non-fatal self-harm and suicide in adults (Bell et al., 2015). Moderate psychological distress (measured by the K6¹⁴) has also been associated - in one adult study in Japan - with an increased risk of death by suicide in adults (Tanji et al., 2018).

Data for this potential indicator comes from the New Zealand Health Survey (the percentage of the population aged 15+ who have experienced high or very high levels of psychological distress in the past 4 weeks). The K10¹⁵ scale used in the survey questionnaire is a screening tool, not a diagnostic tool, however, distress measures such as the K10 are a sensitive, low-burden method for tracking changes in mental

¹⁴ The Kessler Psychological Distress Scale (K6+) is a 6-item self-report measure of psychological distress intended to be used as a quick tool to assess risk for serious mental illness in the general population (Prochaska et al., 2012).

¹⁵ Kessler Psychological Distress Scale 10-question screening scale of psychological distress, of which the K6 is the short-form (Kessler et al., 2002).

wellbeing. Using such a population-level indicator is supported by international public health practice (Tanji et al., 2018). Again, data for children and young people may come from the upcoming Child and Youth Mental Health and Addiction Prevalence Survey, or from the Youth Health and Wellbeing Survey.

Note that the proportion of the population reporting high, or very high, levels of psychological distress is included as a longer-term outcome measure in the Suicide Prevention Action Plan 2025-29 (Ministry of Health, 2025), using New Zealand Health Survey data.

2.4.4 Depression

Depression is a significant risk factor for suicidal thoughts and attempts although the risk of suicide mortality is less clear (Ferrari et al., 2014; Ribeiro et al., 2018). Hawton et al. (2013) identified that risk of suicidal thoughts and behaviours is particularly high when depression occurs with other conditions such as substance use or anxiety disorders. The New Zealand Health Survey reports PHQ-9¹⁶ data from the periodic mental health and problematic substance abuse module, but we do not have a more frequent source of data for our indicator for this risk factor (percentage of adults reporting moderate to severe symptoms of depression in the past two weeks). Data for children and young people may come from the upcoming Child and Youth Mental Health and Addiction Prevalence Survey, or from the Youth Health and Wellbeing Survey.

2.4.5 Anxiety

Having symptoms consistent with an anxiety disorder is associated with suicide-related behaviours (Bentley et al., 2017; Kanwar et al., 2013). Data for our potential indicator of anxiety (the percentage of population aged 15+ who have experienced moderate or greater anxiety symptoms in the past 2 weeks) also comes from the periodic New Zealand Health Survey mental health and problematic substance use module. The Ministry of Health reports limited GAD 7¹⁷ data from the module (the indicator reported in the data explorer is the percentage of adults (15+) with no/minimal anxiety and/or depression symptoms in the past 2 weeks. Other GAD 7 data may be available on request). Again, data for children and young people may come from the upcoming Child and Youth Mental Health and Addiction Prevalence Survey, or from the Youth Health and Wellbeing Survey.

2.4.6 Substance use

People who problematically use substances (alcohol and other drugs) are at increased risk of self-harm and suicide in comparison to the general population (Devin et al., 2023; Larkin et al., 2017; Ledden et al., 2022; Ness et al., 2015).

¹⁶ Adult respondents (aged 15+ years) are categorised as having severe or moderately severe depression symptoms in the past 2 weeks if they have a severity score of 15 or higher on the PHQ-9 screener of the Patient Health Questionnaire (PHQ).

¹⁷ The General Anxiety Disorder 7-item scale (GAD-7) is used to screen for anxiety or to measure its severity (Löwe et al., 2008).

Data for a potential hazardous drinking indicator comes from the core New Zealand Health Survey for adults (the percentage of the population aged 15+ with a hazardous drinking (alcohol) pattern).

Data for a potential problematic substance use indicator comes from the New Zealand Health Survey mental health and problematic substance use module (the percentage of population aged 15+ with moderate or high risk of problematic substance use) and is not reported annually.

The three-yearly Youth Health and Wellbeing Survey will provide data for similar (yet to be determined) problematic alcohol and other substance use indicators for young people (13-19-year-olds).

2.4.7 Gambling

The literature shows an association between problem gambling and self-harm, particularly suicide attempts (Kristensen et al., 2024; Rintoul et al., 2023; Wardle et al., 2007). Cross-sectional study findings support the interrelationship of gambling disorders, self-harm, and substance use and mental health problems (Gray et al., 2021; Rintoul et al., 2023).

Data for this indicator (the percentage of population aged 15+ who are moderate risk and problem gamblers) could come from the New Zealand Gambling Survey. This was last fielded in 2023/24, but it is not known whether this survey will be repeated.

2.4.8 Childhood in state care

Self-harm and suicidal behaviour are markedly more likely in children and young people in state care compared to non-care populations (Evans et al., 2017; Katz et al., 2011). In New Zealand, as elsewhere, this impact extends to adults who have experienced being in the care or custody of the state as children (Independent Children's Monitor, 2025; Favril et al., 2023; Vinnerljung et al., 2005).

Outcomes for those who have experienced childhood in care are affected by a range of factors including age at first placement, and placement stability (Jones et al., 2020). Our potential indicator (the age standardised rate of entries to care per 1,000 population (0-17 years)) does not reflect these nuances but is a relevant indicator of social adversity in children and young people. This is an important indicator for Māori, as approximately two-thirds of children and young people in care are Māori (Independent Children's Monitor, 2025).

2.4.9 Violence and sexual abuse

Physical abuse in childhood is associated with an increased risk of suicidal behaviour across the life course. The relationship appears robust across sexes and persists when controlling for other forms of maltreatment and mental health conditions. The strength of the association tends to increase with the severity and duration over time of the abuse (Angelakis et al., 2019; Zatti et al., 2017).

Childhood sexual abuse is also a consistently identified risk factor for self-harm and suicide. The risk extends into adulthood and is found in general and clinical populations (Angelakis et al., 2019; Ng et al., 2018; Zatti et al., 2017).

Further, there is consistent evidence that adult exposure to intimate partner violence increases the risk of self-harm and suicide, particularly among women (Devries et al., 2013; MacIsaac et al., 2013; McLaughlin et al., 2012; McManus et al., 2022C).

Our suggested indicators to monitor these factors come from the Youth Health and Wellbeing Survey, and the NZ Crime and Victims Survey.

2.4.10 Suicide attempts

Suicide attempts are strongly predictive of suicide deaths (Bostwick et al., 2016; World Health Organization, 2014). We do not have a source of data for this indicator for adults. Data for children and young people will be available from the upcoming Child and Youth Mental Health and Addiction Prevalence Survey and from the Youth Health and Wellbeing Survey.

Note that a reduction in people reporting (suicidal) thoughts, plans and attempts is included as a longer-term outcome measure in the Suicide Prevention Action Plan 2025-29 (Ministry of Health, 2025), using unspecified survey data.

Table 5: Potential indicators of individual-level protective and risk factors for suicide and self-harm

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
Social connectedness	Percentage of population aged 15+ who report feeling lonely a little or none of the time in the last four weeks	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Physical health	Percentage of population aged 15+ who rate their health status as good, very good or excellent	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Psychological distress	Percentage of population aged 15+ who have experienced high or very high levels of psychological distress in the past 4 weeks	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
	Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
Depression	Percentage of adults aged 15+ reporting moderate to severe symptoms of depression in the past 2 weeks	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	Include
	Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
Anxiety	Percentage of population aged 15+ who have experienced moderate or greater anxiety symptoms in the past 2 weeks	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	Include
	Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three yearly and comparable over time	Data available by ethnicity, sex, age group	

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
Substance use	Percentage of population aged 15+ with a hazardous drinking (alcohol) pattern	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
	Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time		
	Percentage of population aged 15+ with moderate or high risk of problematic substance use	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	Include
	Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time		
Gambling	Percentage of population aged 15+ who are moderate risk and problem gamblers	NZ National Gambling Survey – uncertain whether this will be fielded again	-	-	Exclude
Childhood in state care	Age standardised rate of entries to care per 1,000 population (0-17 years)	Oranga Tamariki	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Childhood physical abuse	Percentage of young people (13-19-year-olds) who report experiencing physical abuse before age 15	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	Include
Childhood sexual abuse	Percentage of young people (13-19-year-olds) who report experiencing sexual abuse before age 15	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	Include

Indicator	Definition	Data source	Data quality	Population sensitivity	Recommendation
Intimate partner violence	Percentage of adults (population aged 15+) who report experiencing physical assault by an intimate partner in the past 12 months	NZ Crime and Victims Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	Include
Suicide attempts	Percentage of people who attempted suicide in the past year/and ever	Available for young people through MSD's Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	Include

3 Long list and recommended indicators

We have identified a long list of 28 suicide and self-harm monitoring indicators that are supported by evidence and for which there is data available. We acknowledge that there are gaps in this list. We also note that the selected indicators emphasise risk rather than protective factors, reflecting the prominence of risk factors in the literature.

As shown in Table 6, we currently report on seven of these 28 indicators through existing monitoring. Four proposed indicators are longer-term outcome measures in the Suicide Prevention Action Plan 2025-2029 (Ministry of Health, 2025).

We recommend monitoring outcomes only (five indicators). This provides a small set of indicators at the highest level of suicide and self-harm surveillance.

In addition to these outcome indicators, we have identified a set of 12 prioritised indicators (social determinants) that could be monitored to focus on risk factors of relevance to populations with the highest need, that is, Māori and youth. These indicators would suit a deep dive report. These indicators (shown in bold in Table 6) relate to:

- School belonging
- School exclusion
- Bullying
- Discrimination
- Child poverty
- Parental support
- Family wellbeing
- Childhood in state care
- Experience of violence and sexual abuse (3)
- Suicide attempts

Table 6: Long list of indicators

Domain	Indicator	Definition	Data source	Data quality	Population sensitivity	Related reporting
Suicide and self-harm outcomes	Suicide rate	Age-standardised rate of suicide per 100,000 population	Health NZ (New Zealand Mortality Collection)	Data available and comparable over time	Data available by ethnicity, sex, age group	Suicide Prevention Action Plan
	Suspected self-inflicted death rate	Age standardised rate of suspected self-inflicted death per 100,000 population	Health NZ (Ministry of Justice's case management system)	Data available and comparable over time	Data available by ethnicity, sex, age group	System Performance Framework; Suicide Prevention Action Plan
	Self-harm hospitalisation rate	Age standardised rate of non-fatal intentional self-harm hospitalisation per 100,000 population	National Minimum Data Set	Data available and comparable over time	Data available by ethnicity, sex, age group	Suicide Prevention Action Plan
	Ambulance attendances for self-harm	Number of ambulance attendances for self-harm	Ambulance services electronic patient care records (ePCR)	Data available and comparable over time	Data available by ethnicity, sex, age group	
	Police attendances for crises	Number of 1X (threatens/attempts suicide) coded responses to call-outs	Police	Data available annually. Recent changes in response will affect comparison over time.	Data not available by ethnicity, sex, age group	
Social determinants	School belonging	Percentage of young people (13-19-year-olds) who agree or strongly agree that they feel they belong at their school	MSD, Youth Health and Wellbeing Survey	Data available annually and comparable over time.	Data available by ethnicity, sex, age group	
	Education - attendance	Percentage of students who attend regularly (more than 90% of half-days)	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	

Domain	Indicator	Definition	Data source	Data quality	Population sensitivity	Related reporting
	Education - exclusion	Age-standardised rate of student exclusions from New Zealand schools, by ethnic group	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Education - early leaving	Percentage of 15-year-old students enrolled in school who have an early leaving exemption approved	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Education - NEET	Percentage of youth (15-19 years) not in education, training, or employment	Ministry of Education	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Bullying victimisation	Percentage of young people (13-19-year-olds) bullied in the last 30 days	MSD, Youth Health and Wellbeing Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Unemployment	Rate of unemployment	Stats NZ, Household Labour Force Survey	Data available quarterly and comparable over time	Data available by ethnicity, sex, age group	
	Discrimination	Percentage of people who report experiencing discrimination in the last year	For young people, MSD's Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	He Ara Oranga
			For people 15+, the Ministry of Health's NZ Health Survey racism module	Data available irregularly and comparable over time	Data available by ethnicity, sex, age group	
	Child poverty	Percentage of children living in households with less than 50 percent of the median equivalised disposable	Stats NZ, Household Economic Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	

Domain	Indicator	Definition	Data source	Data quality	Population sensitivity	Related reporting
		household income before housing costs are deducted				
		Percentage of children living in households with less than 50 percent of the median equivalised disposable household income after housing costs are deducted	Stats NZ, Household Economic Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
Family-level factors	Parental support	Percentage of young people (13-19-year-olds) who agree or strongly agree that they get parental emotional support	MSD, Youth Health and Wellbeing Survey	Data available three yearly	Data available by ethnicity, sex, age group	
	Family wellbeing	Percentage of population aged 15+ who rate their family wellbeing highly	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	He Ara Oranga
Individual-level factors	Social connectedness	Percentage of population aged 15+ who report feeling lonely a little or none of the time in the last four weeks	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	He Ara Oranga
	Physical health	Percentage of population aged 15+ who rate their health status as good, very good or excellent	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	He Ara Oranga
	Psychological distress	Percentage of population aged 15+ who have experienced high or very high levels of psychological distress in the past 4 weeks	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	System Performance Framework; Suicide Prevention Action Plan
		Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	

Domain	Indicator	Definition	Data source	Data quality	Population sensitivity	Related reporting
	Depression	Percentage of adults aged 15+ reporting moderate to severe symptoms of depression in the past 2 weeks	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	
		Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
	Anxiety	Percentage of population aged 15+ who have experienced moderate or greater anxiety symptoms in the past 2 weeks	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	
		Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
	Hazardous drinking	Percentage of population aged 15+ with a hazardous drinking (alcohol) pattern	Ministry of Health, NZ Health Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	System Performance Framework
		Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
	Problematic substance use	Percentage of population aged 15+ with moderate or high risk of problematic substance use	Ministry of Health, NZ Health Survey, MHPSA module	Data available irregularly, comparable over time	Data available by ethnicity, sex, age group	
		Youth-related indicator to be determined	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	

Domain	Indicator	Definition	Data source	Data quality	Population sensitivity	Related reporting
	Childhood in state care	Age standardised rate of entries to care per 1,000 population (0-17 years)	Oranga Tamariki	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Childhood physical abuse	Percentage of young people (13-19-year-olds) who report experiencing physical abuse before age 15	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
	Childhood sexual abuse	Percentage of young people (13-19-year-olds) who report experiencing sexual abuse before age 15	MSD, Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	
	Intimate partner violence	Percentage of adults (population aged 15+) who report experiencing physical assault by an intimate partner in the past 12 months	NZ Crime and Victims Survey	Data available annually and comparable over time	Data available by ethnicity, sex, age group	
	Suicide attempts	Percentage of people who attempted suicide in the past year/and ever	Available for young people through MSD's Youth Health and Wellbeing Survey	Data available three-yearly and comparable over time	Data available by ethnicity, sex, age group	

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