

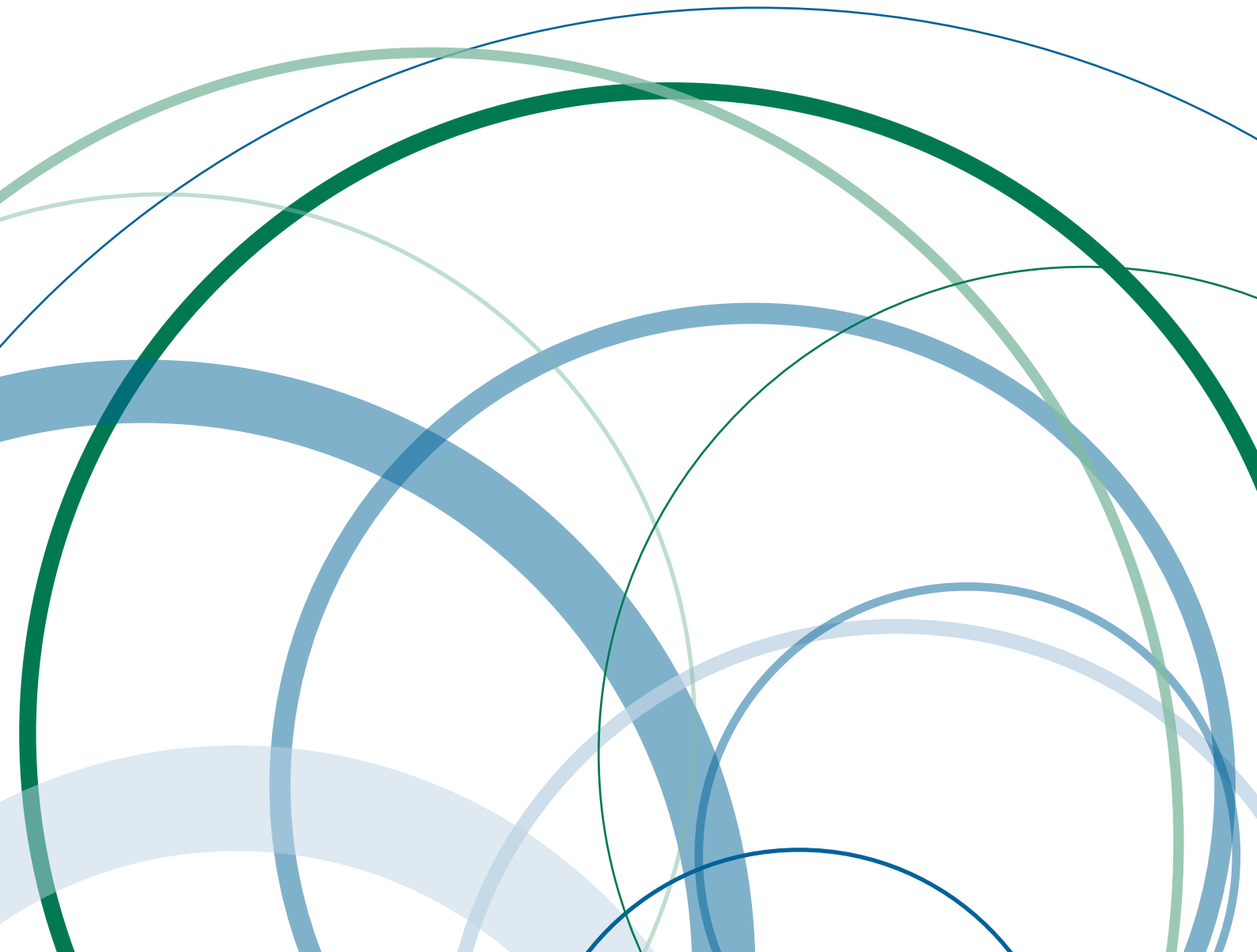


HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND

Kupu Taurangi Hauora o Aotearoa

Suicide Mortality Review Committee

Ngā Rāhui Hau Kura Suicide Mortality Review Committee Feasibility Study 2014–15



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We look to the past in searching for ideas and answers. We bring those to the present, and it is here we create a better pathway for tomorrow.

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Suicide Mortality Review Committee

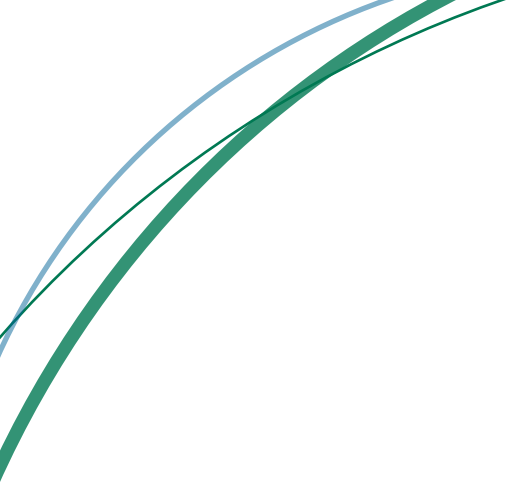
The SuMRC members are:

- Prof Rob Kydd (Chair), clinician and professor of psychiatry at the University of Auckland
- Dr Sarah Fortune, consultant clinical psychologist at Counties Manukau District Health Board and academic with a strong interest in suicide prevention
- Dr Deborah Peterson, mental health and suicide researcher with a PhD in social science research and with experience as a user of mental health services
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- Dr John Crawshaw, Director of Mental Health and Chief Advisor, Mental Health, at the Ministry of Health (ex officio member)
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The expert advisory group preceded the SuMRC and provided advice on the establishment of the feasibility study and the subgroups. Expert advisory group members were:

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- Professor Barry Taylor, Dean of the Dunedin School of Medicine
- Leo McIntyre, consumer representative
- Dr Lynne Sadler, epidemiologist at Auckland District Health Board
- Arawhetu Gray (Ngāti Kahungunu, Rangitāne, Ngāi Tahu), Māori advisor
- Dr John Crawshaw, Director of Mental Health and Chief Advisor, Mental Health, at the Ministry of Health (ex officio member)
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Foreword

This report into the feasibility of a suicide mortality review mechanism is an important step towards reducing New Zealand's high suicide rates.

Every week on average, 10 New Zealanders die by suicide. Many more are treated in hospital after a suicide attempt, having seriously harmed themselves. Sadly, we have some of the highest youth suicide rates in the OECD and suicide rates for Māori are over 50% higher than for non-Māori.

Every suicide is unimaginably tragic for families, whānau and friends. It is also a terrible loss for society, all the more so when the life is that of a young person yet to fulfil their potential.

When the Ministry of Health asked the Health Quality & Safety Commission to conduct this trial, we welcomed the opportunity to improve knowledge of contributing factors and patterns of suicidal behaviour and better identify key intervention points for preventing suicide.

The findings from the trial have exceeded our expectations. There are still some clear gaps in our knowledge, such as the denominator data needed to understand the risk factors collected and analysed in the trial. However, there are already clear indications that intervention opportunities exist for frontline staff in the various agencies involved with the people concerned in the weeks and months before their death.

I would like to project 10 years into the future. Will we still be grappling with a sense of frustration over high suicide rates in our young people and inadequate information and coordination between agencies to address this problem? Or will we have made real progress in identifying key intervention points and understanding the best ways to work across agencies so we can help some of our most vulnerable people?

Many agencies and people are already working hard to achieve reduced suicide rates, but more has to be done. A dedicated, permanent inter-professional mortality review committee would add momentum, bring a different focus to the analysis of the problem, and provide a strong central point for coordination and analysis of data from different sources.

A permanent committee could also collaborate closely with the Commission's existing mortality review committee, especially the Family Violence Death Review Committee, which deals with similar cross-agency issues.

As Chair of the Commission Board since its inception in 2011, I have seen the preventable death rates substantially drop as a result of the work of long-established mortality review committees. There is no reason we can't achieve the same results for suicide deaths. A permanent suicide mortality review committee is vital if we are to bring change.

The Commission Board is excited about the potential of this work and congratulates the Suicide Mortality Review Committee, research team and secretariat on their impressive achievements to date.

Prof Alan Merry ONZM FRSNZ

Chair, Health Quality & Safety Commission



Committee Chair's introduction

This report summarises the feasibility study conducted by the Suicide Mortality Review Committee (SuMRC) – a time-limited committee established in May 2014 to trial a suicide mortality review mechanism in New Zealand.

The trial was driven by an action in the *New Zealand Suicide Prevention Action Plan 2013–2016*. The legal status of a mortality review committee enables it to collect data from a number of different agencies and other sources, allowing examination of a wider range of material than might otherwise be available. The purpose of the trial was to examine this data using a variety of research approaches that could improve knowledge of the contributing factors and patterns of suicidal behaviour, and help identify key intervention points for suicide prevention.

Suicide is recognised internationally as being a preventable public health issue. Often there are several societal, community, family and individual risk factors that interact together, increasing an individual's vulnerability to suicidal behaviour over time. Because of the complex and multi-causal nature of suicide, its prevention requires collaborative efforts from multiple sectors. These sectors include health, social, justice and education, and the community as a whole.

The findings from the feasibility study highlight the need for expanding public health and multi-agency approaches to suicide prevention in New Zealand. Many of those who died by suicide had previous contact with Child, Youth and Family, New Zealand Police and the Department of Corrections. Although many had accessed mental health services at some point, just as many had not – people who may have suffered major difficulty and distress.

Enhancing the ability of agency frontline staff to better support people in distress and to understand potential suicide risk factors are important prevention strategies. There is also a real need to investigate further the role of alcohol and drugs in suicide. This requires working with other agencies to improve testing and reporting of this data.

The tight timeframes of the feasibility study and its exploratory nature ultimately meant some potentially useful data could not be collected and/or analysed in full. However, the strong relationships established with various agencies housing data throughout the study would place a long-term committee in a good position to further refine suicide mortality review processes.

I would like to acknowledge and thank the many people and agencies who have contributed to the study, and the SuMRC members and secretariat for their knowledge, expertise and hard work. I would particularly like to acknowledge the grief of the families, whānau and friends whose loss has contributed to the data we have used.

We hope the learnings from this study will help us prevent further deaths by suicide in New Zealand.

Professor Rob Kydd

Chair, Suicide Mortality Review Committee

Reading this report

Ngā Rāhui Hau Kura is the first report of the Suicide Mortality Review Committee (SuMRC). The name *Ngā Rāhui Hau Kura* was gifted to the SuMRC feasibility study by Matua Witi Ashby (Cultural Advisor to the SuMRC), to acknowledge the essence and sacredness of the mahi, and the protectiveness of the stories shared by the whānau of rangatahi¹ who died by suicide. *Ngā Rāhui Hau Kura* derives from the kōrero² taught to him by his matua³ Pene Tipene of Ngāti Hine and Te Rarawa. The kōrero is presented in written form in Appendix 1.

There are two versions of the report: a full report and this shorter version. The long version of the report (available at www.hqsc.govt.nz/our-programmes/mrc/sumrc/publications-and-resources/publication/2471) describes the details of the study design, data sources and methodologies in full and includes the findings from additional analyses not presented in this report. It will be of interest to researchers and academics as well as the government agencies that provided data. For people who want a broad overview of the SuMRC feasibility study, this short report will be more useful. This will include policy makers, district health boards, non-governmental organisations and other service providers, people working in mental health and local agencies across all of government, and mental health service consumers and their families/whānau.

What is mortality review?

Mortality review is a process involving reviewing and reporting on specific types of deaths, with a view to preventing such deaths and supporting continuous quality improvement.

In New Zealand, there are four permanent mortality review committees currently overseeing mortality review for specific populations:

- Child and Youth Mortality Review Committee (CYMRC)
- Perioperative Mortality Review Committee (POMRC)
- Perinatal and Maternal Mortality Review Committee (PMMRC)
- Family Violence Death Review Committee (FVDRC).

Mortality review committees can only be established by the Board of the Health Quality & Safety Commission under section 59E of the New Zealand Public Health and Disability Act 2000.

Under the legislation, mortality review committees have authority to collect a wide range of personal information and, in turn, must securely protect that information. These unique data collection powers enable mortality review committees to match data from different government data sets and conduct in-depth case and systems reviews of agency reports and inquiries. This provides a more detailed picture of the life and death of the deceased, which then informs the committee's recommendations for sector change and guides future prevention efforts.

Mortality review operates over a longer time period in comparison to general hypothesis-driven research. Because of this, the impact of mortality review can be seen gradually through improvements in mortality trends that span several years. Sector relationships and inter-sectoral actions are vital for ensuring review outputs are effective and have a wide impact.

1 Māori youth

2 Narrative/s, story/stories, account/s, discourse

3 Father/s, parent, uncle/s; respectful title for older male/s

Executive summary

Introduction

Suicide is 'the act of intentionally killing oneself' (Associate Minister of Health 2006, p 3). Suicide continues to be a significant issue for Aotearoa New Zealand. In 2012, a total of 549 New Zealanders took their own lives. Suicide rates were disproportionately higher in males (particularly youth aged 15–24 years and men aged 40–44 years) and Māori. Youth had the highest suicide rate: 23.4 per 100,000. For Māori youth, the suicide rate was 2.8 times the rate for non-Māori youth (Ministry of Health 2015).

The World Health Organization (WHO) considers suicide to be a public health issue because a range of individual, societal and health systems risk factors interact together, increasing a person's vulnerability to suicidal behaviour (WHO 2014). Suicide prevention involves strengthening protective factors (eg, social support) and minimising the impact of risk factors associated with suicidal behaviour, including health system factors (eg, barriers to care access), societal factors (eg, availability of means for suicide), community and relationships factors (eg, discrimination, family violence), and individual factors (eg, substance abuse).

Multisectoral strategies – involving not only the health sector but also education, social support, employment, judiciary and other relevant sectors – are important for effective suicide prevention (WHO 2014).

Suicide mortality review committee feasibility study

The Suicide Mortality Review Committee (SuMRC) has its origins in the *New Zealand Suicide Prevention Action Plan 2013–2016* (Ministry of Health 2013). Action 11.1 of the plan states the Ministry of Health and the Health Quality & Safety Commission (the Commission) will 'trial a suicide mortality review mechanism to improve knowledge of contributing factors and patterns of suicidal behaviour in New Zealand, and to better identify key intervention points for suicide prevention'. To address this action, the Commission began work on a feasibility study in late 2013. The aims of the study were to:

- test a number of tiered approaches/mechanisms and capture the lessons in developing and implementing these
- provide additional information on contributing factors and patterns in the three population subgroups selected because they have higher rates of suicide
- provide insights that might point to potential indicators, intervention points or levers to prevent suicide and improve equity for these subgroups
- test a process for cross-agency data collection and capture what has been learned
- identify whether analysis of this data provides useful insights.

The Commission convened an expert advisory group to set the scope and analytical focus of the study in September 2013. A formal SuMRC was established in June 2014. A research group from the University of Otago, Wellington undertook data collection and analysis as delegated agents of the SuMRC. The timeline of the feasibility study is shown in Figure 1.

Study cohort

The feasibility study cohort comprised three population subgroups with particularly high rates of suicide. These three subgroups were:

1. rangatahi Māori (Māori youth), aged 15–24 years
2. mental health service users (who had had face-to-face contact with specialist mental health or addiction services in the year prior to their death)
3. men of working age, aged 25–64 years.

The SuMRC identified 1797 people who died by suicide between 1 January 2007 and 31 December 2011⁴ for inclusion in the study cohort. This represents 71% of the total 2530 people who died by suicide during the study period (2007–11). Some of the people in the study cohort met the criteria for inclusion in more than one subgroup, creating overlap between the three subgroups (Figure 2).

4 The 2007–11 time period was chosen for the feasibility study because increasingly larger numbers of deaths by suspected suicide were still in the process of being confirmed by a coroner after 2011. For further details, refer to Chapter 1: Study design and methodology.

Figure 1: Timeline of SuMRC feasibility study

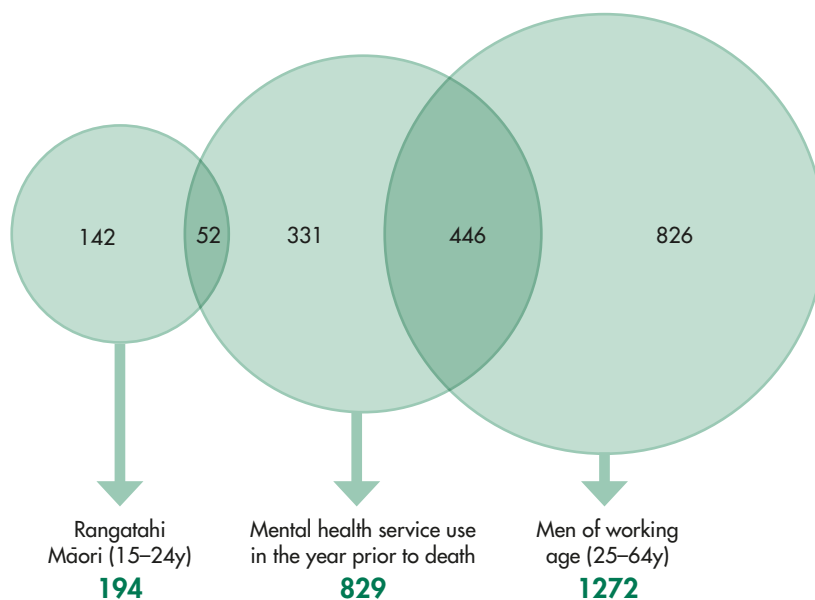


Feasibility study design

Mortality review uses a wide range of methods which are chosen depending on the data and resources available, the population of interest and the research questions. Together, these help us understand more about causes, contributing factors and patterns, as well as missed opportunities for suicide prevention.

The SuMRC collected information on the study cohort from a wide range of agency data sets and statutory administrative databases. A tiered approach was used to explore a variety of quantitative and qualitative research methods and analyses for the subgroups. These included: demographic overviews and more specific overviews on the lives of the subgroups; paper-based systems review for the mental health service users; and qualitative story-based inquiry (whānau suicide stories) for the rangatahi Māori subgroup. Detailed information about the feasibility study design is included in Chapter 1 of this report.

Figure 2: Number of suicide deaths included in the SuMRC feasibility study cohort by subgroup and overlap, 2007–11



Key findings for the three subgroups

Several findings from the subgroup analyses were consistent with what is already known about suicide in these groups:

- Men made up a greater proportion of those who died by suicide.
- Half of the rangatahi Māori subgroup lived in the most deprived decile areas of New Zealand.
- Māori were over-represented among those who died by suicide.
- Many were unemployed at the time of their deaths (30% of men of working age and 40% of mental health service users). Unemployment figures were higher for Māori within these two subgroups (42% and 53% respectively).
- The most common method of suicide was hanging, suffocation or strangulation (collectively): 93% for rangatahi Māori, 58% for men of working age and 57% for mental health service users.
- Two-thirds of people died by suicide at home.

Access to previously unexamined data sets and the ability to match data across multiple data sets revealed some new insights (most of which are presented in Table 1):

- For all three subgroups, and especially rangatahi Māori and men of working age, the nature and extent of engagement with New Zealand Police (Police) and the Department of Corrections (Corrections) preceding and at the time of death suggests potential opportunities for suicide prevention.
- For rangatahi Māori, information from the Child and Youth Mortality Review Committee's (CYMRC's) Mortality Review Database revealed a number of the subgroup had experienced adversity in their childhood or youth. One-fifth (22%) had been exposed to family violence as children or been in a violent relationship as young adults and 14% had disclosed sexual abuse at some point (23% for female rangatahi). A quarter had been bereaved, and almost half had either had a disagreement with their partner or a relationship termination immediately prior to their death.
- For men of working age, 30% of those who died by suicide were unemployed. Those working in 'construction and trade' and the 'farm and forestry' industries appeared to have high numbers as well, suggesting a clear opportunity for targeted suicide intervention in these industries.

Table 1: Results from the SuMRC feasibility study that reveal new or stronger findings

	Rangatahi Māori 15–24 years	Mental health service users	Men of working age 25–64 years
Mental health service use	(n=167)	(n=829)	(n=1272)
Person had a file with a mental health service over their lifetime	90/167 (54%)	(100%)	638 (50%)
Person had contact with a mental health service in the year prior to death	52/167 (31%)	(100%)	446 (35%)
Person had contact with a mental health service in the week before death	Not analysed	398 (48%) 36 (4%) were new to the service in the week of their death	Not analysed
CYF records	(n=194)		
Person had contact with CYF over their lifetime	87/194 (45%) [^]	Not analysed	Not analysed
CYF case for the person was still open at the time of death, or the case was closed in the year prior to death	18/194 (9%)	Not analysed	Not analysed
Person was placed under legal status by CYF	23/194 (12%)	Not analysed	Not analysed
Police offence record	(n=194)		
Person had an offence record in the 10 years prior to death	119/194 (61%)	416 (50%)	527 (41%)
Person had an offence record in the year prior to death	65/194 (34%)	231 (28%)	258 (20%)
Person had an offence record within three months of death	34/194 (18%)	117 (14%)	133 (10%)
Corrections file	(n=134)*		
Person had a file with Corrections over their lifetime	54/134 (40%) of those aged 17–24 years	259 (31%)	337 (27%)
Person was serving a community or prison sentence at the time of their death	19/134 (14%) of those aged 17–24 years	76 (9%)	62 (5%)
Died within three months of their last sentence starting	Not analysed	27 (3%) 27/210 (13% of those with Corrections file)	34 (3%) 34/337 (10% of those with Corrections file)
Died while on a sentence or within three months of last sentence ending	Not analysed	97 (12%) 97/259 (37% of those with Corrections file)	94 (7%) 94/337 (28% of those with Corrections file)
Educational attainment	(n=162)		
Attained at least one secondary school qualification	55/162 (34.0%)	Not analysed	Not analysed
Participated in post-secondary, tertiary education	95/162 (58.6%) [#]	Not analysed	Not analysed
Completed a post-secondary, tertiary qualification	21/162 (13.0%)	Not analysed	Not analysed

Note: The sample size for rangatahi Maori varies depending on data availability. See Chapter 2 for more information.

Refer to the 'Definitions of terms and abbreviations' page for descriptions of the CYF terms included in this report.

* Corrections only hold data on rangatahi aged 17–24 years because those who commit offences and are aged under 17 years are managed through the youth justice system.

Most of the 95 rangatahi Māori who participated in post-secondary or tertiary education had either enrolled in a polytechnic (57.9%) or at a private training establishment (30.5%).

[^] CYF provided data on 77 of the rangatahi. A further 10 were identified from the CYMRC database.

Key findings from whānau suicide stories

Whānau suicide stories were gathered from the whānau of four rangatahi who died by suicide in Aotearoa New Zealand during the study period (2007–11). A Kaupapa Māori research approach was used to guide the research. There were a number of lessons learned from the whānau suicide stories:

- Some of the whānau believed they were not listened to and appropriately supported when they raised concerns about their rangatahi with agencies and support service professionals. Agencies could improve the quality of their interactions with rangatahi and their responsiveness to whānau who ask for help.
- In the short time leading up to their suicide, rangatahi became very settled and calm, mended relationships and tidied up their personal spaces. Whānau talked about not knowing these behaviours were signs the rangatahi was at high risk of taking their own life.
- Whānau suicide stories have the potential to strengthen conventional mortality review. Further testing and exploratory work are required to refine this method. This is particularly the case for managing whānau expectations within the legal framework for mortality review and assuring an appropriate level of Māori involvement.

The SuMRC considers such qualitative research will be important going forward – it provides unique data that helps to gain an in-depth understanding of the circumstances surrounding suicide. It also enables researchers and policymakers to understand the context of findings derived from higher-level quantitative analyses.

Key findings from the mental health systems review

District health board (DHB) and coronial inquiry records from 20 mental health service users who died by suicide from hanging were reviewed. A consumer lens framework specifically developed for the review guided the analysis. A number of key findings were evident from the review:

- There appeared to be a pattern of increased service use and activity in the period leading up to suicide. Mental health service users with increasingly complex needs were often offered more service contacts in response. This service response did little to address the changing needs of the service users, sometimes resulting in narrowly focused treatments.
- Those who used mental health services more frequently, and those with complex mental health issues, were given numerous risk assessments during their care. Care was often delivered either with an ad hoc or short-term approach (as opposed to having ongoing, long-term care plans).
- Service users, their families and other support networks were seldom involved in the planning of their care.

Lessons learned from the feasibility study

A number of challenges were encountered and lessons learned about the feasibility of a suicide mortality review process in New Zealand:

- Data collection is resource intensive because it requires building relationships with key agency personnel. Navigating the varied data request processes unique to each agency is also time-consuming. These processes would be easier with a permanent SuMRC because relationships with the agencies would strengthen over time and facilitate easier access to data.
- Some analyses were limited by data quality issues. The significance of alcohol consumption around the time of death is difficult to assess due to inconsistencies in post-mortem investigation reporting (not all measurements of blood alcohol levels are written into the reports). Opportunities to improve alcohol and drug data should be pursued.
- Matching data across government agency data sets and administrative databases is complex and time-consuming. Data matching is complicated by the fact that the various data sets use different ethnicity classification systems and coding of deaths.
- Denominator data availability was limited and decisions on the appropriate denominators required further discussion beyond the timeframe of the study. Lack of appropriate denominators for the feasibility study meant comparative rates were not able to be calculated.

Interagency approach: Future suicide prevention

Based on its findings, the SuMRC believes interagency collaboration should be a key component of suicide prevention activities. Future suicide prevention activities should aim to approach the issue through concerted action across all social sectors – not solely within health.⁵ This echoes the multisectoral approach to suicide prevention discussed in the WHO’s suicide prevention strategy (WHO 2014).

Interagency collaboration should also occur within mortality review processes. A permanent SuMRC would be able to build upon the relationships initiated for the feasibility study. Ongoing key expert advisors from other agencies could then feed into the SuMRC’s work, either as agency data advisors, or as policy advisors for suicide prevention recommendations.

Success of the feasibility study and future suicide mortality review

The SuMRC believes the study has been successful, and recommends an ongoing SuMRC is established. An ongoing SuMRC could exhaustively analyse existing data, in conjunction with other agencies and in ways not currently possible.

The study has demonstrated mortality review for suicide is possible, and the work to date has only scratched the surface of possible learnings and prevention opportunities.

5 There are good national initiatives occurring at present. However, local-level interagency relationships (particularly between social agencies like DHBs, mental health non-governmental organisations, schools, Police, Corrections, CYF and Work and Income) are in their infancy in several regions and need to be prioritised. There is an opportunity to be forward-thinking as the new suicide prevention strategy and action plan is developed in 2016.

Suicide Mortality Review Committee recommendations

The Suicide Mortality Review Committee (SuMRC) recommends that:

1. the Government funds the SuMRC on a long-term basis in order for the SuMRC to have an impact in reducing suicide.

Recommendations relating to how a SuMRC should function

The SuMRC recommends that an ongoing SuMRC should:

2. undertake analyses of various mortality review models to identify the most cost-effective models for achieving the intended outcomes
3. develop a work plan that is based on an overarching framework and explicit prioritisation principles
4. invest in the development of strong working relationships with key government agencies in order to:
 - a) ensure the best possible understanding of wider agency data and policy, and more consistent data-gathering across agencies
 - b) target analyses on shared priorities
 - c) facilitate access to data and information about suicide prevention policy and services
 - d) inform recommendations
5. have strong Māori participation at all levels to enable Māori-centred approaches to be further developed and undertaken when appropriate
6. investigate a specific Pacific work-stream
7. use denominator data and/or case-control methodology and research on protective and resiliency factors to allow the SuMRC to make stronger evidence-informed recommendations.

Recommendations targeted at specific organisations

The SuMRC recommends that:

For the Health Quality & Safety Commission

8. the Commission Board review its approach to appointing Māori members of all mortality review committees, and consider a Māori-centred appointment process

For prevention

9. the Ministry of Health, Ministry for Primary Industries and Ministry of Business, Innovation and Employment explore further opportunities for suicide prevention in the construction and trade industries and the farming and agricultural industries
10. agencies including New Zealand Police, Department of Corrections and Child, Youth and Family continue to support suicide awareness training being implemented in their agencies (noting that future analysis of data is likely to result in more targeted cross-agency recommendations)
11. district health boards and non-governmental organisation mental health services look at their own services in the light of the initial findings about mental health service users, with a view to ensuring that:
 - a) their processes for long-term care planning include examining how service users, their families/whānau and relevant other supports are engaged when suicide risk is judged to be increased
 - b) their mental health services are able to swiftly and accurately identify when care is not progressing to plan, and act on that recognition in a timely way with the aim of assisting a person to recovery

For better data

12. the Mortality Review Committee Chairs Group discuss with the Office of the Chief Coroner, and the Royal College of Pathologists of Australasia, a pilot for obtaining data about whether drugs and alcohol were contributing factors to a death, and the feasibility of toxicology tests on all cases of suspected suicide
13. the SuMRC work with other agencies to ensure more consistent collection of data including:
 - a) with New Zealand Police and Coronial Services to develop a standardised minimum set of data to be collected when suicide is suspected
 - b) the Health Quality & Safety Commission, Ministry of Health and district health boards to develop and standardise a minimum set of data to be collected as part of adverse events reporting.

Chapter 1: Study design and methodology

This chapter summarises the design of the suicide mortality review feasibility study and describes the methodologies underpinning the research conducted for the three population groups of focus (rangatahi Māori,⁶ mental health service users and men of working age). Details of the research methods used for each of the three subgroups are presented in their specific chapters in this report.

1.1 Suicide mortality review feasibility study aims

The specific aims of the suicide mortality review feasibility study were to:

- test a number of tiered approaches/mechanisms and capture the lessons in developing and implementing these
- provide additional information on contributing factors and patterns in the three population subgroups selected because they have higher rates of suicide
- provide insights that might point to potential indicators, intervention points or levers to prevent suicide and improve equity for these subgroups
- test a process for cross-agency data collection and capture what has been learned
- identify whether analysis of this data provides useful insights.

1.2 Study design

1.2.1 Study time period

Deaths between 1 January 2007 and 31 December 2011 were included if they had been confirmed as suicide by a coroner. Recent data (after 2011) was excluded because there were increasing numbers of deaths still in the process of coronial inquiry.⁷

1.2.2 Population subgroups

The epidemiology of suicide in New Zealand was reviewed by the expert advisory group during the planning phase of the feasibility study. From this review, three population subgroups with particularly high rates of suicide were selected for in-depth review to provide additional information on contributing factors and patterns. The three subgroups are:

- rangatahi Māori (Māori youth), aged 15–24 years at the time of their death⁸
- mental health service users who had had face-to-face contact with specialist mental health or addiction services in the year prior to their death
- men of working age, aged 25–64 years at the time of their death.

Together these three subgroups comprised 71% of all suicide deaths during the five-year study period (2007–11).

⁶ Māori youth

⁷ Under the Coroners Act 2006, Police are required to report all suspected suicides to the coroner for investigation. Individual coroners then conduct an inquiry to find out more information on the person and the nature of their death. Following the inquiry, a suicide is formally confirmed through a coronial inquest (a hearing in court for the coroner) or through a hearing on paper.

⁸ The original intent was to include a focus on alcohol and drug involvement for the rangatahi Māori subgroup, but significant variation in the collection of alcohol and drug information made this unfeasible.

1.2.3 Sampling frames

The sampling frames used for each of the three subgroups are shown in Table 2.

Table 2: Sampling frames used for the three subgroups

Subgroup	Sampling frame	Agency or committee housing the data set
Rangatahi Māori	Mortality Review Database	Child and Youth Mortality Review Committee (CYMRC)
Mental health service users	Mortality Collection	Ministry of Health
Men of working age	Mortality Collection	Ministry of Health

It should be noted that the Mortality Collection and the Mortality Review Database use different systems for classifying deaths and ethnicity. For example, the Mortality Review Database codes deaths according to the calendar year in which the individual died, whereas the Mortality Collection uses the year the death was registered. This can result in discrepancies in the numbers of deaths between the data sets.

1.3 Data sources

1.3.1 Data set identification

Data obtained for subgroup analyses: 10 data sources

Data from a wide range of government agencies and statutory administrative sources were identified and requested for the feasibility study. There were 10 sources of data used for the subgroup analyses. These included Ministry of Health, CYMRC, district health boards (DHBs), Coronial Services, Accident Compensation Corporation (ACC), Ministry of Social Development (Child, Youth and Family (CYF) and Work and Income, New Zealand Police (Police), Department of Corrections (Corrections), Ministry of Education and Housing New Zealand.

The 10 data sources (agencies and statutory committees), data obtained for the subgroup analyses, and any associated limitations are summarised in Table 3.

Data of interest for suicide mortality review

A broader range of data was identified by the SuMRC as being of interest for suicide mortality review, and requested in the earlier phases of the feasibility study. Some of this data was unable to be included in the analyses because it was either not obtained, or was obtained with insufficient time remaining to conduct the analyses.

Data from the Ministry of Justice and Inland Revenue was not received in time to be included in this study; however, negotiations around the legal frameworks for data sharing with these two agencies progressed throughout the course of the study and data will be available in future. The Office of the Director of Mental Health provided data on five example cases from its database on 'reportable events';⁹ however, this required manual retrieval (using screenshots) and was not obtained in time to be included in the study.

⁹ DHBs are required to notify the Office of the Director of Mental Health when any of the following 'reportable events' occurs:

- death of a patient subject to the Mental Health (Compulsory Assessment and Treatment) Act 1992 (notification is required under section 132 of the Act)
- event where there is likely to be media interest
- serious event involving special patients (such as absence without leave)
- death of a voluntary patient in an inpatient unit.

The tight timeframes of the feasibility study required the researchers to prioritise work, which meant some of the potential agency data sources identified were not requested. These included:

- Statistics New Zealand's Integrated Data Infrastructure (IDI) – this data set was not yet of sufficient detail for the feasibility study, but will be useful in future reviews as increasingly more data is being matched from agencies over time
- Department of Internal Affairs' adoption records – these were not requested because adoption numbers are relatively low in New Zealand
- New Zealand Transport Agency's fatal single motor vehicle crashes – these were not requested because they should be included in the coronial data set
- Insolvency and Trustee Service information on bankruptcies and liquidations – collection of this information was trialled, but required manual searches which were considered too time-consuming for the feasibility study.

A detailed description of all data requested and obtained for the feasibility study is included in the 'Data sets' chapter (Chapter 3) of the full report.

Data request processes and lessons learned

Data request processes

Acquiring data was time-consuming because of the need to establish new interagency relationships and identify the appropriate contact person within each agency. The process of requesting and obtaining data was unique to each agency.

Agency data requests generally began with a letter sent to an identified contact person outlining the SuMRC's mandate, the relevant legislation and the status of researchers as agents of the SuMRC. Discussions with the contact person then took place to clarify the details of the data request (including specific variables of interest) and how the process was facilitated at their agency.

Agencies often required clearance from their legal teams or management before data could be given. One agency discussed the data request with the Privacy Commissioner. Inland Revenue commenced the process of seeking an exemption under the Tax Administration Act 1994 to release aggregated data, but it was not completed by the analysis phase of this study. These data-sharing legal challenges are common experiences for new mortality review committees.

Some agencies requested the data-sharing process be formalised. The Ministry of Social Development requested a memorandum of understanding on the data-sharing process. The Ministry of Justice indicated a memorandum would be drafted by the Chief Family Court Judge outlining the type of information that staff members could release. This was not completed within the timeframe of the study; however, the Ministry of Justice contact advised the ministry was undergoing a wider legal review of access to its data. Since the completion of the study, the Ministry of Justice has advised it will provide information subject to receiving a full data request.

Data exchange and management

Data exchange involved identifying a cohort list with each agency (using publicly available information only), and the agency then provided the corresponding data set. Data exchange was done securely in a number of different ways, depending on the agencies' and research team's agreements. This included signed courier, hand delivery, password-protected or encrypted data sticks, and secure data transfer.

All quantitative data was stored using SAS (Statistical Analysis Software) and analysed by one researcher on a single computer. Each individual included in the data sets were assigned unique anonymous identifiers. Standard data cleaning was undertaken, although this process was limited by the time constraints of the study (eg, consistency checks across all data sources were unable to be completed). Data from each source was coded and matched, creating a combined data set with one observation per person. Technical details of the data management processes are included in the 'Data sets' chapter (Chapter 3) of the full report.

Challenges and lessons learned

Identifying and then obtaining data from the various government administrative data sets required more time and human resource than initially anticipated. This was largely because of the significant amount of time spent establishing and building new relationships with key personnel from the various agencies. New relationships were necessary because many of the contacts established previously for some of the other mortality review committees were not appropriate for the SuMRC, or they were no longer in that position.

Throughout the study, the SuMRC learned each agency had different data-sharing policies and procedures for managing data requests. For some of the data requested, the length of time required for data request processes, combined with the time spent building new relationships, meant the data was unable to be obtained within the limited timeframes of the feasibility study.

Table 3: Summary of the 10 data sources used for suicide mortality review feasibility study subgroup analyses, 2014–15

Data source	Database/Data set and summary of data obtained for those who died by suicide during 2007–11	Number of suicide cohort with agency files	Data limitations
Ministry of Health, Analytical Services	<p>Mortality Collection</p> <p>Names and demographic data, including deceased's given and whānau/family names (including up to one alias), date of birth, sex, 'usual home address', place and country of birth, date of death, place of death, age at death and National Health Index number. The complete list of data obtained is presented in Appendix 3 of the full report.</p> <p>Programme for the Integration of Mental Health Data (PRIMHD)</p> <p>National data collected from publicly funded mental health and addiction services (hospitals, non-governmental organisations (NGOs), residential and supported accommodation services, and community mental health addiction services) on mental health service providers and users, including referrals and activity data, service type, start and end dates, activity setting and type, diagnosis data and clinical codes. PRIMHD data dates back to 1 July 2008. Before July 2008, service use data was collected and stored in the Mental Health Information National Collection (MHINC).</p> <p>National Minimum Dataset (NMDS)</p> <p>National public and private hospital discharges; selected hospital procedures and discharges (injuries and poisoning) by sex, age, ethnicity, deprivation, DHB region, length of stay and bed-days; inpatient and day cases.</p> <p>National Non-Admitted Patients Collection (NNPAC)</p> <p>Hospital data on emergency and outpatient activity. Information on the type of services provided and the health speciality involved. Data dates back to July 2006.</p> <p>Other Ministry of Health data sets</p> <p>Primary health organisation (PHO) enrolments, pharmaceutical claims, laboratory claims.</p>	<p>'Working cohort' of 1775 (over all three subgroups).</p> <p>Working cohort included all deaths registered from 2007 to 2011 with intentional self-harm (International Classification of Diseases (ICD) codes X60–X84) listed as the underlying cause of death for:</p> <ol style="list-style-type: none"> 1. males, aged 25–64 years 2. those who had face-to-face contact with mental health services within 12 months of their death, identified in the PRIMHD data set 3. Māori, aged 15–24 years. 	<p>For the purposes of this report, PRIMHD mental health service user data includes those service users aged up to 65 years.</p> <p>PRIMHD data dates back to 1 July 2008. To cover the full feasibility study period (2007–11), MHINC data from 1 January 2007 to 30 June 2008 was combined with PRIMHD data from 1 July 2008 to 31 December 2011. MHINC data under-reports secondary mental health service use because of incomplete data reported from some providers, particularly NGOs. This means the mental health service use data likely under-reports the actual amount of mental health service use that occurred over the study period.</p> <p>Quality of PRIMHD service data use varies. There are issues with missing data, particularly for emergency department visits and telephone contacts; these were apparent when the PRIMHD data was compared against qualitative data obtained for mental health service users subgroup analyses. There are also some issues with data coding, making it hard to interpret (eg, those already in care who come out of seclusion are coded as new inpatients).</p>

Data source	Database/Data set and summary of data obtained for those who died by suicide during 2007–11	Number of suicide cohort with agency files	Data limitations
DHBs	<p>DHB incident reports</p> <p>DHBs are required to review and report on those in their region who died by suicide and had used mental health services in the 28 days prior to death. Reviews are compiled into incident reports that include qualitative information on clinical details and notes; contacts with services in the period leading up to death; and discussion, conclusions and recommendations on quality of care.</p> <p>The feasibility study focused on incident reports where the suicide was by hanging.</p>	<p>102 (of which 85 were received in time for analysis).</p> <p>Thirty reports were not used as they did not contain enough detail about the person or contained only recommendations. This left 55 reports for the mental health service user subgroup analysis.</p>	<p>Report quality varies. Some contained only a short summary and a list of action points.</p>
Coronial Services New Zealand, Office of the Chief Coroner	<p>Coronial Services CMS</p> <p>The Coronial Services Case Management System (CMS) is a national database of coronial cases (containing every death reported to a coroner since 1 July 2007). Data is drawn from a range of documents, including Police reports, post-mortem reports, medical histories, witness statements, toxicology reports and coroners' findings.</p> <p>Data was obtained on confirmed cases of suicide over the study period, including demographic data, methods of suicide, occupation, marital status, coroners' findings and recommendations, and other detailed contextual information.</p>	<p>1536 (85 coroners' reports)</p>	<p>Six months of data unavailable electronically.</p> <p>CMS contains closed cases only.</p>
Police	<p>Police records</p> <p>Records of contact with Police in 10 years prior to death, including incidences and offences, details of offences (witness or bystander, victim or offender), dates of offences, offence types and charges.</p> <p>Subgroup analyses focused on records for drink-driving and other traffic offences, violence, family violence, protection orders, drunk and disorderly, drugs/antisocial, dishonesty and property damage.</p>	<p>1743</p> <p>This included data on subject of witness or bystander, victim or offender.</p> <p>Only offender data was used for subgroup analyses.</p>	<p>Police advises that offences data under-records actual offences.</p>
Corrections	<p>Corrections files</p> <p>Sentencing reports, criminal details, nature of offending, date of offending, date of conviction, nature and duration of sentence.</p>	<p>471</p>	
Housing New Zealand	<p>Data on Housing New Zealand clients</p> <p>Evictions, waiting lists, list of those requiring housing for mental health reasons, unpaid rent, community group housing, other relevant data.</p>	<p>71</p>	
Ministry of Education	<p>Education data</p> <p>School attended (including enrolment in kōhanga reo or kura kaupapa Māori), enrolment history, secondary qualification attainment, post-secondary (tertiary) participation and qualification attainment, non-enrolment notifications, suspensions, expulsions, stand-downs and alternative education.</p>	<p>183 Māori youth, aged 15–24 years</p>	

Data source	Database/Data set and summary of data obtained for those who died by suicide during 2007–11	Number of suicide cohort with agency files	Data limitations
Ministry of Social Development	<p>Work and Income data Benefit receipt.</p> <p>CYF data Nature, timing and outcomes of any interactions with CYF.</p>	<p>528 with CYF data.</p> <p>1539 with Work and Income data.</p> <p>513 with Work and Income and CYF data.</p>	Needs further investigation. Researchers were in the process of requesting more data on benefit type (unemployment, sickness etc), benefit history and types of CYF interactions but could not obtain the data in time.
ACC	<p>ACC injury claims data Demographic data, accident date, activity prior, injury cause, injury contact, external agency, scene, road accident, organised sport, client earner status and occupation.</p>	1714	ACC changed its policies from 2010, removing financial entitlements for claimants with wilfully self-inflicted injuries, including suicides. Only suicides resulting from mental injury caused by physical injury or sexual abuse, and suicides from work-related mental injuries are now eligible for financial entitlements. Wilfully self-inflicted injury claims where there is no accepted mental injury claim remain eligible for treatment-related entitlements.
CYMRC	<p>CYMRC Mortality Review Database The CYMRC Mortality Review Database is a data warehouse that stores data on deaths of all children and young people in New Zealand aged between 4 weeks and 24 years. The data dates back to 1 January 2002. It is collected from a wide range of agencies, as well as local reviews. The local review data often contains narratives that provide contextual details about the death, including drug and alcohol use.</p>	1248 records from their extract, 299 matched to SuMRC ID, 281 suitable for the rangatahi Māori subgroup analyses.	

1.4 Data analysis

1.4.1 Tiers of analysis

The statutory mortality review committees in New Zealand use tiered methods of analysis. Each tier is characterised by the type of data used (quantitative or qualitative), the population group of interest and the types of questions the analyses will address. The four tiers of analysis are as follows:

- Tier 1 – high-level population demographic overviews describing mortality in the population of interest, and patterns of association and trends over time. Routinely collected quantitative data from government agency data sets and databases are used.
- Tier 2 – specific overviews about the lives of population subgroups to understand more about causes and contributing factors, as well as missed opportunities for prevention. A wide range of information from government and other agency data sets can be linked or matched to reveal common themes, circumstances and warning signs. This provides an evidence base for system change, quality improvement and prevention activities.
- Tier 3 – systems/integrative review of how support services worked with individuals prior to death, and how individuals interacted in a wider social context, including any clusters of events prior to death. Systems reviews use ‘paper’ records (eg, case files and reports) held by agencies about a particular person and use qualitative research approaches.

- Tier 4 – in-depth personal review using new/primary information obtained from close informants. These reviews use qualitative research methods and analysis.

Both Tier 3 and Tier 4 levels of analysis use individual case review approaches; these reviews are labour- and time-intensive, so they are generally only conducted on small numbers of cases. Systems reviews (Tier 3) can involve reviewing case records and files from multiple agencies, interviews with family/whānau and friends, internal agency reviews, or a combination of these strategies.¹⁰ In-depth personal reviews (Tier 4) can involve collecting information from family/whānau and friends, who act as proxy informants on behalf of the deceased. This type of review is particularly valuable when the deceased has had limited agency involvement prior to the death.

1.4.2 Tiers of analysis used for the feasibility study

To thoroughly explore the feasibility of suicide mortality review, the SuMRC included all four tiers of analysis in the study. For the rangatahi Māori and mental health service user subgroups, qualitative analytical approaches (using small numbers of cases) were developed, tested and evaluated for their utility. These were:

- systems review/integrated analysis of DHB incident reports, on cases that had been in contact with mental health services in the 28 days prior to their death by suicide (Tier 3 analysis)
- whānau suicide stories, to retrospectively reconstruct the life history, behaviour, and the social, cultural and psychological features of deceased rangatahi, as well as the events preceding their suicide, through stories told by their whānau (Tier 4 analysis).

The different tiers of investigation and their application to the three population subgroups are summarised in Table 4.

Table 4: Tiers of analysis used for the three subgroups of the SuMRC feasibility study

Tier of data	Rangatahi Māori	Mental health service users	Men of working age
Tier 1 – demographic data from multiple sources:			
• Ministry of Health: Mortality Collection	✓	✓	✓
• Coronial Services CMS			
• CYMRC Mortality Review Database	✓		
• Ministry of Health: PRIMHD		✓	
Tier 2 – additional analyses on each subgroup, particularly in relation to service use, using data from multiple data sets:			
• Ministry of Health: – NMDS – NNPAC – PRIMHD	✓	✓	✓
• Police			
• Corrections			
• ACC			
• Housing New Zealand	✓		✓
• Ministry of Education	✓		
• Ministry of Social Development (CYF)			

¹⁰ The Family Violence Death Review Committee (FVDRC) uses multi-agency review teams to conduct their systems reviews of individual cases. The FVDRC's 'window on the system' lens approach involves reviewing files from a number of agencies to gather details of the lives of the deceased (and their family members, friends or other individuals that might have been significant) and understand how services worked (or failed to work) together to support the individual prior to the death event (Family Violence Death Review Committee 2013). This multi-agency review approach is necessary because events associated with family violence deaths can seldom be prevented by one agency alone.

Tier of data	Rangatahi Māori	Mental health service users	Men of working age
Tier 3 – systems/integrative review:			
• Paper-based review of cases from DHB incident reports and Coronial Services files		✓	
Tier 4 – individual case review:			
• Whānau suicide stories gathered from whānau of the deceased	✓		

1.4.3 Calculation of rates

It was only feasible and appropriate to produce rates for the subgroups in two instances. These were the suicide rates by five-year age group and ethnicity, and the rates for DHBs in some cases. Rates are used to make comparisons between a cohort of those who died by suicide and those who did not; this helps to assess the influence of potential risk factors for death by suicide. Good quality denominators¹¹ are needed to calculate rates. Ascertaining the appropriate denominators was challenging throughout the feasibility study for several reasons:

- Determining the appropriate population to use for comparisons was not straightforward.
- Some variables in the data sets and databases change over time, requiring more time-intensive analyses, such as complex matching across multiple data sets.
- There was insufficient resource available to explore comparison groups further within the limited timeframe of the study.
- Some of the variables had significant numbers of missing values.
- For subgroup analyses, and for particular characteristics (eg, drug/alcohol use, criminal justice history), the current data sources are limited for determining an appropriate denominator.

The SuMRC notes other mortality review committees shared these denominator problems in their early phases. A more detailed discussion on some of the technical issues that need to be considered to inform decisions involving rate calculations is provided in Appendix 2 of the full report.

1.5 Methodology for the mental health service users systems review

1.5.1 Framework development

The aims of the qualitative systems review were to:

- develop a framework to evaluate a sample of DHB and coronial inquiry records in respect of people with experience of mental illness (including internal reviews completed following the death event)
- evaluate the framework in terms of a) extracting useful data, and b) contributing to a paper-based systems review of suicides in this group.

Defining the 'system'

For the purposes of the review, the 'system' was defined as comprising two elements:

1. 'service users' – the people who had died (and their families/whānau)
2. 'services' – the mental health services.

¹¹ The question of being able to reasonably determine a denominator can be considered in the context of suicide by mental health service users. Definitions of the population-at-risk should be equivalent for both numerator and denominator: here the definition for the numerator is 'contact with mental health services within one year prior to death'. Determining an appropriate denominator here would require several definitional decisions that risk introducing bias.

Agencies' and service users' engagement with them were not included in this definition due to the limited timeframe of the feasibility study. An ongoing SuMRC could include engagement with other agencies in the system definition as there would more time available to conduct multi-agency systems reviews.

Developing the 'consumer lens' framework

The researcher conducting the mental health user systems review had a background in conducting suicide research with people who have experienced mental illness. She was also a previous service user (not a clinician), having experienced suicidality herself and having used mental health services over many years.

Developing the framework focused on how to best analyse the inquiry records from different perspectives and yield new, useful information. The SuMRC chose to use a consumer perspective, or 'lens', basing the framework on what service users would consider to be important attributes of a mental health service – the **people**, their **needs**, the **requirements** that were necessary to meet those needs, and the **resilience** of those in the service and of the person in managing the person's mental health care.

Coding categories were included within each attribute of the framework, designed to extract key data from the inquiry records on the services and service users. These categories were approached from the perspective of a service user and guided by the overall research question: What are the intervention points or policy/practice levers than can be used to prevent suicide in mental health service users?

The framework developed for the systems review is presented in Table 5.

Table 5: Consumer lens framework developed for the qualitative systems review

Attributes of a mental health service	Services	Service users
People	What values does the mental health service bring to its treatment of service users?	What are the characteristics of the mental health service users?
Needs	What is the amount of resource and/or service configuration required by the user?	What help-seeking behaviours do mental health service users use, and is help forthcoming?
Requirements/ Processes	What policies and processes guide the day-to-day running of the mental health service?	What is the appropriateness of the care for mental health service users, and how might care be influenced by organisation policies and processes?
Resiliency	Does the mental health service (and its staff) have flexibility in meeting the needs of its users?	What is the role of the mental health service user in his/her own care?
Why?	What conclusions did the mental health service appear to reach in regards to why the death occurred?	Assuming the perspective of the mental health service user (as much as possible), what were the circumstances of his/her death ?

Note: Attributes of a mental health service were derived from the perspective of consumers of mental health services (ie, a 'consumer lens'). Coding categories designed to guide data extraction from DHB and coronial inquiry records are shown in bold for the services and service users (the two parts of the 'system').

Applying and evaluating the consumer lens framework – paper-based reviews

Applying the framework

Researchers used a sample of 20 mental health service users who died by suicide from hanging.¹² The sample was chosen for its fit with the limited study timeframe, the availability and completeness of reports, and to maximise regional variation. The sample characteristics are presented in Appendix 3.

Qualitative analysis of the sample's DHB and coronial files was undertaken using the consumer lens framework developed by the research team. Important issues and findings identified from the analysis are presented in Chapter 3 of this report.

Evaluating the framework

After reviewing the DHB and coronial files, it was clear that some parts of the framework developed for this trial were more useful than others. The utility of each of the coding categories included in the framework are described below.

1. **Values** that mental health services bring to its treatment of service users

This category was not as useful for the reports included in the systems review – respect was always the common underlying value for these reports.¹³

The national policy emphasis on a recovery focus for mental health services was not evident in most of the DHB reports.

2. **Characteristics** of mental health service users

This category was extremely useful for providing a contextual overview of the person's care. It was used to extract the clinical details of their health, care and service use, which then fed in to the later categories of help-seeking, appropriateness, flexibility and role.

This category helps us gain a deeper understanding of how the person who died interacted with the care and support services surrounding them (eg, intensity of service).

3. **Resources and/or service configuration** required by the service user

This category was used to extract any resources or service configuration issues that DHBs (or other services) identified in reports as contributing to a person's death. It was included to allow researchers to investigate whether lack of mental health services or an inability to access these services contribute to suicide.

None of the sample records reviewed directly discussed any resource issues. However, resource and configuration issues became evident when reading the body of the reports. Examples included people who died before another service responded to a referral; a person turned down for supported accommodation because they did not meet the criteria although no other appropriate service was available; and people who met programme entry criteria, but waited for months for a place on that programme.

4. **Help-seeking behaviours and appropriateness of care**

'Help-seeking' and 'appropriateness of care' were initially two categories, intended to identify the discrepancies between the help the service user and their family/whānau needed, and the appropriateness of the services they received. It was difficult to separate help-seeking issues and issues related to appropriateness of care when reviewing the reports, so these two categories were combined.

The researchers found the combined category and the 'flexibility' and 'role' categories were the most important in the framework as they reflected the person's experience of treatment.

¹² People who died by hanging were chosen because it was the most common cause of death in the mental health service users subgroup. Hanging is an extremely lethal means of self-harm and it is difficult to reduce access to this means, making it difficult to prevent. Any insights into prevention opportunities, therefore, could be significant.

¹³ A small group of reports were unable to be included in the review as they contained little usable information. For these reports, there were some issues surrounding the care and respect of the person that were not discussed (but were identified in files from other sources on the same case).

5. **Policies and processes** guiding the day-to-day running of the mental health service

This category was used to extract any policy issues (raised by the DHB and/or the coroner) the DHB needed to address as a result of the inquiry into the person's death.

The policy issues identified in the sample related to internal workings of the DHBs. They generally supported the findings and recommendations identified in the 'Conclusions' category, and also pointed towards operational issues that could be addressed to improve the DHB's day-to-day workings.

6. **Flexibility** to meet the needs of service users

This category was used to discover how flexible the mental health services were at meeting the needs of the service user who died by suicide. Inflexible policies and service provision models can restrict a person's ability to access the mental health services they need. Flexibility was a useful category in assessing how adaptable a service is in meeting the needs of its clients.

7. **Role of the mental health service user** in their own care

This category was included to understand how the person, their family/whānau and the mental health service were managing the person's suicidality before they died. It was useful for gaining an understanding of the relationship between the service user (and their family/whānau), the service, the interactions between these different parties, and the role the service user had in their own care.

8. **Conclusions** made by the service provider about the death

This category was used to extract the conclusions made in the reports about the cause of death, what may have helped prevent the death, or what could have been done differently. It was extremely useful as the DHB's and the coroner's perspectives on the person's death often differ.

The 'Conclusions' category was useful also because it made it apparent where conclusions were either not made, or were inconsistent with the body of the report.¹⁴ Comparing conclusions between DHB and coroner inquiry reports (on the same case) would be a useful research approach for identifying other inconsistencies, but this was not possible within the timeframes of the study.

9. **Communication**

This category was used to identify communication issues between and within DHB mental health services, wider mental health services, and the service user and their family/whānau. It was not included in the initial framework developed, but it became clear during the review process it was important. Communication issues were noted in most of the reports examined for the systems review.

1.6 Methodology for the whānau suicide stories

1.6.1 A three-stage framework

Interviews with bereaved families, friends and colleagues can help build a contextual picture of the circumstances surrounding a person leading up to their suicide. This can be helpful for identifying early warnings, common themes and opportunities for prevention.

The whānau suicide stories method is based on the psychosocial autopsy method (thought to be a good method for reconstructing life circumstances preceding deaths by suicide in individual cases) and pūrākau¹⁵ (Hawton et al 1998).

¹⁴ An example of inconsistencies between report conclusions and report content was a report which concluded that no further action was needed from a DHB, whereas the text in the body of the report indicated a series of actions the service may have taken to improve the outcome.

¹⁵ Storytelling

Whānau suicide stories were gathered from the whānau of four rangatahi who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011. A narrative was written based on each whānau suicide story, and returned to the whānau. The narrative stories were examined using a three-stage framework chosen by the Māori researcher for its natural fit with the data as the research unfolded. The three stages were as follows:

1. The beginning of the stories – the early years of the rangatahi from their conception and through their childhoods.
2. The stories – the period of time in the lives of the rangatahi when ‘signs of trouble’ began to surface (some of these were only identified with hindsight).
3. The end of the stories – the day of the suicide and the period of time immediately beforehand and the trauma of the actual suicide event.

1.6.2 Kaupapa Māori methodology

Working with Māori, from a Māori-specific methodology, requires research processes that address power imbalances and aim to benefit Māori participants. Throughout the feasibility study, the Māori researcher was supported by a cultural advisor, and consulted with key Māori stakeholders and relevant Māori experts to guide:

- the ethics as applied in iwi and Māori settings
- identification of suitable tools of engagement for whānau suicide stories
- strategies for gaining participation
- maintenance of the safety of data, mātauranga,¹⁶ whānau and the SuMRC research team.

Seven ‘community-up’ research practices¹⁷ guided the culturally safe implementation of this methodology (Smith 1999). The expression of these values-based practices with the rangatahi Māori subgroup is summarised in Appendix 2.

Kaupapa Māori methodologies have not been used before within the mortality review context. This feasibility study highlighted a number of learnings for incorporating a Kaupapa Māori framework into future mortality review:

1. Mortality review committees legally own any data they collect. This undermines the centrality of the whānau and their experience. In practice, the SuMRC considered the stories were jointly owned.
2. It was not possible, either ethically or legally, to report and publish the narrative stories in full as they contained potentially identifiable information. For a number of whānau, identifiable publication of the story was not seen to be an issue (and some wanted the story to be made public); however, individually identifiable data collected for mortality review committees under the New Zealand Public Health and Disability Act 2000 cannot be publicly released.
3. The tight timeframe of the feasibility study did not allow for appropriate depth of discussion at various points throughout the study. There is a need for a realistic timeframe to enhance the cultural safety and allow whānau Māori bereaved by suicide the opportunity of more than just ‘participation’.

1.6.3 Cultural and ethical considerations for Māori

Cultural considerations

The SuMRC recognised cultural considerations needed to be at the forefront of the entire feasibility study. The SuMRC has one Māori member who was supported by the Commission’s Māori Caucus throughout the study. The Caucus is composed of the Māori members of all five mortality review committees.

¹⁶ Information, knowledge, education, wisdom, understanding

¹⁷ When Linda Tuhiwai Smith introduced these seven practices to guide Kaupapa Māori research in 1999, she termed them ‘Kaupapa Māori practices’. She later renamed them ‘a “community-up” approach to defining researcher conduct’ to indicate communities should be involved in decisions about the ethical research practices that are respectful for them (Smith 2006a).

Research for the rangatahi Māori subgroup was undertaken by a Māori researcher with expertise in Māori suicide. The researcher was supported by a cultural advisor with significant experience in Māori suicide and other non-Māori research team members who had prior experience working with Māori in research and development roles. The research team began developing a rangatahi Māori research plan two months after the SuMRC was established.

All research processes and practices used to undertake the rangatahi Māori research were based on tikanga¹⁸ principles that reflect Māori values, beliefs and worldviews, such as whanaungatanga,¹⁹ mana whenua,²⁰ mana tangata,²¹ kaitiakitanga,²² manaakitanga²³ and hauora.²⁴

Consultation with key Māori stakeholders and relevant Māori experts helped guide the research ethics for iwi and Māori settings, and identify appropriate engagement tools for collecting whānau suicide stories. This involved identifying strategies for gaining participation and maintaining the safety of the data, mātauranga, whānau and researchers.

Ethical issues of importance for Māori

A range of Māori research ethics models have been developed to guide researchers and ensure tikanga and cultural concepts are acknowledged. Recently, the framework *Te Ara Tika* (Pūtaiora Writing Group 2010) was developed to guide ethical decision-making processes of Kaupapa Māori research and help to ensure tikanga Māori and its philosophical base of mātauranga Māori²⁵ are integrated with indigenous values, Western ethical principles and understandings from the Treaty of Waitangi (Pūtaiora Writing Group 2010).

During the feasibility study, two key ethical issues of importance for Māori arose:

1. Ownership of data collected from bereaved whānau for whānau suicide stories needs to be acknowledged. Mortality review committees are permitted, under strict legislative conditions, to collect and store data without the knowledge of the bereaved whānau. The study's Māori research team adopted a kaitiaki²⁶ role as caretakers of the data gathered and ensured bereaved whānau were aware the information about their whānau member was being used to benefit Māori.
2. Making direct initial contact with bereaved whānau was facilitated through existing relationships. The interpersonal connection necessary for pūrākau research relied on whakapapa²⁷ links between the Māori research team and the whānau. This differs from a Western research ethics framework, where it would be more appropriate for the researchers to have no relationship with the whānau to ensure the whānau's decision to participate was not influenced by their relationship with the researcher. Although this research did not require formal ethics approval, these research approaches were discussed with a Health and Disability Ethics Committee representative.

18 Correct procedure, custom, lore, method, manner, practice, protocol

19 Relationship/s, kinship/s, sense of family connection

20 Those with territorial rights associated with possession and occupation of, and customary title over, tribal land; power from the land providing authority or jurisdiction over it

21 Human rights, status

22 Guardianship

23 Hospitality, kindness, generosity, support – the process of showing respect, generosity and care for others

24 Health, vigour

25 Māori knowledge originating from the tīpuna; includes Māori worldviews and perspectives

26 Guardian/s, custodian/s, caretaker/s, keeper/s

27 Genealogy, ancestry

Chapter 2: Rangatahi Māori

This chapter describes the demographic and other characteristics of the lives of rangatahi Māori aged 15–24 years who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011. It also summarises additional information from whānau stories of four rangatahi Māori who died by suicide during this time period.

2.1 Key findings

2.1.1 Demographic information

- There were 194 rangatahi Māori aged 15–24 years who died by suicide in Aotearoa New Zealand during 2007–11.
- Over half (55.2%) of the rangatahi Māori subgroup were teenagers aged 15–19 years at the time of their death.
- Males accounted for almost two-thirds (64.4%) of the rangatahi Māori subgroup population.
- Almost half (49.0%) of the rangatahi lived in areas that described as the most deprived by the New Zealand Index of Deprivation 2006 (NZDep2006).
- Most of the rangatahi (92.8%) ended their lives by hanging, strangulation or suffocation (collectively). This is the most commonly used method by young people who die by suicide in Aotearoa New Zealand (Ministry of Health 2015).

2.1.2 Other characteristics of the rangatahi Māori subgroup

- Twenty-seven (13.9%) of the rangatahi Māori had disclosed sexual abuse at some point in their lives. Disclosure of sexual abuse was over 2.5 times more prevalent among female rangatahi than male rangatahi Māori.
- Previous suicide attempts and histories of self-harm were more prevalent among female rangatahi than male rangatahi.
- Just over one-fifth (21.6%) of the rangatahi had either been exposed to family violence as tamariki,²⁸ or had been in a violent relationship later in their life.
- Over 40% of the rangatahi had contact with CYF²⁹ (but no legal status taken) at some point in their life. This is high given that the vast majority of New Zealand children and young people have no contact with CYF. CYF had placed 11.9% (n=23/194) of the rangatahi under legal status at some point in their life. Reports of concern had been made for 40.7% (n=79/194) of the rangatahi.
- An intimate relationship disagreement or break-up preceded their death for half (54.6%) of the rangatahi. This was more prevalent for those in the older age group (20–24 years).
- Around half (53.9%) of the 167 rangatahi included in Ministry of Health data had some contact with mental health services, and for almost a third (31.1%) this contact was in the 12 months prior to their death.

2.1.3 Whānau suicide stories

- Whānau sought help from multiple services and agencies ranging from counselling through to asking for help from their church, mental health services, Police and CYF. Where agencies had been involved right up to the death of their rangatahi, the whānau expressed their anger that the agencies were unable to help prevent their rangatahi dying by suicide.
- Some information discussed in the whānau suicide stories was not found in the Mortality Review Database. Whānau suicide stories, therefore, have the potential to strengthen conventional mortality review methods.

²⁸ Children

²⁹ Contact with CYF refers to cases where CYF have any record of the child or young person, including contact records, adoption records, youth offending records, reports of concern and interventions involving custody orders. Refer to the 'Definitions of terms and abbreviations' page for descriptions of CYF terms.

2.2 Methods

2.2.1 Definitions and inclusion criteria

Rangatahi Māori (Māori youth) were included in the subgroup analyses if they met the following three criteria:

- died by suicide between 1 January 2007 and 31 December 2011
- were aged 15–24 years (inclusive) at the time of their death
- were identified as Māori on their death certificate by the coroner.³⁰

The terms ‘rangatahi’ and ‘rangatahi Māori’ are used interchangeably throughout this report. Further information on the definition of rangatahi Māori from a historical perspective is included in Appendix 4 of the full report.

2.2.2 Data sources

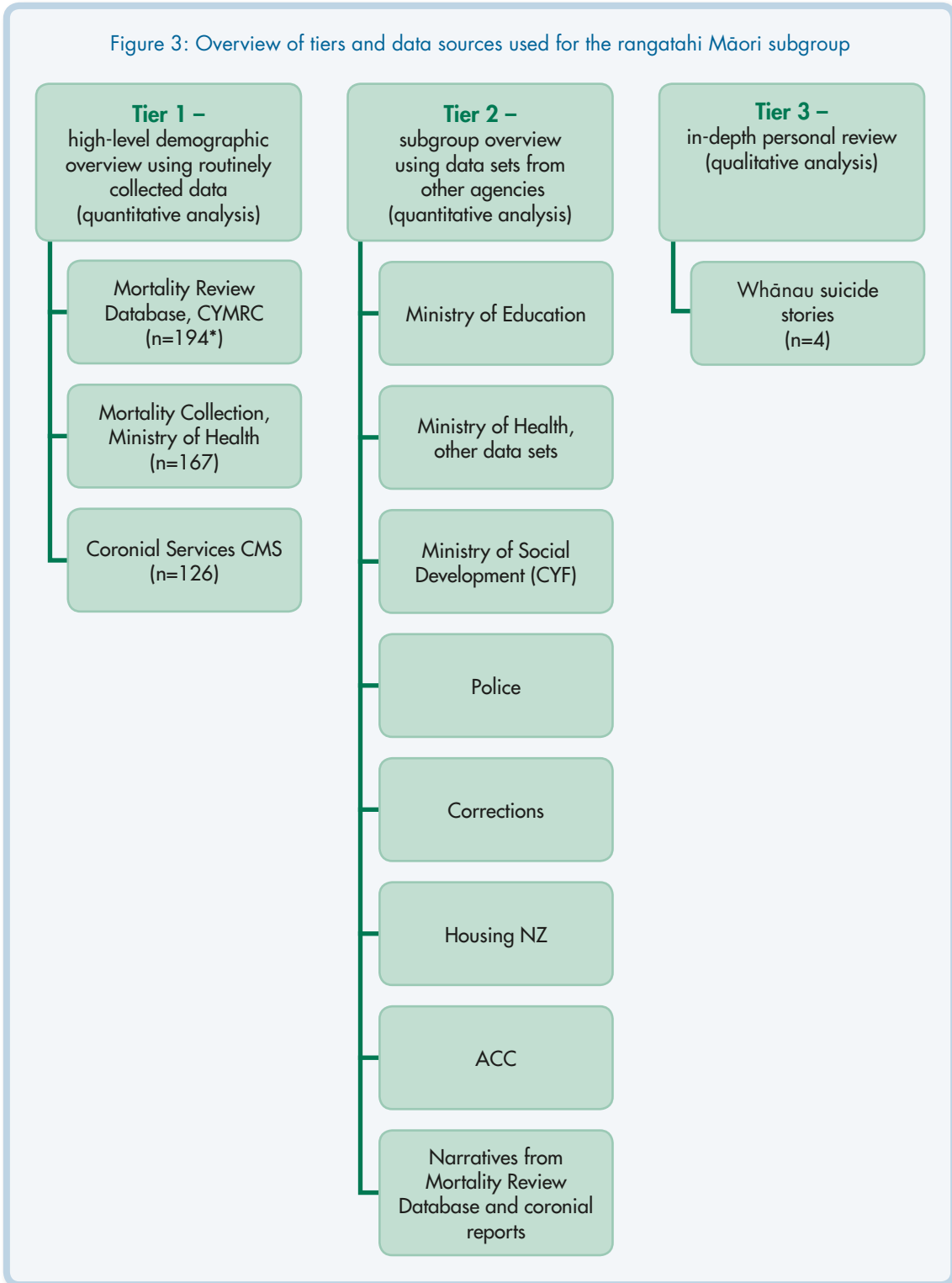
An overview of the data sources and tiers of analysis used for the rangatahi Māori subgroup is presented in Figure 3. These are described in more detail, along with the methodology used for the in-depth personal reviews (whānau suicide stories), in Chapter 1 of this report.

The SuMRC chose to use the CYMRC Mortality Review Database³¹ as the key data set for the rangatahi subgroup demographic analyses because of ethnicity and suicide classification discrepancies between the Mortality Collection and the Coronial Services CMS. Additional data on the lives of the rangatahi (sections 2.4 and 2.5) were also obtained from narratives contained within the CYMRC Mortality Review Database and coronial reports.

30 Previous work of the CYMRC identified that the most reliable sources of ethnicity data are (in ranked order) death certificates > birth certificates > health data (eg, National Health Index and other Ministry of Health data sets) > coroners > other sources. Death certificates are the most reliable source of ethnicity information because funeral directors are now required to ask the next of kin what the ethnicity of the deceased is, rather than assigning it themselves or recording it as unknown.

31 The CYMRC Mortality Review Database is compiled using unique identifiers to match cases across multiple data sources, including the Mortality Collection and Coronial Services CMS data sets (ie, the Mortality Collection and Coronial Services CMS are effectively subsets of the CYMRC Mortality Review Database). The Mortality Review Database also contains a relatively more complete set of death records and uses the multiple sources of data to code deaths by the calendar year they occurred, rather than the year they were registered. Because of the matching of information across multiple sources, data contained in the Mortality Review Database may differ from other official collections.

Figure 3: Overview of tiers and data sources used for the rangatahi Māori subgroup



* Ethnicity and suicide classification discrepancies made it difficult for the SuMRC to accurately define the number of rangatahi Māori in the subgroup. The CYMRC Mortality Review Database identified n=193 rangatahi, the Mortality Collection identified n=167 rangatahi and the Coronial Services CMS identified n=162 rangatahi. The subgroup of 194 rangatahi was obtained by including one additional rangatahi Māori identified from the Coronial Services CMS, but classified as non-Māori in the CYMRC Mortality Review Database.

2.3 Tier 1 – demographic characteristics of rangatahi Māori who died by suicide

There were 194 rangatahi Māori aged 15–24 years who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011.³²

2.3.1 Age, sex and gender

Males accounted for almost two-thirds (n=125/194, 64.4%) of the rangatahi Māori who died by suicide during 2007–11 (Table 6).

Over half (n=107/194, 55.2%) of the rangatahi Māori were teenagers aged 15–19 years at the time of their death. The distribution of rangatahi suicides by age differed slightly for females and males (Figure 4). A slightly higher proportion of the female rangatahi were aged 15–19 years (n=43/69, 62.3%), compared with the proportion of those aged 15–19 years in the male rangatahi subgroup (n=64/125, 51.2%).

Table 6: Age and sex of rangatahi Māori who died by suicide, 2007–11 (n=194)

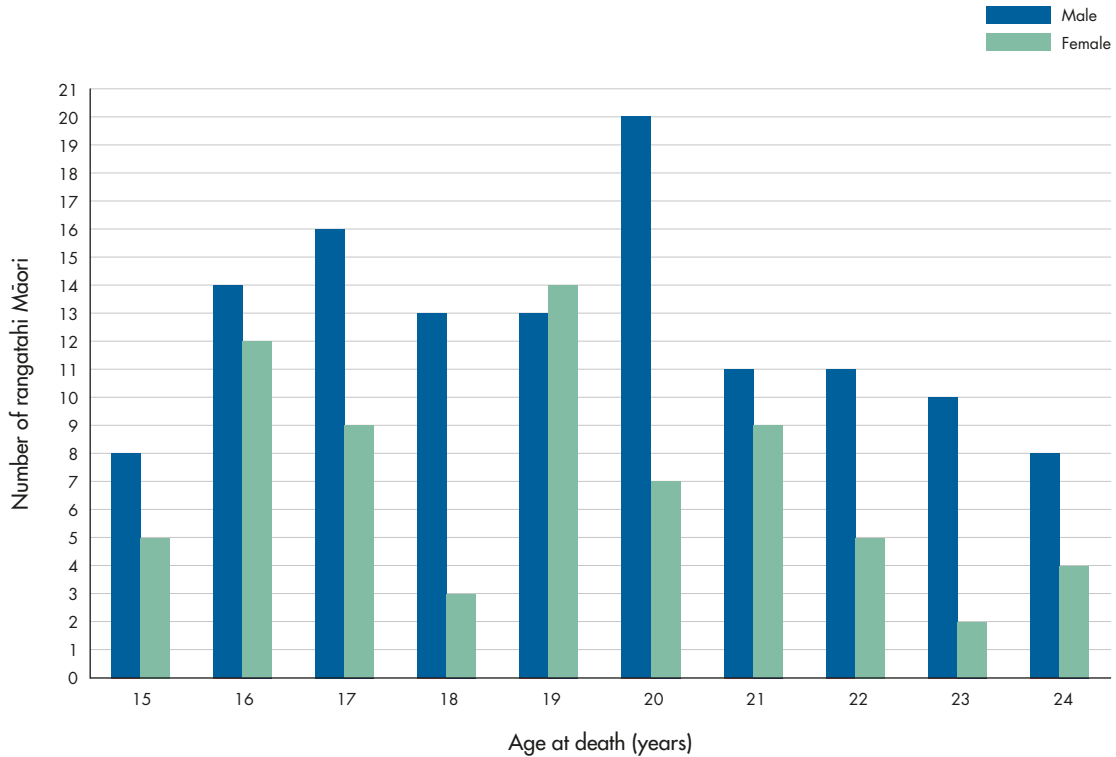
Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	107	55.2	43	62.3	64	51.2
20–24 years	87	44.8	26	37.7	61	48.8
Total	194	100	69	100	125	100

Source: CYMRC Mortality Review Database

Note: Transgender rangatahi have been classified according to the sex listed on their death certificate.

³² Unless specifically mentioned, the rangatahi demographic information is drawn from the CYMRC Mortality Review Database (see section 2.2 'Methods' for further details).

Figure 4: Number of rangatahi Māori who died by suicide by age and sex, 2007–11 (n=194)



Source: CYMRC Mortality Review Database

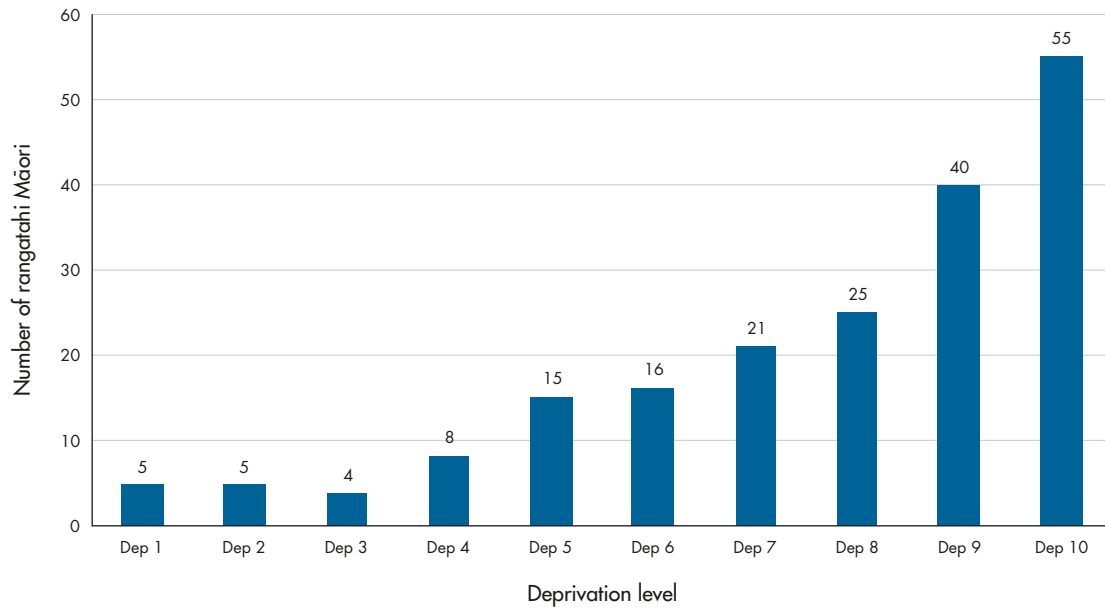
Note: Transgender rangatahi have been classified according to the sex listed on their death certificate.

2.3.2 Deprivation

Almost half (n=95/194, 49.0%) of the rangatahi who died by suicide during 2007–11 lived in the most deprived areas in New Zealand;³³ that is, decile 10 (n=55/194, 28%) and decile 9 (n=40/194, 21%) areas (Figure 5). This is a higher proportion than the 24% of Māori nationally residing in decile 10 areas and 17% in decile 9 areas at the time of the 2006 Census (Ministry of Health 2010).

33 The NZDep2006 index of socioeconomic deprivation combines Census data on income, home ownership, employment, education, family structure, housing and access to transport and communications into a deprivation score for small geographical areas (mesh blocks) in Aotearoa New Zealand. NZDep2006 groups deprivation scores into deciles, where 1 represents the areas with the least deprived scores and 10 represents the areas with the most deprived scores.

Figure 5: Deprivation of area of usual residence of rangatahi Māori who died by suicide, 2007–11 (n=194)



Source: CYMRC Mortality Review Database

2.3.3 Suicide method

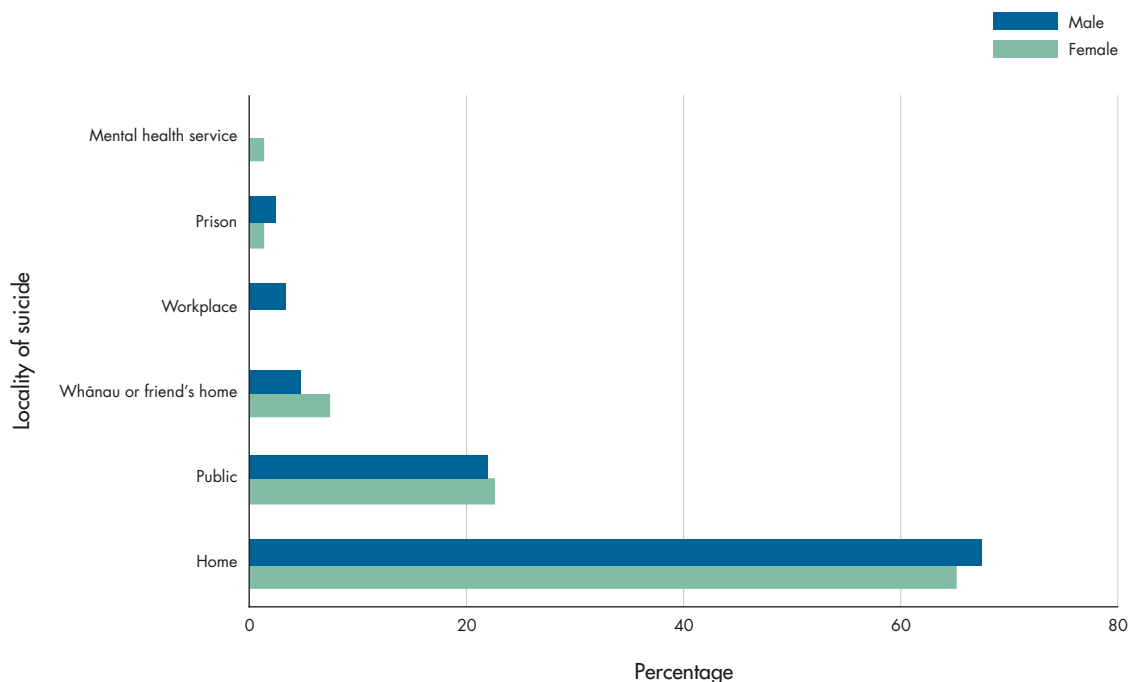
Most of the rangatahi subgroup (n=180/194, 92.8%) died as a result of hanging, strangulation and suffocation (collectively). This was the most common method of suicide among both male and female rangatahi.

2.3.4 Locality of suicide

The CYMRC Mortality Review Database provided information about location of death for 189 of the 194 rangatahi Māori (Figure 6). Approximately two-thirds of rangatahi (67.5% of males; 65.2% of females) died by suicide in their own home or on the property they lived at.³⁴ More than one in five (22.2%) rangatahi died by suicide in a public place, such as a reserve or a school property.

³⁴ Some in the rangatahi Māori subgroup were found alive and transported to hospital, where they subsequently died. Their deaths have been analysed using the locality where they attempted suicide, rather than the locality of the hospital in which they died.

Figure 6: Location of fatal suicide attempt by sex for rangatahi Māori who died by suicide, 2007–11 (n=189)



Source: CYMRC Mortality Review Database

2.4 Tier 2 – characteristics of the lives of rangatahi Māori who died by suicide

2.4.1 Previous suicide attempts and history of self-harm

Thirty-five rangatahi (n=35/194, 18.0%) who died by suicide during 2007–11 had previously attempted suicide (Table 7) and 39 rangatahi (n=39/194, 20.1%) had histories of self-harm (Table 8).

Previous suicide attempts and histories of self-harm were more prevalent among female rangatahi. One-third (n=9/26, 34.6%) of the female rangatahi in the age group 20–24 years had previously attempted suicide and nearly a third of the female rangatahi in the age group 15–19 years (n=14/43, 32.6%) had a history of self-harm.

Table 7: Prevalence of previous suicide attempts by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=35)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	17	15.9	9	20.9	8	12.5
20–24 years	18	20.7	9	34.6	9	14.8
Total	35	18	18	26.1	17	13.6

Source: CYMRC Mortality Review Database

Note: Percentages were calculated by age group and sex. See Table 6 for the cell totals used as denominators in percentage calculations.

Table 8: Prevalence of self-harm³⁵ by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=39)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	21	19.6	14	32.6	7	10.9
20–24 years	18	20.7	6	23.1	12	19.7
Total	39	20.1	20	29	19	15.2

Source: CYMRC Mortality Review Database

Note: Percentages were calculated by age group and sex. See Table 6 for the cell totals used as denominators in percentage calculations.

2.4.2 Sexual abuse

Twenty-seven (n=27/194, 13.9%) of the rangatahi Māori who died by suicide during 2007–11 had disclosed sexual abuse at some point in their lives (Table 9).³⁶ Disclosure of sexual abuse was over 2.5 times more prevalent among female rangatahi than male rangatahi Māori. These numbers are likely to be an under-count.

Table 9: Prevalence of sexual abuse disclosure by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=27)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	15	14	10	23.3	5	7.8
20–24 years	12	13.8	6	23.1	6	9.8
Total	27	13.9	16	23.2	11	8.8

Source: CYMRC Mortality Review Database

Note: Percentages were calculated by age group and sex. See Table 6 for the cell totals used as denominators in percentage calculations.

³⁵ The data presented does not distinguish previous self-harm with suicidal intent from self-harm behaviour without suicidal intent.

³⁶ Data surrounding the disclosure of sexual abuse is best sourced through ACC's Sensitive Claims. However, this data was not obtained in the SuMRC feasibility study. The PRIMHD data set also uses a referral code to identify a history of sexual abuse, but this data was not specifically analysed in this study.

2.4.3 Family violence

Just over one fifth (n=42/194, 21.6%) of the rangatahi who died by suicide during 2007–11 had either been exposed to family violence as tamariki, or had been in a violent relationship later in their life (Table 10). Most of the rangatahi exposed to family violence were male (n=31/42, 73.8%), which equates to almost a quarter (n=31/125, 24.8%) of all rangatahi males who died by suicide over the time period. Because family violence can often go unreported, these numbers are most likely an under-count.

Table 10: Prevalence of exposure to family violence by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=42)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	21	19.6	6	14.0	15	23.4
20–24 years	21	24.1	5	19.2	16	26.2
Total	42	21.6	11	15.9	31	24.8

Source: CYMRC Mortality Review Database

Note: Percentages were calculated by age group and sex. See Table 6 for the cell totals used as denominators in percentage calculations.

2.4.4 Takatāpui (Māori who identify as lesbian, gay, bi-sexual, transgender or intersex)

Issues surrounding sexuality were significant for 7.2% (n=14/194) of the rangatahi who died by suicide during 2007–11. The stigma associated with homosexuality appeared to be particularly significant for rangatahi males, who had been bullied about their sexual orientation.

2.4.5 Experiences of bereavement

Almost a quarter (n=47/194, 24.2%) of the rangatahi were bereaved by the deaths of whānau members and friends. The losses included siblings, parents, grandparents, partners and friends. Twenty-three (n=23/194, 11.9%) of these rangatahi were bereaved due to deaths by suicide. Three of these rangatahi were bereaved by suicide twice, and one was bereaved by suicide six times. This is likely to be under-recorded.

2.4.6 Relationships

Over half (n=106/194, 54.6%) of the rangatahi had arguments with whānau members and/or arguments or breakups with a partner prior to their deaths.

Twenty-one (n=21/194, 10.8%) rangatahi had an argument with a whānau member (almost always a parent) in the period immediately preceding their suicide and these were recognised as being significant to their deaths in the narratives contained within the Mortality Review Database.

Almost half (n=93/194, 47.9%) of the rangatahi either had a disagreement with their partner or a relationship termination in the period immediately prior to their suicide. These events were perceived as being a significant contributor to their deaths in narratives contained within the Mortality Review Database.

2.4.7 Alcohol and other drugs

Only 105 of the 167 rangatahi identified from the Mortality Collection (62.9%) had a test for the presence of alcohol in their blood at the time of their death that was reported to the Ministry of Health. Half of these rangatahi (n=55/105, 52.4%) tested positive for alcohol at the time of their death, although only traces of alcohol in the blood were registered for 18 of these rangatahi.

Toxicology reports tested positive for the presence of cannabis for almost 10% of rangatahi (n=15/167, 9.0%). Due to the high level of missing or unknown data, these statistics on alcohol and other drugs are likely to be significant under-counts and should be interpreted with caution.

2.5 Tier 2 – rangatahi Māori education and engagement with other services

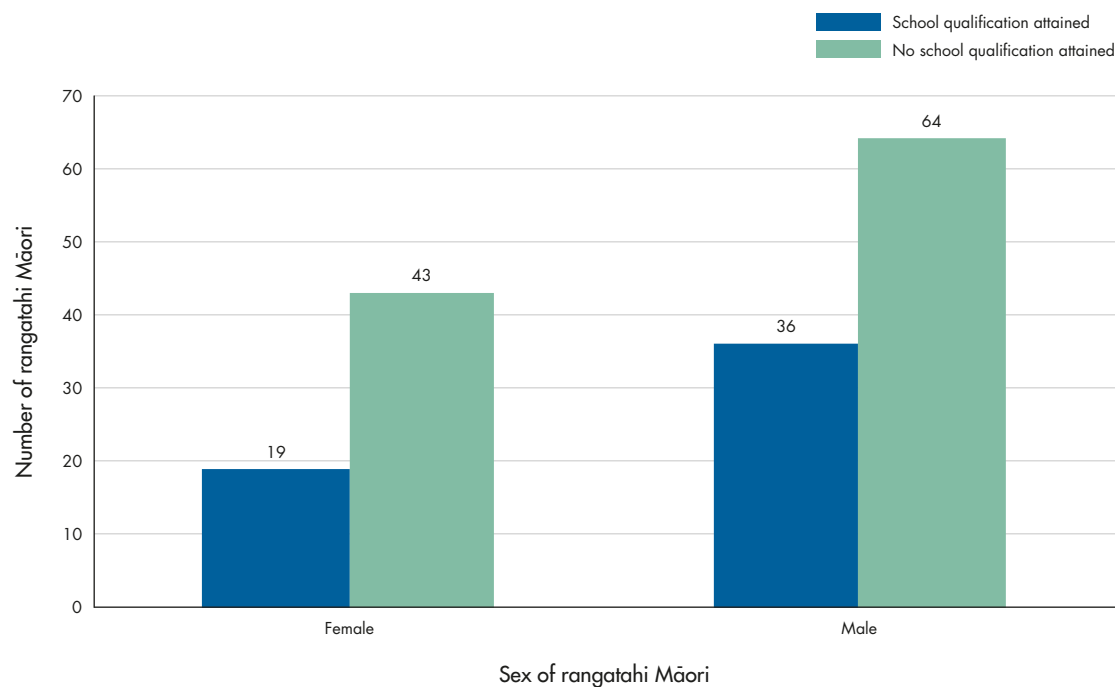
2.5.1 Education

Education data was available from the Ministry of Education on 162 of the 194 rangatahi Māori.³⁷

2.5.2 Secondary school education

Just over a third (n=55/162, 34.0%) of the 162 rangatahi for whom education information was available had attained at least one school qualification (Figure 7).

Figure 7: Secondary school qualification attainment by sex for rangatahi Māori who died by suicide, 2007–11 (n=162)



Source: Ministry of Education

³⁷ A further 19 rangatahi were also included in the Ministry of Education database, but were excluded from analyses because they were not identified as Māori in either the CYMRC Mortality Review Database or the Coronial Services CMS (n=5), or no corresponding code was provided to match them across either of these databases (n=14).

2.5.3 Education disengagement, stand-downs, suspensions and expulsions³⁸

Non-enrolment notifications occur when a student is not enrolled at a school for 20 consecutive days. Thirty-one (19.1%) of the 162 rangatahi for whom education information was available had non-enrolment notifications.

Stand-downs, suspensions, expulsions and/or truancy of those in the rangatahi Māori subgroup were identified as important variables because of their ongoing impact on literacy and wellbeing. Forty-three (26.5%) of the 162 rangatahi were stood down from the schools they attended at some point. Eighteen (11.1%) of the 162 rangatahi were suspended from the schools they attended at some point. Eleven (6.8%) of the 162 rangatahi were expelled from the school they attended at some point. 'Continual disobedience' was the most common reason cited for stand-downs, suspensions and expulsions.

2.5.4 Tertiary education

Over half (n=95/162, 59%) of the rangatahi for whom education data was available had participated in post-secondary (tertiary) education. Of these 95 rangatahi Māori:

- 55 (57.9%) had enrolled in a polytechnic
- 29 (30.5%) had enrolled in a private training establishment
- eight (8.4%) had enrolled in a whare wānanga
- three (3.2%) had enrolled in a university
- 21 (22.1%) completed a post-secondary qualification.

2.5.5 Engagement with health services

Primary care

The majority (87.4%) of the 167 rangatahi included in data obtained from the Ministry of Health were enrolled in a PHO.

Mental health services

Over half (53.9%) of the 167 rangatahi included in the Ministry of Health data had accessed mental health services, and 31.1% of them had contact with mental health services in the year preceding their death by suicide (Table 11).

Coronial reports and other narrative in the CYMRC Mortality Review Database found reference to mental illness in 41.2% (n=80/194) of the rangatahi Māori subgroup. Thirty-one of these rangatahi (n=31/80, 38.8%) did not appear to have had any interaction with specialist mental health services in their lives, yet the information gathered in the coronial process suggests the presence of depression.

³⁸ A suspension is a formal removal of a student from a school until a school board of trustees decides the outcome at a suspension meeting. The board of trustees can decide to either lift the suspension (with or without conditions), extend the suspension (with conditions) or terminate the student's enrolment at the school. Terminating the enrolment of a student results in either an exclusion (if the student is aged under 16 years) or an expulsion (if the student is aged 16 years or older).

Table 11: Prevalence of mental health service use by sex for rangatahi Māori who died by suicide, 2007–11 (n=167)

Mental health service use	All		Sex			
			Females		Males	
	n	%	n	%	n	%
Service use in year prior to death	52	31.1	24	36.9	28	27.5
Service use ≥1 year before death	38	22.8	14	21.5	24	23.5
No service use	77	46.1	27	41.5	50	49.0
Total	167	100	65	100	102	100

Source: PRIMHD and Mortality Collection, Ministry of Health

2.5.6 CYF records

In total, 87 of the 194 (44.8%) rangatahi Māori who died by suicide during 2007–11 were identified as having had some contact with CYF at some stage in their life.³⁹ The CYF cases for 12 of these rangatahi (n=12/87, 13.8%) were still open at the time of their death by suicide.

Reports of concern (or notifications)⁴⁰ with CYF had been made for 79 (40.7%) of the 194 rangatahi who died by suicide during 2007–11. Over half (n=46/79, 58.2%) of these rangatahi had one or two CYF care and protection reports of concern. Twenty-eight rangatahi had five or more reports of concern over their lifetimes.

Twenty-three (n=23/194, 11.9%) of the rangatahi subgroup had been placed under legal status by CYF at some stage in their life. Most (n=18/23, 78.3%) of these 23 rangatahi were dealt with under one of the Care and Protection sections of the Children, Young Persons, and Their Families Act 1989. The remainder (n=5/23, 21.7%) were dealt with under one of the Youth Justice sections of the Act.

2.5.7 Police records

Police records for alleged offences in the 10 years prior to death existed for 61% (n=119/194) of the rangatahi subgroup. Over half (54.6%) of the 119 rangatahi Māori who had come to the attention of Police with alleged offence records had done so in the year before they died.

2.5.8 Corrections records

Corrections held records on criminal offences for 54 of the 134 (40.2%) rangatahi aged 17–24 years.⁴¹ Fourteen (10.4%) of the 54 were actively serving a community sentence at the time of their deaths by suicide, and five (3.7%) of the 54 died whilst serving a prison sentence.

39 CYF held data on 77 of the 194 rangatahi Māori subgroup. A further 10 were identified from the CYMRC Mortality Review Database as having had some contact with CYF, resulting in 87 rangatahi Māori in total.

40 Reports of concern (previously called 'notifications') are generated from people – including Police; health and education professionals; social service providers; whānau members and friends; and members of the public – who are worried about the care and protection of a child. According to the CYF website, when a notification is made, an initial assessment about the child and the whānau situation is made to determine the level of risk or harm and whether the service needs to do anything further to make sure the child is safe. In many cases, the whānau just need some advice, or to be connected with the right support services. In some cases more intensive work needs to be undertaken with CYF care and protection teams to identify the issues and to find a solution that is in the best interest of the child. This may include carrying out a formal investigation with Police and holding the perpetrator to account when abuse is substantiated.

41 Corrections only holds data for those aged 17 years and older because those who commit offences under the age of 17 are managed through the youth justice system. There was a total of 134 rangatahi aged 17–24 years (after removing those aged 15 or 16 years from the Mortality Collection population of 167 rangatahi Māori).

2.5.9 Further information on the lives of rangatahi Māori

Additional information on the lives of rangatahi Māori who died by suicide during 2007–11 is available in the full version of this report. It includes more detailed analyses of the information presented in this chapter alongside information on:

- iwi affiliation and rohe pōtae⁴²
- DHB region
- occupation
- parenthood
- gang affiliation
- housing (Housing New Zealand data)
- accidents and injuries (ACC data)
- terminations of pregnancy.

2.6 Tier 4 – whānau suicide stories

Whānau suicide stories were gathered from the whānau of four rangatahi who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011. The methodology is described in more detail in Chapter 1 of this report.

2.6.1 Whānau suicide stories

The four rangatahi at the centre of the whānau suicide stories ranged in age from 14 to 25 years. There was one female.

The stories were told by mothers and grandmothers, and sometimes by other members of their whānau who added their knowledge of events.

The narratives of the whānau stories began with the arrival of the rangatahi as pēpi,⁴³ then moved onto their growth into tamariki, their teenage years and their lives leading up to their death.

2.6.2 The beginning of the stories

Whānau began their stories by describing the birth and childhood of their rangatahi. The impression from all the whānau was that the arrival of their pēpi was welcomed, and that they were much loved.

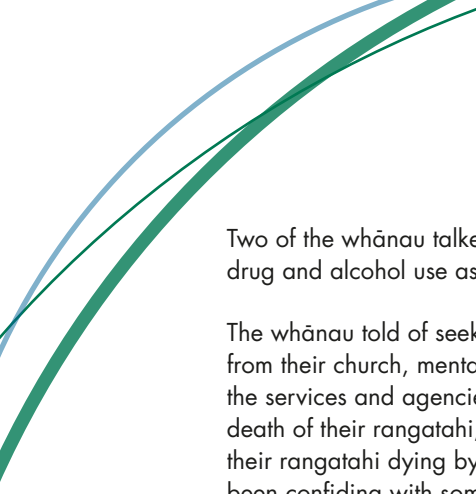
Two rangatahi were diagnosed with disorders (one mental, one physical) when they were young. As tamariki all three males seemed to have what one whānau described as ‘problems fitting in’ as they grew older, with this being evidenced in disruptive behaviour at school, having difficulty making friends or being shy and overly sensitive. Not as much detail on the early years was included in the whānau suicide story about the female rangatahi.

2.6.3 The stories

The teenage years were more difficult, with whānau describing rangatahi who struggled to cope with illness, anxiety, loneliness and relationship disappointments. One became lonely. Another managed to make friends but this took its toll on him because of his anxiety and he became depressed. The third also had problems with what his whānau described as ‘unpredictable volatility’. The fourth was also described as suffering from anger and depression.

⁴² Rohe pōtae are the tribal territories, homelands or boundaries of iwi groups defined according to prominent geographical features, including mountains, rivers and lakes.

⁴³ Baby/babies



Two of the whānau talked about the issues their rangatahi had with drugs. One rangatahi had a history of drug and alcohol use as well as previous suicide attempts.

The whānau told of seeking help for their rangatahi. This ranged from counselling through to asking for help from their church, mental health services, Police and CYF. Two of the whānau were not complimentary about the services and agencies they had approached for help. When agencies had been involved right up to the death of their rangatahi, the whānau expressed their anger that the agencies were unable to help prevent their rangatahi dying by suicide. The whānau of one of the rangatahi found out after his death that he had been confiding with someone outside the whānau about the difficulties he was facing.

2.6.4 The end of the stories

Two of the rangatahi seemed to be spiralling out of control just prior to their deaths. One was rampaging and whānau felt they were especially let down by Police and CYF at this time. The other rangatahi was in a mental health institution shortly before asking whānau to help arrange discharge. The whānau of another rangatahi found out after his death that he had had a fight with a good friend shortly before his death.

Whānau spoke about how their rangatahi became settled and calm immediately prior to dying by suicide. Their rangatahi engaged in positive relationships with their whānau, and appeared to even be happy. In this short window their whānau were treated to a side of their rangatahi they had not seen in a long time; for example, siblings were nurtured and treated with kindness. Within the next 24-hour period all of the rangatahi had ended their own lives.

2.6.5 Lessons

1. When whānau raise concerns about their rangatahi with agencies and professionals, they need to be listened to and responded to with timely action. Agencies and support services could improve the quality of their interactions with rangatahi and their whānau. The important role that agency and social support services have in the lives of rangatahi and their whānau should be acknowledged.
2. In the short time leading up to their death, the rangatahi became very settled and calm, appeared to put their lives in order, mended relationships and tidied up personal spaces. Whānau talked about not knowing these behaviours were signs that the rangatahi was at high risk of taking their own life.
3. When two of the four stories were compared with the information about the rangatahi on the CYMRC Mortality Review Database, it became evident some information on the database had not been repeated by whānau in the whānau suicide stories, and some of the information from whānau was not on the database. Whānau suicide stories, therefore, have the potential to strengthen conventional mortality review. The use of this method to gain an in-depth understanding of the circumstances surrounding suicide should continue to be explored.
4. The whānau suicide stories gave a voice to whānau who may have had no other avenue to describe, explain and try to understand the loss of a precious life. How the stories are heard, and what can be gained from the process of telling, hearing, sharing and cogenerating them, are aspects of the whānau suicide stories method that require further consideration beyond the limitations of the SuMRC feasibility study.

Chapter 3: Mental health service users

This chapter describes the demographic and other characteristics of people aged under 65 who died by suicide during 2007–11 and had face-to-face contact with mental health services within the year before their death. Additional information is provided from reviews of DHB and coronial inquiry records on a small subset of the mental health service users who died by hanging during the five-year study period.

3.1 Key findings

3.1.1 Demographic information

- There were 829 mental health service users who died by suicide in the five-year period 2007–11. This accounted for 46% of all suicides during that period.
- Males accounted for over two-thirds (68.2%) of the mental health service users subgroup.
- A high proportion (40%) of mental health service users were unemployed at the time of their death (for Māori it was 53%).
- The three most common methods of suicide were hanging, strangulation and suffocation (collectively) (57.2%); use of other gases and vapours (including carbon monoxide poisoning) (13.8%); and overdose of medication (with opioids as the most common class of drug used) (13.3%).

3.1.2 Other characteristics of the mental health service users subgroup

- In the seven days before death, 48% of the mental health service users had contact with mental health services. Thirty-six people (4.3%) were new to mental health services in the week before they died.
- Half (50%) of the mental health service user subgroup had alleged offences against the law recorded in the 10 years prior to their deaths. For 14% of the subgroup the offences were within three months of their death.
- Almost one-third (31.2%) had files held by Corrections, and 9% of the mental health service users were still actively serving community-based or prison sentences at the time of death.

3.1.3 Review of DHB and coronial inquiry records

- Mental health service users with increasingly complex needs were often offered more service contacts in response. This response type did little to address the overarching needs of the service users, sometimes resulting in narrowly focused treatments.
- Those who used mental health services more frequently were given numerous risk assessments. Care was often delivered either with an ad hoc or short-term approach (as opposed to having ongoing, long-term care plans).
- Service users, their families/whānau and other support networks were seldom involved in the planning of their care.

3.2 Methods

3.2.1 Definitions and inclusion criteria

Mental health service users were included in the subgroup if they met the following criteria:

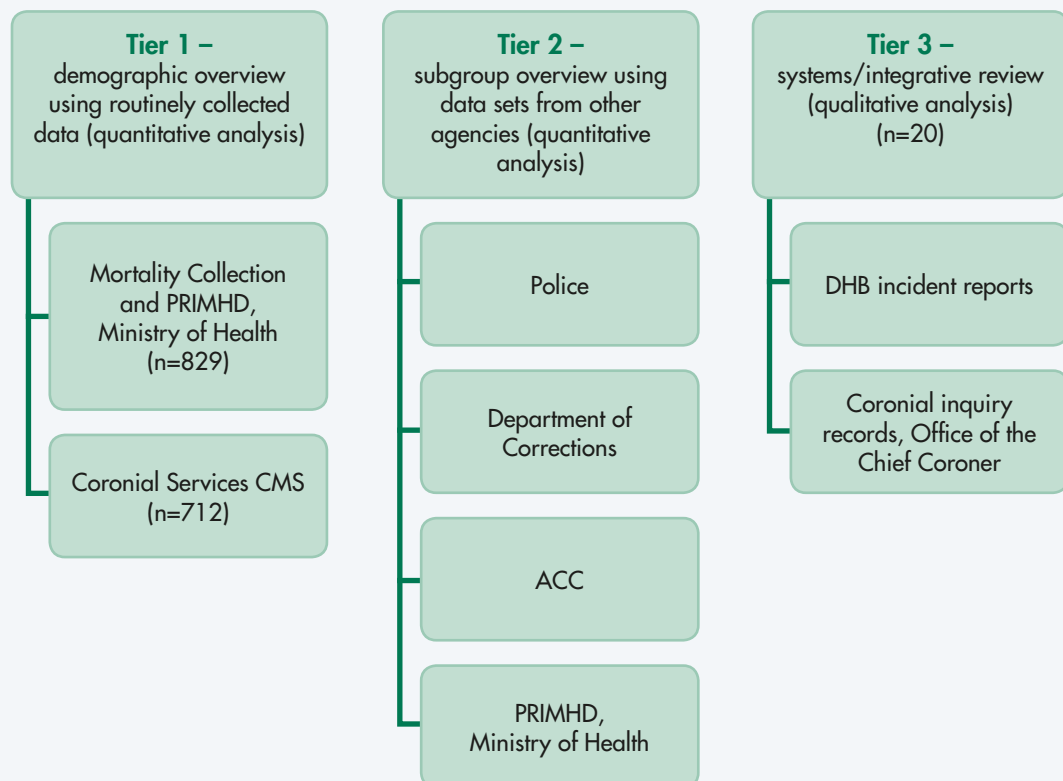
- died by suicide between 1 January 2007 and 31 December 2011
- were aged under 65 years at the time of their death
- had face-to-face contact with mental health service/s within the year before their death.⁴⁴

Those who had used mental health services at some point in their life, but not in the year prior to their death, were excluded from the mental health service users subgroup.

3.2.2 Data sources

An overview of the data sources and tiers of analysis used for the mental health service user subgroup is presented in Figure 8. The Tier 3 systems/integrative review focused on a small sample of mental health service users (n=20) who died from hanging during the study period (2007–11). Data sources and tiers of analysis used for the mental health service user subgroup, and the consumer lens framework developed for the systems/integrative review, are described in more detail in Chapter 1 of this report.

Figure 8: Overview of tiers and data sources for mental health service user analyses



⁴⁴ There was some overlap between the mental health service user subgroup and the other two subgroups. Refer to Figure 2 (page 5) to see the overlap between the three subgroups.

3.3 Tier 1 – demographic characteristics of mental health service users who died by suicide

There were 829 mental health service users who died by suicide between 1 January 2007 and 31 December 2011.

3.3.1 Age, sex and ethnicity

Males accounted for over two-thirds (n=565/829, 68.2%) of the mental health service users who died by suicide during 2007–11 (Table 12). Māori comprised almost 20% (n=163/829) of the mental health service user subgroup.

Table 12: Ethnicity by sex for mental health service users who died by suicide, 2007–11 (n=829)

Ethnicity	Sex				Total	
	Females		Males		N	%
	n	%	n	%		
European NFD*	20	7.6	43	7.6	63	7.6
NZ European/Pākehā	170	64.4	376	66.5	546	65.9
Māori	57	21.6	106	18.8	163	19.7
Pacific Island NFD	6	2.3	16	2.8	22	2.7
Asian NFD	11	4.2	19	3.4	30	3.6
Other ethnicity	0	0	5	0.9	5	0.6
Total	264	100	565	100	829	100

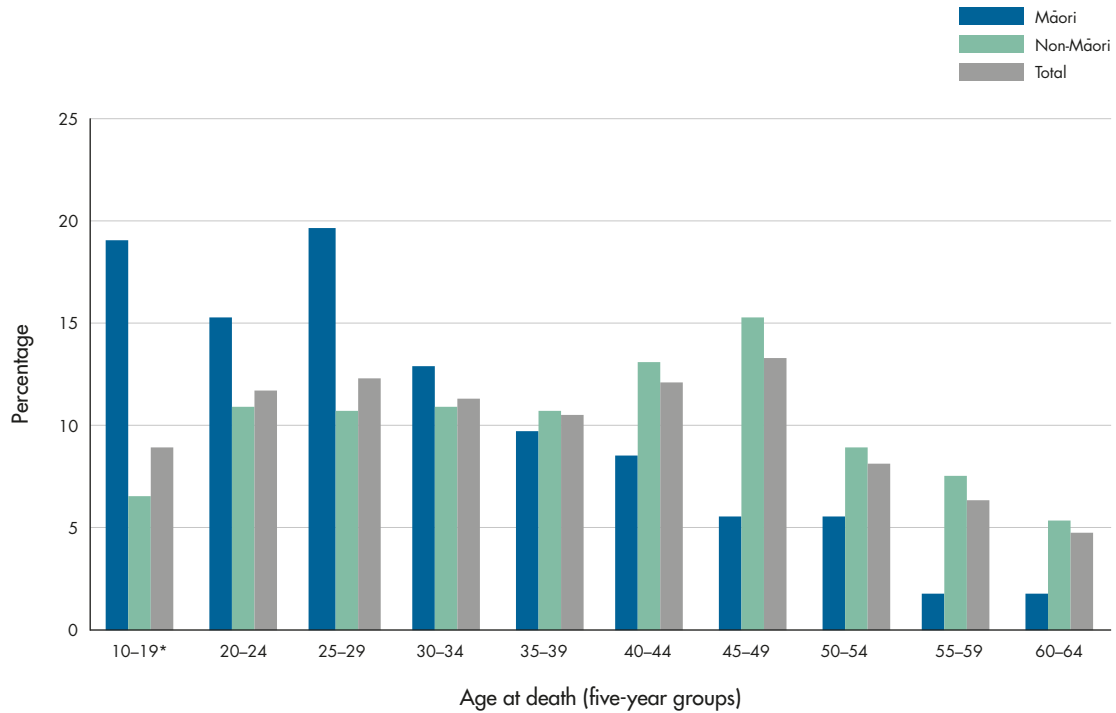
Source: Mortality Collection and PRIMHD, Ministry of Health

* NFD = not further defined

The peak ages of death for mental health service users who died by suicide were 20–49 years. For Māori, the distribution of suicide deaths peaked at the younger ages of 15–34 years (Figure 9). This may reflect the younger age of the Māori population in general.

In all age groups, the numbers of mental health service users who died by suicide were higher among males than females, except for among children aged 10–14 years (data not shown).

Figure 9: Age at death (five-year age groups) by ethnicity for mental health service users who died by suicide, 2007–11 (n=829)



Source: Mortality Collection and PRIMHD, Ministry of Health

* Age groups 10–14 years and 15–19 years combined due to small numbers.

3.3.2 Suicide method

The most common method of suicide among the mental health service user subgroup was hanging, strangulation and suffocation (collectively) (47.7% of females, 61.6% of males; 75.5% of Māori, 52.7% of non-Māori) (Table 13).

The second most common methods were overdose of medication and self-poisoning. Most of those who died from self-poisoning used other gases and vapours, including carbon monoxide poisoning, though this method was less common for females and Māori. Most of those who died from firearms were non-Māori men.

Table 13: Methods of suicide used (grouped) by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829)

Method of suicide	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori		N	%
	n	%	n	%	n	%	n	%		
Overdose of medication*	62	23.5	48	8.5	19	11.7	91	13.7	110	13.3
Self-poisoning#	28	10.6	86	15.2	9	5.5	105	15.8	114	13.8
Hanging, strangulation and suffocation	126	47.7	348	61.6	123	75.5	351	52.7	474	57.2
Drowning and submersion	11	4.2	6	1.1	2	1.2	15	2.3	17	2.1
Smoke, fire and flames	6	2.3	5	0.9	2	1.2	9	1.4	11	1.3
Sharp object	3	1.1	6	1.1	.	.	9	1.4	9	1.1
Firearm discharge	2	0.8	28	5	2	1.2	28	4.2	30	3.6
Jumping	19	7.2	32	5.7	6	3.7	45	6.8	51	6.2
Crashing of motor vehicle	4	1.5	4	0.7	.	.	8	1.2	8	1
Other specified means	3	1.1	2	0.4	.	.	5	0.8	5	0.6
Total	264	100	565	100	163	100	666	100	829	100

Source: Mortality Collection and PRIMHD, Ministry of Health

* Overdose of medication includes: non-opioid analgesics, antipyretics and antirheumatics; antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified; narcotics and psychodysleptics (hallucinogens), not elsewhere classified; other drugs acting on the autonomic nervous system; and other and unspecified drugs, medicaments and biological substances.

Self-poisoning includes organic solvents and halogenated hydrocarbons and their vapours; other gases and vapours; pesticides; and other and unspecified chemicals and noxious substances.

3.3.3 Locality of suicide

The most common location of the suicide of mental health service users was in the home (n=552/829, 67%), with the garage being the most common site within the home.

It is difficult to extract the number of mental health service users who died as patients in mental health wards because the location of the fatal act could have been coded into more than one category type,⁴⁵ making the aggregated results difficult to interpret.

3.3.4 Employment status

Coronial Services provided data for 712 of the mental health service users who died by suicide. Of those 712 mental health service users, 40.2% (n=286/712) were unemployed, and a third (n=233/712, 32.7%) were employed at the time of their death. Over half (53%) of the 141 Māori and over a third (37%) of the 571 non-Māori were unemployed at the time of their death.

⁴⁵ For example, sometimes the location of death was recorded under the category 'health service area', which, when aggregated, places it in the 'school, other institution and public administration area'. On other occasions the location has been coded 'residential institution'.

3.3.5 Alcohol and other drugs

Information on alcohol or other drugs is housed in the Mortality Collection. Not all those who die by suicide are tested for alcohol and other drugs, and not all the results from those tested are reported. This limited testing and reporting makes it difficult to draw any conclusions about the association of alcohol and other drugs with suicide deaths.

We cannot be sure of the involvement of alcohol for more than 37% of deaths due to this information being unknown or not stated. Information about the presence of alcohol prior to suicide (from coronial, Police and post-mortem reports and/or toxicology reports⁴⁶) was reported for 514 of the mental health service users subgroup. Of these, alcohol was stated as being involved in 188 deaths (n=188/514, 36%) and traces of alcohol were detected in 114 deaths (n=114/514, 22%). Alcohol was stated as not involved in 41% (n=212/514) of these deaths.

We cannot be sure of the involvement of cannabis and prescription and/or pharmacy drugs as this information was not available for over 70% of the deaths.

3.4 Tier 2 – engagement with services among mental health service users who died by suicide

3.4.1 Engagement with mental health services

PRIMHD records mental health service contacts going back to July 2008 and categorises these contacts as 'activity settings'. Activity settings include a wide variety of mental health service contact settings, such as phone calls, inpatient stays, emergency department visits and domiciliary contacts (services provided in the person's home).

The median number of service contacts within 90 days of death for mental health service users was nine, meaning a service contact about once every 10 days. There was a median of four telephone contacts, four onsite community mental health team appointments and four domiciliary (home) visits from a community mental health team.

In the seven days before death, 48% (n=398/829) of the mental health service users had contact with mental health services. Thirty-six people (4.3%) were new to mental health services in the week before they died.

It was not uncommon for a person to be given several different diagnoses within a year. The mean number of different diagnoses for the people in the mental health service user subgroup within the year prior to death was 2.4 (minimum 0, median 1.0, maximum 26.0).

3.4.2 Police data

Half of the mental health service user subgroup (n=416/829, 50%) had an alleged offence record in the 10 years prior to death. For 14% (n=117/829) of the mental health service user subgroup an offence was recorded within three months of their death.

Of the 416 mental health service users who had an offence record in 10 years prior to death, 216 had alleged offences that would be placed in the 'violence' category (which includes the specific offence types of homicide, kidnapping/abduction, robbery, grievous assaults, serious assaults, minor assaults, intimidation/threats, and group assemblies).

3.4.3 Corrections data

There were 259 (n=259/829, 31.2%) mental health service users who had files on them held by Corrections, and 76 (n=76/829, 9.2%) were still on sentence when they died.

Where the category of offending was known, most were for 'traffic and vehicle regulatory offences', followed by 'acts intended to cause injury' and 'offences against justice' (Table 14).

⁴⁶ Information on alcohol involvement is coded as 'No', 'Not Available', 'Not Stated', 'Not Tested', 'Trace' or 'Yes' in the data set. If the value is 'Yes' it means either [i] the death was referred to the coroner and the coroner, Police, or post mortem report indicate that the deceased had consumed alcohol before their death, or [ii] the Mortality staff receive an ESR toxicology report showing the presence of alcohol in the blood or urine' (Ministry of Health 2009, p 35).

Table 14: Category of offending for mental health service users who died by suicide, 2007–11 (n=259)

Category of offending	n	%
Unknown	53	20.5
Abduction, harassment and other offences against the person	9	3.5
Acts intended to cause injury	37	14.3
Dangerous or negligent acts endangering persons	8	3.1
Fraud, deception and related offences	7	2.7
Homicide and related offences	2	0.8
Illicit drug offences	13	5.0
Miscellaneous offences	2	0.8
Offences against justice procedures, government security and government operations	22	8.5
Prohibited and regulated weapons and explosives offences	10	3.9
Property damage and environmental pollution	3	1.2
Public order offences	4	1.5
Robbery, extortion and related offences	6	2.3
Sexual assault and related offences	4	1.5
Theft and related offences	17	6.6
Traffic and vehicle regulatory offences	47	18.1
Unlawful entry with intent/burglary, break and enter	15	5.8
Total	259	100

Source: Department of Corrections

A total of 98 mental health service users who died by suicide during 2007–11 had been imprisoned and, among them, the number of sentences ranged from 1 to 19 per person.

A total of 196 mental health service users had been given community-based sentences and, among them, the number of sentences ranged from 1 to 29 per person.

3.4.4 Further information on the lives of mental health service users

Additional information on the lives of mental health service users who died by suicide during 2007–11 is available in the full version of this report. The full report includes more detailed analyses of the information presented in this chapter alongside information on:

- accidents and injuries (ACC data)
- mental health service contacts in the 90 days prior to death for the sample of 20 mental health service users who were included in Tier 3 analyses (PRIMHD data).

3.5 Tier 3 – paper-based systems review

The paper-based systems review gathered information from DHB inquiries and coronial records on a sample of 20 mental health service users who died by hanging between 1 January 2007 and 31 December 2011.

The focus on the 474 mental health service users who died by hanging was chosen as this was the most common cause of death in the subgroup. With an in-depth focus on those who died by hanging, the SuMRC aimed to develop a framework for systems review and identify specific prevention opportunities common to the subsample. The framework development and review methodology is described in more detail in Chapter 1 of this report.

Three potential sources of information were identified:

1. Coronial records – these include information and recommendations from coroners' inquiries on individuals who have died. Only records where recommendations were made were included. A total of 55 coronial records were obtained for 2007–11.
2. DHB internal inquiry records – DHBs are required by the Ministry of Health to review deaths of mental health service users who died by suicide within 28 days of contact with the service and report these to the Commission. A total of 55 DHB reports were obtained for 2007–11.
3. Ministry of Health reportable events records – DHBs are required to notify the Office of the Director of Mental Health of all 'reportable events'⁴⁷ that occur. The reportable events database houses information all those who died by suicide who were under the Mental Health (Compulsory Assessment and Treatment) Act at the time, voluntary patients who died while admitted to an inpatient ward, and those who died by suicide who gained media attention. Those who died by suicide and did not access services under the Mental Health (Compulsory Assessment and Treatment) Act, or were not inpatients, are not included in the database.

Only coronial and DHB inquiry records were included in the analysis because the Ministry of Health records were not obtained in time to include in the study. Ministry of Health reportable events records will be of interest for future suicide mortality reviews because they are an additional source of coronial and DHB information.

3.5.1 Issues and findings identified from applying the framework

Complexity of people's situations

In all but one of the 20 mental health service users included in the sample, DHB reports indicated there were complex issues that challenged conventional mental health treatment. The clustering of multiple mental health issues is not uncommon and indicates a need for the mental health system to improve strategies to meet the complex needs of these people.

⁴⁷ All serious incidents are recorded in the Ministry of Health's reportable event database. It is a statutory requirement for DHBs to notify the Office of the Director of Mental Health if any of the following categories of incidents occurs:

1. Deaths of patients subject to the Mental Health (Compulsory Assessment and Treatment) Act 1992 (notification is required under section 132 of the Act).
2. Events where there is likely to be media interest.
3. Serious events involving special patients (such as absence without leave).
4. Death of a voluntary patient in an inpatient unit.

Reporting requirements varies for the different categories of incidents. For deaths of patients subject to the Mental Health (Compulsory Assessment and Treatment) Act, DHBs are required to send a completed Ministry of Health reportable event notification form within 14 days. Depending on the incident, the Director of Mental Health may request further information after receiving the notification. Any additional information requested is also entered into this database as a record. It includes any serious incident process report (SIRP), external review reports (if one was required) and any coroner's reports (received from the coroner's office).

The number of contacts

Mental health services seemed to deal with complexity by increasing both the number of people involved in someone's care and the amount of contact the person had with services.

This approach may have increased the risk of communication problems within and between services. It may have also led to frustration on the part of both the service and the service user as more and more resources were thrown at the 'problem' and little progress was seen.

When a person reaches a point in their care where there is an excessive number of service contacts, a service coordinator may need to be assigned to reassess the situation and oversee care.

The conclusion that nothing could be done

There was little evidence that service providers were hopeful their clients would recover. This may be because the reports were written retrospectively after events had occurred. Statements were made that the person died as a result of their mental illness without full consideration of potential contributing factors at the service provision level (eg, service quality issues) or other missed opportunities for preventing the death. Such statements may reflect service providers' preferred paradigms of mental health/illness (and associated models of care), or their general understanding of suicide and what could be done to prevent it.

What to do if things do not seem to be working

DHBs that recognised their services weren't working appeared to respond by providing more of the same treatments. This included more medication (or trying a different type), offering more inpatient stays, more assessments, more management plans and more respite. There did not seem to be any long-term view, and few responses were tailored to the individual.

DHBs differ in their communication success

Some DHBs tried to address communication issues within and between services by increasing documentation of all interactions. However, trying to address communication issues by documenting the minute details of every phone call or interaction may only make the problem worse, as this may reduce staff interactions further as people concentrate on written communication.

Letting other issues overshadow people's mental health care

Most of the people in this sample had other mental health issues as well as their primary mental illnesses and disorders, such as alcohol/drug issues and grief/pain issues. In these more complex cases, the secondary mental health issues became the focus of the person's care and their suicidality was overshadowed.

Maintaining a level of suspicion

When someone who had been communicating they were suicidal suddenly said they were no longer suicidal, there was a temptation to take their statement at face value. This appears to have happened in some of these deaths and could be interpreted as a sign that the person is tiring of service involvement.

Fixation on compliance, behaviour, doing what you've always done

Some of the mental health services included in the review seemed to focus on medication and behavioural compliance. This can result in losing sight of improving the person's overall mental health and shift the focus from identifying and reducing their risk of suicide. When a person is 'well known' to a service this may also be a distraction as there is an expectation that their past behaviour will predict their future behaviour, and so management of their care is not revised and updated.



Risk assessment

Risk assessments were often discrete activities done by mental health staff, as opposed to a singular ongoing process. Each time a person's clinical picture was seen as changing, they had another risk assessment. They had to repeat their story over and over again, usually to different people. Each risk assessment results in a plan, which may or may not differ from the previous plan. From a mental health service user's perspective, the temptation may be to eventually deny suicidality to make the risk assessments stop.

Each service contact is an opportunity for preventing a suicide. This does not mean, however, that for each contact there needs to be a formal risk assessment. Service providers need to make judgements about risk and find the middle ground that balances over-assessing and under-assessing people. Over-assessment can place too much emphasis on the validity of the assessment, leading to an over-reliance on the risk management plan, and losing sight of the person behind it. Under-assessment can result in no intervention to stop the person from dying.

Power struggles

There is a tension between mental health service providers and service users regarding how much autonomy a person has in their treatment. When a person is suicidal some service providers may respond by taking more control than usual, as they perceive an increased 'risk' to the person (and the organisation). This can result in power struggles, where service providers attempt to set stricter boundaries and the person responds by becoming more 'non-compliant' (eg, by not attending appointments or taking medication).

Service providers need to form an overview of the situation, looking at the issues from the perspective of the service users to determine why this tension is occurring. Giving a suicidal person the support to manage themselves in partnership with service providers can empower the person to develop resilience.

Chapter 4: Men of working age

This chapter describes the demographic and other characteristics of men of working age (25–64 years) who died by suicide in the five-year period 2007–11. Deaths by suicide among this subgroup account for the largest number of suicides in New Zealand. While some of the key risk factors for suicide among men are known, little is known about the potential points for effective intervention. The SuMRC's aim was to use cross-agency data-matching and analyses to provide new information about this subgroup.

4.1 Key findings

4.1.1 Demographic information

- A total of 1272 men of working age died in the five-year period 2007–11.
- Māori men had higher rates of suicide than non-Māori men for all age groups under 49 years. The highest rate for Māori men was seen among those aged 30–34 years (54.3 per 100,000). The highest rate for non-Māori men was seen in the age group 45–49 years (26.0 per 100,000).
- Hanging, strangulation and suffocation (collectively) was the most common method of suicide, used in 57.6% of all suicide deaths in this subgroup.
- Two-thirds (67.9%) of all suicides among men of working age occurred in the home.

4.1.2 Other characteristics among the men of working age subgroup

- Half (49.8%) of all men of working age who died by suicide had no record of publicly funded mental health service use. The other half (50.2%) had used mental health services at some point since 1999. Just over a third (35.1%) had used mental health services in the year before death.
- There were 527 (41.4%) men from the subgroup who had come to the attention of Police for an alleged offence in the 10 years prior to death, and almost half of these men (49.5%) had committed the offence in the year before they died. The greatest number of offences were committed by younger men aged 25–34 years.
- Corrections held files on 337 (27%) of the men of working age who died by suicide. Most of these men (82%) were not serving an active sentence at time of death; however, 14% were serving community-based sentences and 4% were serving prison sentences.
- Coronial data was available for 1111 (87.3%) of the 1272 men of working age who died by suicide. Of the men of working age who died and were included in coronial data, 29.6% were unemployed; 41.7% of Māori men who died were unemployed.
- When the coronial data was broken down by occupation, the highest percentage of deaths by suicide was among men working in either the construction and trade industry (6.9%) or the farm and forestry industry (6.8%).

4.2 Methods

4.2.1 Definitions and inclusion criteria

Men of working age were included in the subgroup if they met the following criteria:

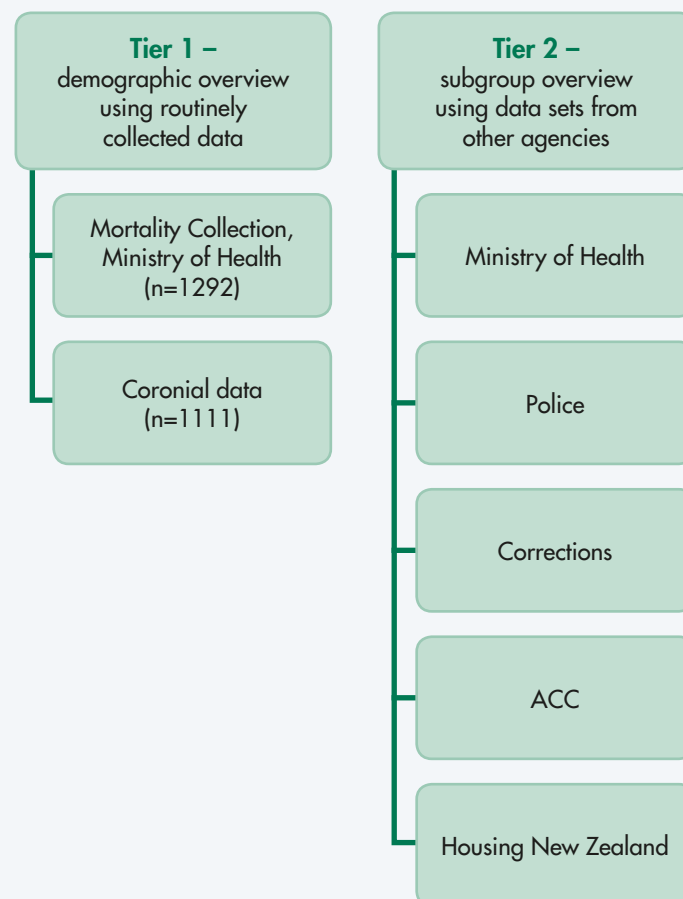
- died by suicide between 1 January 2007 and 31 December 2011
- were male and aged between 25–64 years at the time of their death.

The terms 'men' and 'men of working age' are used interchangeably when referring to the subgroup throughout this chapter.

4.2.2 Data sources

An overview of the data sources and tiers of analysis used for the men of working age subgroup is presented in Figure 10. All data sources and tiers of analysis are described in more detail in Chapter 1 of this report.

Figure 10: Overview of tiers and data sources used for the men of working age (25–64 years) subgroup



4.2.3 Rates

Rates of suicide deaths for the men of working age subgroup were calculated and stratified by five-year age bands and ethnicity (for Māori and non-Māori). Numerator data was defined as number of suicide deaths, summed over the five years of study. Denominators for these rates were estimated person-years at risk in each age/ethnic group stratum over the five-year period 2007–11.⁴⁸ Rates are scaled for reporting as rates per 100,000 population per annum.

4.3 Tier 1 – demographic characteristics of men of working age who died by suicide

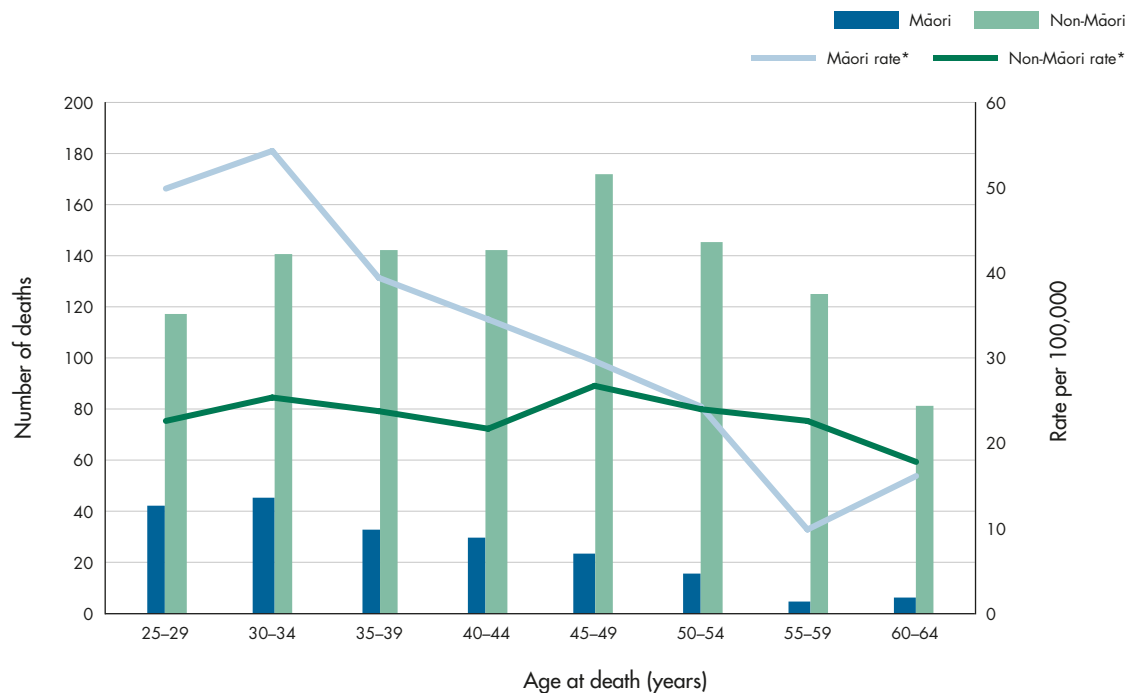
A total of 1272 men of working age (25–64 years) died by suicide between 1 January 2007 and 31 December 2011.

4.3.1 Age and ethnicity

Of the 1272 men who died by suicide during 2007–11, 202 were Māori (16%) and 1066 were non-Māori (84%). Figure 11 shows the number of suicide deaths and age-specific rates for five-year age groups by ethnicity.

Māori had higher rates of suicide than non-Māori for all age groups younger than 49 years. For those aged 50–54 years the rates were similar and for those aged over 55 years the rates were higher for non-Māori. The highest rate for Māori was seen among those aged 30–34 years (54.3 per 100,000). The highest rate for non-Māori was seen in the age group 45–49 years (26.9 per 100,000).

Figure 11: Total number of deaths and suicide rates by ethnicity for men aged 25–64 years by age at death (five-year age groups), 2007–11 (n=1272)



Source: Mortality Collection, Ministry of Health

* The rate shown is per 100,000 population.

Four suicides were missing data on ethnicity. Two of these were in the 40–44 years age group, one was in the 50–54 years age group and one was in the 60–64 years age group.

48 Denominators were calculated by taking the age/sex/ethnicity-specific stratum estimates from the 2006 and 2013 New Zealand Censuses, and then interpolating annual population counts for the years under study (ie, the estimated annual population of males in that age/ethnic group). These annual counts were then summed across the five study years to give person-years at risk over the entire study period for each age/ethnic group.

4.3.2 Methods of suicide

Hanging, strangulation and suffocation (collectively) was the method used in 57.6% of all suicide deaths in this subgroup. Self-poisoning was used in 15.4% of deaths and firearms were used in 10.6% of cases (Table 15).

For Māori men, hanging, strangulation and suffocation (collectively) was the main method used (71.8%), followed by self-poisoning (8.4%) and overdose of medication (7.4%). For non-Māori men, hanging, strangulation and suffocation (collectively) was the main method used (55.0%), followed by self-poisoning (16.8%) and firearms (11.2%).

Table 15: Methods of suicide used (grouped) by ethnicity for men aged 25–64 years who died by suicide, 2007–11 (n=1272)

Method of suicide	Ethnicity						Total	
	Māori		Non-Māori		Missing		n	%
	n	%	n	%	n	%		
Overdose of medication*	15	7.4	75	7.0	.	.	90	7.1
Self-poisoning#	17	8.4	179	16.8	.	.	196	15.4
Hanging, strangulation and suffocation	145	71.8	586	55.0	2	50	733	57.6
Drowning and submersion	1	0.5	14	1.3	.	.	15	1.2
Smoke, fire and flames	4	2.0	6	0.6	.	.	10	0.8
Sharp object	2	1.0	24	2.3	.	.	26	2.0
Firearm discharge	14	6.9	119	11.2	2	50	135	10.6
Jumping	4	2.0	49	4.6	.	.	53	4.2
Crashing of motor vehicle	.	.	8	0.8	.	.	8	0.6
Other specified means	.	.	6	0.6	.	.	6	0.5
Total	202	100	1066	100	4	100	1272	100

Source: Mortality Collection, Ministry of Health

Note: Cells with a '.' refer to zero observations in the category, not missing data.

* Overdose of medication includes: non-opioid analgesics, antipyretics and antirheumatics; antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs; narcotics and psychodysleptics (hallucinogens); and other and unspecified drugs, medicaments and biological substances.

Self-poisoning includes: organic solvents and halogenated hydrocarbons and their vapours; other gases and vapours; pesticides; and other and unspecified chemicals and noxious substances.

4.3.3 Locality of suicide

Two-thirds (n=864/1272, 67.9%) of suicide deaths among men occurred in the home. A slightly higher proportion of Māori deaths (71.8%) occurred in the home compared with non-Māori (67.4%). The majority of suicides that occurred in the home occurred in garages (18.4%), bedrooms (5.8%) and outdoor areas (5.1%).

4.3.4 Employment status and occupation

Coronial data was available for 1111 (87.3%) of the 1272 men of working age who died by suicide during 2007–11. At the time of death, 54.3% (n=603/1111) of these men were employed and 29.6% (n=329/1111) were unemployed. A higher proportion of Māori men were unemployed (41.7%) compared with non-Māori men (27.6%).

Of the men who were employed, the highest percentage of suicide deaths were among those whose occupations were construction and trade workers (eg, builders, carpenters, construction workers, apprentices,

plasterers, plumbers, labourers) and farm, forestry and garden workers (eg, dairy farm workers, farm managers/workers, forestry contractors, orchard workers). Men with these occupations made up 6.9% (n=77/1111) and 6.8% (n=75/1111) of the men of working age who died by suicide and were included in the coronial data respectively.

4.3.5 Marital/Relationship status

Coronial data showed that 38.4% (n=427/1111) of men who died by suicide were married or in a de facto relationship. Over 31% (n=348/1111) had never been married and 14.2% (n=158/1111) were separated.

4.4 Tier 2 – engagement with services by men of working age who died by suicide

4.4.1 Engagement with mental health services

Almost half of all men (n=634/1272, 49.8%) who died by suicide had no record of publicly funded mental health service use (Table 16). Just over one-third (n=446/1272, 35.1%) had used mental health services in the year before death.

Overall, a slightly greater proportion of Māori men (compared with non-Māori men) had used mental health services. A greater proportion of non-Māori men (50.5% for non-Māori compared with 45.5 for Māori) had no service use.

Table 16: Mental health services used by ethnicity for men aged 25–64 years who died by suicide, 2007–11 (n=1272)

Mental health service use	Ethnicity						Total	
	Māori		Non-Māori		Missing		n	%
	n	%	n	%	n	%		
No service use	92	45.5	538	50.5	4	100	634	49.8
Service use ≥1 year before death	34	16.8	158	14.8	.	.	192	15.1
Service use in year prior to death	76	37.6	370	34.7	.	.	446	35.1
Total	202	100	1066	100	4	100	1272	100

Source: PRIMHD and Mortality Collection, Ministry of Health

4.4.2 Primary care engagement

The majority of men (n=1110/1272, 87.3%) were currently enrolled with a PHO at the time of death. About 7 percent (n=84/1272, 6.6%) of men were not enrolled with a PHO, and 6 percent (n=78/1272, 6.1%) had been enrolled in a PHO at some point in the past but not at the time of death.

There was no data available on actual use of primary care or engagement with general practitioners (GPs). However, a number of coroners' reports included discussion of GP involvement using evidence given by GPs during coroners' inquests. This was often in the form of medical reports provided to the coroner. Further investigation of coroners' reports could provide rich data on men's engagement with GPs and primary care professionals.

4.4.3 Pharmaceuticals

Data on pharmaceuticals was sourced from the pharmaceutical claims data held by the Ministry of Health. It contains claim and payment information (from January 2003) on pharmacists for subsidised dispensing that has been processed by the General Transaction Processing System.

Since 2003, half (n=635/1272, 49.9%) of the men of working age who died by suicide had records for antidepressant prescriptions, and 42.3 percent (n=538/1272) had records for analgesic prescriptions.

4.4.4 Alcohol involvement

Information from the Mortality Collection shows alcohol involvement was either 'not available/not stated/not tested' in over 35% of all men's suicide deaths during 2007–11. Alcohol was stated as being involved in 25.2% (n=371/1272) of all men's suicide deaths. The percentage of deaths with alcohol involvement was similar for Māori and non-Māori men. Due to the high number of missing or 'unknown' data, these results should be interpreted with caution.

4.4.5 Police data

The Police offence database held information on 527 (n=527/1272, 41.4%) men of working age who died by suicide. These men were recorded in the database for an alleged offence within the last 10 years of their life. Of the men recorded in the offence database, 49.0% (n=258/527) had committed an offence in the year before they died.

The number of alleged offences was the highest among men aged 25–34 years (an average of 8.9 alleged offences per person aged 25–34 years) (Table 17).

Table 17: Offences by 10-year age group for men aged 25–64 years who died by suicide, 2007–11 (n=527 people with 3306 offences)

Age at death	Offences		
	No. of people	Total no. of offences	Mean no. of offences
25–34 years	206	1825	8.9
35–44 years	151	833	5.5
45–54 years	123	531	4.3
55–64 years	47	117	2.5

Source: Police data

Note: The number of offences was not evenly distributed among the individual offenders (ie, some offenders had a greater number of offences than others).

A larger proportion of men with offences (n=400/527, 76%) were non-Māori with a total of 2269 offences. However, the mean number of offences for Māori men who died by suicide was 8.2, compared with 5.7 for non-Māori.

Of the specific offence categories, 338 men had alleged offences for 'misc/admin/unknown', 256 men had offences for 'violence' and 188 for 'drugs/antisocial' (Table 18).

Table 18: Offences by general offence category for men aged 25–64 years who died by suicide, 2007–11 (n=527 people with 3306 offences)

General offence category	Offences		
	No. of people*	Total no. of offences	Mean no. of offences
Violence	256	769	3.0
Sexual	51	164	3.2
Drugs/antisocial	188	506	2.7
Dishonesty	132	643	4.9
Property damage	103	206	2.0
Misc/admin/unknown [#]	338	1018	3.0

Source: Police data

* No. of people appears greater than 527 because a person can have more than one offence.

[#] 'Misc/admin/unknown' includes trespass, littering, animal cruelty or neglect, post/rail/fire services abuses, firearm offences (unlawful possession), offences against justice and bylaw breaches.

4.4.6 Corrections data

Corrections held files on 27% (n=337/1272) of men of working age who died by suicide.

Of these men, 82% (n=275/337) were not currently serving an active sentence at the time of death, 14% (n=47/337) were serving community-based sentences and 4% (n=15/337) were serving prison sentences. Twenty-eight percent (n=96/337) of those with Corrections files were Māori and 72% (n=241/337) were non-Māori (Table 19).

Table 19: Corrections files by ethnicity for men aged 25–64 years who died by suicide, 2007–11 (n=1272)

Corrections data	Ethnicity						Total	
	Māori		Non-Māori		Missing		n	%
	n	%	n	%	n	%		
Yes but not active	83	41.1	192	18	.	.	275	21.6
Yes, on community sentence	12	5.9	35	3.3	.	.	47	3.7
Yes, on prison sentence	1	0.5	14	1.3	.	.	15	1.2
No	106	52.5	825	77.4	4	100	935	73.5
Total	202	100	1066	100	4	100	1272	100

Source: Department of Corrections

A large proportion (n=143/337, 42.4%) of those men who died by suicide and were known to Corrections were in the age groups 25–29 years and 30–34 years.

The most common category of offending was traffic and vehicle regulatory offences (n=70/337, 20.8%). Acts intended to cause injury accounted for 14.2% (n=48/337), while offences against justice procedures, government security and government operations accounted for 11.6% (n=39/337).

The proportion of men who died by suicide with multiple prison sentences was generally greater for Māori than for non-Māori. For example, 42.7% (n=41/96) of Māori had one to four sentences compared with 34% (n=82/241) of non-Māori who had one to four sentences.

4.4.7 Further information on the lives of men of working age

Additional information on the lives of men of working age (25–64 years) who died by suicide during 2007–11 is available in the full version of this report. The full report includes more detailed analyses of the information presented in this chapter alongside information on:

- DHB region
- hospital events
- accidents and injuries (ACC data)
- housing (Housing New Zealand data).

Chapter 5: Discussion

This chapter draws on the findings from the SuMRC feasibility study and discusses:

- possible intervention points for suicide prevention
- lessons about the feasibility and benefits of suicide mortality review in New Zealand
- strengths and limitations associated with the data and study design
- how suicide mortality review could operate in the future.

Important areas to consider for an ongoing suicide mortality review work programme in New Zealand are also identified.

5.1 Possible intervention points for suicide prevention

5.1.1 Training frontline staff

The feasibility study found that many of those in the subgroups who died by suicide were known to a number of government agencies. For example, over 40% of men of working age who died by suicide had come to the attention of Police for an alleged offence in the 10 years prior to death and half of these men committed an offence the year before they died. Similarly, there was CYF contact with over 40% of the rangatahi Māori (but no legal status taken) and CYF had placed 11.9% of the rangatahi under legal care at some point in their life.

'Frontline services' include first responder agencies such as Police, CYF, social support services, hospitals and other health services. These services appear to have had significant involvement at various points in time during the lives of those who died by suicide.

Ensuring frontline staff are trained to recognise the risk factors and behaviours of vulnerable individuals is important for preventing suicide. Frontline staff training (known as 'gatekeeper training') is also a well-established strategy in international suicide prevention efforts (WHO 2014). It works best when it is embedded in organisational practices and guided by policies that ensure timely and skilled follow-through after a frontline staff member has ascertained a person may be at risk.

The *Suicide Prevention Action Plan 2013–2016* includes actions for training and upskilling social support services staff, Police officers, Work and Income staff and district court staff so they can identify and respond appropriately to individuals at risk of suicide (Ministry of Health 2013). The *Suicide Prevention Action Plan* also includes actions for employees involved with children and young people in CYF care, and for Corrections staff members. It is important to continue these training activities, particularly among agencies such as Police, Corrections and CYF, because these agencies were identified as having been involved with a significant proportion of those who died by suicide in this feasibility study.

There is also scope to broaden suicide risk-awareness training activities so frontline staff of health service providers can identify individuals at risk and refer them to agencies for help. Just over 50% of the rangatahi Māori and men of working age who died by suicide had accessed publicly funded mental health services, and almost 90% were enrolled with a primary care provider at the time of death. Primary care and other health services may be critical intervention points for suicide prevention that should be explored further.

An in-depth analysis of data collected for this study that was not included, because of delays and time constraints (eg, individual files from Corrections), could identify clear intervention points for targeted frontline staff training initiatives.

5.1.2 Managing and responding to multi-agency engagement

For people with multiple and/or complex problems, there is a clear need for an overarching management or multi-agency response plan that is jointly owned and can be reviewed and amended as necessary.

Given the high number of Māori who die by suicide, it may be appropriate to draw on the strengths of Whānau Ora, particularly whānau-centred engagement and cross-agency work.

The DHB suicide prevention toolkit on the Ministry of Health website contains examples of local interagency suicide prevention networks which coordinate cross-agency activities and support integrated and rapid responses where risk is identified (Ministry of Health 2014). This broader coordination of effort is important, given the significant numbers of people who die by suicide did not have contact with mental health services, but may have had contact with other agencies. The toolkit also provides some guidance for DHBs on establishing suicide prevention networks.⁴⁹ DHBs are being encouraged to take the lead in this.

5.1.3 Approaches to therapeutic intervention in mental health services

Addressing complex needs

The SuMRC feasibility study showed there are opportunities to encourage mental health services to better support people with complex or multiple needs. The paper-based systems review of 20 mental health service users, for example, identified that complex issues often challenged conventional mental health treatment. For some service users there was a pattern of increased frequency of contact with mental health services, which the service providers responded to by offering more service contacts. People who used services intensely would also have many assessments, raising the question about how repeated assessments would have benefited the person.

It could be useful to either use the data collected for the feasibility study, or the knowledge of the Director of Mental Health, to identify those DHBs where services are good at meeting the needs of people with complex or multiple needs, particularly where there is a pattern of increasing service activity. These DHBs could be used as exemplars of good practice.

Identifying increased service use and risk of suicide

The information from reviewing the DHB and coronial inquiry records of a small sample of 20 mental health service users suggests that those whose engagement with the service intensifies (eg, those with more than 30 days or points of service contact in any three-month period) may be at increased risk of suicide. It would be useful to undertake further analyses to determine the utility and feasibility of a 'flag' system that could be used to trigger structured expert review of service engagement in such cases.

Long-term management of recovery

Review of DHB and coronial inquiry records on mental health service users revealed a short-term 'risk management' approach to mental health issues, as opposed to a recovery approach. There was also little evidence that the person themselves was involved in the planning of their care, other than to agreeing to follow management plans after risk assessments.

A risk management approach appears to have become the standard approach to therapeutic intervention in recent times. Frequent and discrete risk assessments without long-term planning of care may be a sign of a service either failing, or being ill-equipped, to respond to the needs of a service user. Examples of longer-term therapeutic interventions include recovery and formulation approaches. A recovery approach allows mental health service users to take an active role in their own care planning and its trajectory; this can help reduce any 'sense of helplessness' (or service provider's perceived inability to prevent suicide), which was evident in the care provided in many of the reports reviewed. A more traditional 'formulation' approach considers diagnoses and other mental health issues within the wider context of a service user's life.

The SuMRC's opinion is that there should be increased emphasis on problem formulation and long-term management in mental health clinician training. A coherent multi-agency plan could enhance long-term management of recovery.

⁴⁹ An example in the toolkit is the suicide prevention response in Northland, which has focused on intensive child and youth network-based prevention. Alongside Police, education workers, CYF services and NGO services, the DHB is part of a 'fusion group' that circulates daily email alerts of high-risk situations, suicides and suicide attempts among young people. Group members check their own systems and feed relevant information back into the central group in order to establish risk, make linkages and formulate action plans. Each member responds appropriately on their own part, while continuing to share information. If multiple risk flags are identified, the group may hold an additional meeting.

5.1.4 Targeting occupational groups

The SuMRC feasibility study showed the highest percentage of suicides in men of working age was among those whose usual occupation was either in the construction and trade industry or the farm and forestry industry.

The SuMRC recommends the Ministry of Business, Innovation and Employment explores opportunities for suicide prevention in the construction and trade industry. The Ministry of Health and the Ministry for Primary Industries are already working with the Rural Health Alliance to prioritise rural mental health. This could include looking at initiatives such as 'MATES in Construction'⁵⁰ in Australia, which was established after a major report into the high suicides rates in the Australian construction industry.

5.2 Lessons about the feasibility and benefits of suicide mortality review in New Zealand

The SuMRC feasibility study was a valuable opportunity to test specific processes of mortality review of suicide. Although the limited study timeframe did constrain the depth of the data analyses the SuMRC was able to undertake, there were a number of preliminary insights gained into how a suicide mortality review process could operate in New Zealand. These lessons learned are pivotal for informing future suicide prevention activities.

5.2.1 Data collection and linkage requires substantial time investment

Data collection was a challenging step and it directly influenced the nature and extent of the analyses that could be completed during the feasibility study. Obtaining data from multiple agencies was time-consuming and, at times, more complicated than anticipated. Establishing relationships with the various agencies prior to data transfer took up much of the additional time required for data collection.

An ongoing suicide mortality review process would facilitate the building of stronger interagency relationships; this would allow additional data to be obtained and stored in an expanded SuMRC data set. Having a data set that is built on the systematic ongoing collection of agency data would, over time, enable analyses by subgroups where suicide numbers are small.

Matching or linking information across multiple data sets is a key component of mortality review as it yields a more detailed picture than that which can be obtained using a single data set. Linking information across data sets is a time-consuming and challenging process. Some of the data sets use different unique identifiers (to de-identify the data in accordance with the Privacy Act 1993), requiring researchers to use probabilistic linking to match the information based on birth dates and other personal information. This process is more difficult when the data sets use different ethnicity classifications and definitions of deaths. As data-sharing becomes easier between agencies with the IDI project (see Box 1) and other initiatives, the SuMRC expects this process would become streamlined.

⁵⁰ MATES in Construction is a charity that aims to reduce the high level of suicide in the construction industry in Australia. The charity was established in 2008 to implement the recommendations of a major report which found suicide rates in the industry were higher than the Australian average for men, particularly young men. MATES in Construction provides community development programmes on sites and supports workers in need through case management and a 24/7 helpline. Further information about the programme is available at: www.matesinconstruction.org.au/.

Box 1: What is the Integrated Data Infrastructure (IDI)?

The IDI is an ongoing project led by Statistics New Zealand. The project involves linking longitudinal data across multiple data sets from various government agencies (Statistics New Zealand 2013).

The IDI is based on administrative data and a number of surveys undertaken by Statistics New Zealand. A wide range of information is captured, including: data from national collections on immunisations, mental health and B4 School Checks (Ministry of Health); personal business and tax data (sourced from Inland Revenue); benefits, student loans and allowances (Ministry of Social Development); education achievement data (Ministry of Education); injuries (ACC); sentences (Department of Corrections); migration and movements data (Ministry of Business Innovation and Employment); and a number of Statistics New Zealand routine surveys (Statistics New Zealand 2013).

Overall, the IDI will improve access to additional data sources and enable researchers to tell a rich and in-depth story which may not otherwise have been possible given the usual research time constraints. Further information on the IDI is available at: www.stats.govt.nz/browse_for_stats/snapshots-of-nz/integrated-data-infrastructure/introduction-idi-2013.aspx.

5.2.2 Importance of mortality review committee status

Mortality review committees are statutory committees under section 59E of the New Zealand Public Health and Disability Act (NZPHDA). Schedule 5 of the NZPHDA gives mortality review committees permission to collect any relevant data and information from external agencies that relates to the committee's purpose.

The research team was able to gather the information for the suicide mortality review feasibility study because of its status as an 'Agent' of the SuMRC under the NZPHDA. Agents are appointed by mortality review committees and are bound by the legislation to protect the privacy of the individual and ensure the confidentiality of information.

These legislative provisions help facilitate the data collection process by reassuring other agencies about the protection and use of their data. The provisions also help strengthen the validity of mortality review committee recommendations, improve the ability to assess the uptake and impact of the recommendations, and enhance the ability to work with other national agents such as coroners.

It should be noted that a number of the central agencies that provided data became very enthusiastic about their future involvement and the potential of suicide mortality review when they saw the analyses during the consultation part of the feasibility study.

5.3 Strengths and limitations of the feasibility study

The SuMRC feasibility study has several strengths and limitations. Many of the limitations stem from the exploratory nature of the aims and the short study timeframe. Some of the limitations were also experienced by other mortality review committees in their early phases.

Key strengths of the study follow:

- The internal validity of the analytical approaches is strengthened by the agreement between different tiers of analysis. For example, all analytical tiers showed that people who died by suicide were usually linked with several social service agencies. Furthermore, results were generally consistent with what has been observed in other independent studies. For example, large proportions of the rangatahi subgroup were exposed to childhood and family adversity (eg, family violence and sexual abuse) during their lifetime. Experiencing childhood adversity is strongly associated with suicide (see Hawton and van Heerington 2009 for a review).

- This is the first time Kaupapa Māori research methods have been tested for mortality review in New Zealand. Although the short study timeframe limited the number of whānau interviews that could be conducted, the rich and in-depth findings illustrate the added value that qualitative research processes can lend to mortality review.
- Data collection from multiple agencies was possible because of the status of mortality review committees (and their authority to collect information under the legislation). Although some of the data collected and the depth of analyses were constrained by the limited study timeframe, the SuMRC believes it has established a solid foundation for further building relationships with the various agencies housing the data. Many of these agencies are supportive of the SuMRC's work and have agreed to provide data for any future work.

The key limitations of the study follow:

- Data collection processes were time-consuming, limiting the time available for analyses. The time required to request and collect data from various agencies and the tight study timeframe meant the SuMRC had to prematurely stop pursuing further data of interest and prioritise analysis of data that had already been collected. Data held by Inland Revenue, the Ministry of Justice and more detailed data from the Ministry of Social Development were not obtained in time for analyses, but the SuMRC is of the view that further exploration of these data sets is warranted. Both Inland Revenue and the Ministry of Justice have agreed to provide data for any future SuMRC work.
- Some analyses were limited by the data available. The PRIMHD data set only dates back to July 2008 – it was combined with MHINC data to fully cover the 2007–11 study timeframe. MHINC data under-reports actual secondary mental health service use, particularly from NGOs. This means the findings in this report most likely under-report mental health service use among those who died by suicide during the five-year study period. There is also little data available from primary care on specific aspects of service use.
- Some analyses were limited by data quality. The alcohol and drug data provided, for example, had significant numbers of missing variables because post-mortem alcohol and drug levels were either not tested, or were not reported.
- Suicide and ethnicity classification and coding systems vary between data sources. Classification of a death as suicide within the Mortality Collection is based on the verdict from the coroner's court. The Coronial Services CMS only contains information on closed cases. The CYMRC Mortality Review Database uses multiple sources of data to code deaths by the calendar year they occurred, rather than the year they were registered. These classification discrepancies mean the findings from the analyses are not comparable across the subgroups. Inconsistent ethnicity coding between data sources also had an impact on matching across the data sets. The Ministry of Education, for example, was not able to find matches for all of the rangatahi Māori subgroup (162 files were found out of 194 rangatahi Māori).
- The tight study timeframe and the varying quality of data from different agencies made data matching very difficult. One of the benefits of mortality review is that, because committees are entitled to gather identifiable data, they are then able to match data from a wide range of agencies. If a permanent committee were to be established, it will have more time available to complete more complex cross-agency data-matching.
- Denominator data availability and related issues meant comparative rates were not able to be calculated within the study timeframe. This limits the strength of some recommendations. For example, the SuMRC did not have information on the number of men of working age in the general population who had contact with Corrections and Police (and for what offences). Without this denominator, rates could not be calculated to assess whether such contact was more frequent in the suicide cohort than the general population. Examining potential data sets for denominator data, such as the IDI data set held by Statistics New Zealand, should be included in the work programme of a permanent SuMRC.

5.4 Identification of a future work programme

To ensure its future viability, a SuMRC will need to develop a work plan that is based on an overarching framework and explicit prioritisation principles.

A number of ideas were generated from the findings of the feasibility study and subsequent consultation processes that could be considered for a future work programme. These are as follows.

5.4.1 Expanding analyses of existing and new data

Existing data already collected for the feasibility study could be used for:

- a more in-depth analysis of suicide across the three subgroups for those with a Police, Corrections or CYF file, with the aim of identifying new prevention initiatives
- a more in-depth analysis of the subgroup of men aged 25–64 years, with the aim of identifying new prevention initiatives – this might include using:
 - Work and Income and/or Inland Revenue data to explore any financial issues men experienced in the years leading up to their death⁵¹
 - Ministry of Justice data to provide information on prosecutions, orders for drug and alcohol rehabilitation, fines and orders relating to guardianship and care of children (including protection orders)
- information on the use of primary care mental health services, such as engagement with GPs and referrals to counselling⁵²
- reviewing suicide in other subgroups, such as children aged under 15 years, Pacific peoples communities, people in rural areas, people aged over 65 years, youth with known mental health issues (including those who transition from child and youth to adult services).

Existing and new data could be used to review:

- primary care prescribing, contacts, use of analgesics and alcohol and drug use
- methods of suicide used in New Zealand (which are significantly different to other countries)
- mental health service use data to identify specific time points where service users are at particular risk of suicide
- school drop-outs, non-enrolments, alternative education, kura kaupapa Māori enrolment and other aspects of education
- attempted suicides and admissions for self-harm – this could include reviewing the role of emergency departments and emergency/crisis mental health services for people who presented with suicidal behaviours/attempts (and subsequently died by suicide) and/or comparative analysis of those who died by suicide versus those who made suicide attempts
- emergency department and outpatient admissions in the year or two prior to death (using NNPAAC data) and the type of service/specialty involved.

5.4.2 Improving suicide data collection in New Zealand

Further work was identified in relation to collection and standardisation of data, including:

- developing a standard for DHB reviews and reporting of suicide and collectively reviewing these centrally
- developing a minimum set of data (with Police and Coronial Services) that should be collected when a suicide is suspected

51 'Financial issues' could be explored using Work and Income data on benefit receipt and type (eg, unemployment or sickness) and/or Inland Revenue information on debt write-off, outstanding tax returns, overdue student loan or child support payments, domestic maintenance payments and audit activity. Data held by the New Zealand Insolvency and Trustee Service on bankruptcies could also be of interest. This is freely available online.

52 Large employer organisations that use employee assistance programmes could also be explored as sources of information on counselling or support that men access anonymously through their jobs.

- working with the Office of the Chief Coroner and Royal College of Pathologists of Australasia on standardised testing protocols and data reporting for alcohol or other drugs in all cases of suspected suicide.

5.4.3 Constructing a master data set or database

Constructing a master data set or suicide mortality review database that contains thoroughly cleaned data (as well as an accompanying data dictionary) and houses all relevant agency source information in a centralised location would improve the efficiency of mortality review. Building a national suicide case register is another option to consider for improving the efficiency with which relevant data on suicide can be located and extracted for analysis.

5.4.4 Enhancing our understanding of suicide in New Zealand over time

The new IDI from Statistics New Zealand will enable researchers to explore: linked longitudinal administrative data on education; Police victim and incident data; charges and sentencing data; injury data; and migrations, tenancy, personal and business tax, income, labour force and business data. Access to this information will build on the areas which have been explored in this study and provide new insights and additional information on contributing factors and patterns of those who die by suicide.

Definitions of terms and abbreviations

Terms

Commission	Health Quality & Safety Commission
Contact record	Information recorded by Child, Youth and Family which does not warrant a statutory response is recorded as a 'contact record'. Contact records are also used to record information about police family violence related visits that do not require CYF involvement
Contact with CYF	Contact with CYF refers to cases where CYF have any record of that child or young person, including contact records, adoptions records, young offending records, reports of concern and interventions involving custody orders
Corrections	Department of Corrections
In care	'In care', or 'In the care of CYF' means that a custody order for that child or young person has been granted in favour of CYF. CYF are responsible for ensuring that the day to day care needs for that child or young person are met while the order is in place. A significant number of children or young people in the care of CYF will remain living with their wider whānau, and some remain in the care of their parents
Legal Status/ Legal Care	Legal Status refers to cases where court orders relating to a child or young person have been granted in favour of Child, Youth and Family. In many cases, legal status means that a custody order is in place, in which case it can also be referred to as 'Legal Care'. However, 'Legal Status' also includes non-custodial legal orders such as those that place responsibilities on the part of Child, Youth and Family to provide those services
Notification	Reports of concern were previously called notifications
Police	New Zealand Police
Rangatahi	Māori youth (here, defined as 15–24-year-olds)
Report of concern	A report of concern is generated when someone contacts Child, Youth and Family because they are worried about a child or young person. Not all reports of concern reach the threshold for statutory child protection involvement which means Child, Youth and Family's response to a report of concern can range from urgent action and an investigation to only recording the phone call and providing advice
Research team	University of Otago, Wellington research team contracted by the Commission to undertake this study
Secretariat	Commission staff members assigned to provide services and support to the SuMRC

Abbreviations

ACC	Accident Compensation Corporation
CMS	Case Management System
CYF	Child, Youth and Family
CYMRC	Child and Youth Mortality Review Committee
DHB	District health board
FVDRC	Family Violence Death Review Committee
ICD	International Classification of Diseases
IDI	Integrated Data Infrastructure
MHINC	Mental Health Information National Collection
NGO	Non-governmental organisation
NMDS	National Minimum Dataset (national health system use database)
NNPAC	National Non-Admitted Patients Collection
NZDep2006	New Zealand Index of Deprivation 2006
NZPHDA	New Zealand Public Health and Disability Act 2000
PHO	Primary health organisation
PRIMHD	Programme for Integration of Mental Health Data (Ministry of Health database)
SuMRC	Suicide Mortality Review Committee

Te reo Māori glossary

Aroha ki te tangata	A respect for people; in a Kaupapa Māori research practice context, this is about allowing people to define their own space and to meet on their own terms
Hapū	Division of wider Māori community determined by genealogical descent; commonly regarded as a subtribe/s or kinship group/s comprising one or more extended whānau; primary political unit in traditional Māori society
Hau/Hā	Soul/s, essence, breath/s
Hauora	Health, vigour
He kanohi kitea	In a Kaupapa Māori research practice context, this is about the importance of meeting with people face-to-face
Iwi	Largest groupings of Māori community determined by genealogical descent and associated with a distinct territory; commonly regarded as a tribe/tribes comprising a number of hapū
Kai	Food
Kaitiaki	Guardian/s, custodian/s, caretaker/s, keeper/s
Kaitiakitanga	Guardianship
Karakia	Incantation/s, ritual chant/s, prayer/s, blessing/s
Kaumātua	Respected elder/s – male and female
Kaupapa	Topic/s, matter/s for discussion, subject/s, issue/s
Kaupapa Māori	Māori approach, Māori topic, Māori customary practice, Māori institution, Māori agenda, Māori principles, Māori ideology – a philosophical doctrine, incorporating the knowledge, skills, attitudes and values of Māori society
Kia tūpato	To be careful
Koha	Donation/s, gift/s, present/s, offering/s, contribution/s
Kōhanga reo	Total immersion Māori-language family-based pre-school programme/s for tamariki aged from birth to six years
Kōrero	Narrative/s, story/stories, account/s, discourse
Kura kaupapa Māori	Māori-language immersion school/s where the philosophy and practice reflect Māori cultural values with the aim of revitalising te reo Māori, Māori knowledge and Māori culture; schools may be kura tuatahi (primary schools), kura arongatahi (composite schools), wharekura (secondary schools), kura tuakana (mentoring schools) or kura teina (mentored schools)
Mahi	Work, job/s, activity/activities
Mahi hōhonu	Important work
Mana	Integrity, prestige, authority, power, influence, status
Mana tangata	Human rights, status
Mana whenua	Those with territorial rights associated with possession and occupation of, and customary title over, tribal land; power from the land providing authority or jurisdiction over it

Manaaki ki te tangata	In a Kaupapa Māori research practice context, this is about taking a collaborative approach to research, research training and reciprocity
Manaakitanga	Hospitality, kindness, generosity, support – the process of showing respect, generosity and care for others
Marae	The open area in front of a whareniui, where formal greetings and discussions take place; term also often used by iwi to identify the entire complex of buildings on tribal land
Mātauranga	Information, knowledge, education, wisdom, understanding
Matua	Father/s, parent, uncle/s; respectful title for older male/s
Mauri	Life principle/essence, source of emotions
Mauri-kōhatu	Sacred stones
Moana	Sea, lake
Noa	Unrestricted, free from tapu
Pākehā	New Zealand European
Pēpi	Baby/babies
Pūrākau	Storytelling
Rāhui	Embargo, quarantine
Rangatahi Māori	Māori youth
Rohe pōtae	Tribal territory/territories, tribal homeland/s or boundary/boundaries of iwi groups defined according to prominent geographical features, including mountains, rivers and lakes
Takatāpui	Māori who identify as lesbian, gay, bi-sexual, transgender or intersex
Tamariki	Children
Tapu	Restricted, sacred, forbidden, confidential, prohibited
Te reo Māori	The Māori language
Tikanga	Correct procedure, custom, lore, method, manner, practice, protocol
Tikanga Māori	Correct Māori procedures, custom, lore, methods, manner, practices and protocol
Tipuna/tupuna	Ancestor
Titiro	To look, examine, observe
Wāhine	Women
Wairua	Spirit/s, soul/s
Wānanga	Seminar/s, series of discussions
Whakanoa	To remove/free from tapu, make ordinary
Whakapapa	Genealogy, ancestry
Whakarongo	Listen
Whakawhanaungatanga	Process of establishing and building relationships, and relating well to others
Whānau	Extended family/families
Whānau Māori	Māori extended family/families

Whanaungatanga

Relationship/s, kinship/s, sense of family connection

Whare wānanga

University/universities

Whareniui

Meeting house/s

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Appendix 1: Ngā Rāhui Hau Kura

In his role as Cultural Advisor to the SuMRC feasibility study, Matua Witi Ashby has gifted the name Ngā Rāhui Hau Kura to the study. Ngā Rāhui Hau Kura derives from the kōrero⁵² taught to him by his matua⁵³ Pene Tipene of Ngāti Hine and Te Rarawa. Matua Witi recalls his tupuna⁵⁴ reciting this mātauranga⁵⁵ in a wānanga⁵⁶ when he was young. The only known written version of this mātauranga comes from Te Haupapa-o-Tāne of Ōrongonui.⁵⁷ Its fuller meaning, to support and umbrella this mahi hōhonu,⁵⁸ is outlined below by Matua Witi.

When our ancestors first arrived to these lands they put into the ground our sacred stones – kura or mauri-kōhatu – to preserve the hau⁵⁹ of all living things, considered of particular greatness by the children of Tāne. The term hau or hā, as applied to the children of Tāne, is used in the sense of the wairua⁶⁰ or life essence of all these living things, most commonly conveyed through the expression 'Tihei mauri ora',⁶¹ which refers to the breath of life.

Breath

The breath is the bridge which connects life to consciousness, which unites one's body to our thoughts. Whenever the mind becomes scattered then the breath may be used as the means to take hold of the mind again (adapted from Thích Nhất Hạnh's *The Miracle of Mindfulness*).

Breath cycle

It is really important for us in doing this sacred mahi⁶² to maintain our breath cycle. The further we continue on into this delicate research, the harder it gets. As we read and hear stories from whānau, the tears, the heaviness in their breath cycles as they try to catch every moment of remembrance and pass them on to total strangers, increases.

For those leading this special and sacred project, maintaining their breath cycle through the material they read and the whānau they interact with is difficult. It's enough to take our breath away just for the moment – in that moment our hearts flutter and break, tears from our eyes form and the wairua is unsettled.

The great thing about this though, is the power of karakia⁶³ and the mana⁶⁴ of our ancestors to be able to bring back our breath cycles so that we are able to continue on with our mahi.

52 Narrative/s, story/stories, account/s, discourse

53 Father/s, parent, uncle/s; respectful title for older male/s

54 Ancestor

55 Information, knowledge, education, wisdom, understanding

56 Seminar/s, series of discussions

57 Te Haupapa-o-Tāne was born in the early 1800s and 'schooled' in the whare wānanga of his people – Ngāti Uenuku of Tūhura, up the Whanganui River. Because he had no descendants of his own, however, he chose to entrust his mātauranga with the University of Auckland's Polynesian Society, including through the *Journal of the Polynesian Society*.

58 Deep, esoteric work

59 Soul/s, essence, breath/s

60 Spirit/s, soul/s

61 The expression 'Tihei mauri ora' originates from Hineahuone (the first woman) having life breathed into her; tihei being the sneeze when a child is born, mauri being the force and ora being life. More literally the expression translates as 'I sneeze life'.

62 Work, job/s, activity/activities

63 Incantation/s, ritual chant/s, prayer/s, blessing/s

64 Integrity, prestige, authority, power, influence, status

*Rāhui*⁶⁵

Rāhui is a softer version of tapu.⁶⁶ It allows for stabilisation to occur or for normality to appear or regenerate through a timeframe usually set by kaumātua.⁶⁷ For example, when a death by drowning has occurred at a particular coastal area, a Rāhui is placed on that area for a period of time. A Rāhui can also be implemented on a particular area of forestry, moana,⁶⁸ mountain or river in order to replenish depleting natural resources, similarly meaning nobody is allowed in those areas for a designated period of time.

*Whakanoa*⁶⁹

Whakanoa is a process of lifting a tapu or Rāhui on an area that has been placed in a state of sacredness for some time. Its principles around protecting and preserving are commonly applied to conservation. Only a kaumātua of mana is able to lift a tapu off an area, activity or people.

To replace tapu or Rāhui with whakanoa is to bring back normality to the area of activity, to enjoy life without being afraid of reprisals. For example, it was once forbidden for Māori women to do any types of carving of any shape or size throughout Aotearoa, until Sir James Henare decided to lift the tapu and replace it with the process of whakanoa for the wāhine⁷⁰ of Ngāti Hine. This whakanoa only applies within the rohe pōtae⁷¹ of Ngāti Hine but it enables the wāhine from there to carve without fear of reprisals from the spiritual realms. As a result, Ngāti Hine has the only carved whale tupuna⁷² done by wāhine throughout Aotearoa.

Since we are researching the mortality rates and hearing stories from whānau of those who breathed their last life cycle between 2007 and 2011, it is appropriate that a Rāhui is placed on this piece of mahi until a state of whakanoa is enacted. Such a Rāhui is appropriate as it will help protect the research by laying down an agreed process for a period of time. A karakia at the commencement of the research cements this agreement, which can be lifted when all involved have agreed to the terms and a timeframe which will allow whakanoa or noa⁷³ to pass over the project.

The name for this study specifically emerged from the desire of the Cultural Advisor to bring together the essence and sacredness of the mahi and the protectiveness of the stories shared by whānau of rangatahi who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011. After reading the coronial reports of most of these rangatahi, he spoke of their despair and their desperate pleas for a moment's glimmer of hope as they reached out towards the heavens, praying to any gods for guidance, looking for answers that would never come and listening to that which they were unable to articulate. He referred to what he called their 'minds behind closed doors'. Ngā Rāhui Hau Kura is focused on the hope of one day being able to craft the master key to open and unlock those doors.⁵

65 Embargo, quarantine

66 Restricted, sacred, forbidden, confidential

67 Respected elder/s – male and female

68 Sea, lake

69 To remove/free from tapu, make ordinary

70 Women

71 Tribal territory/territories, tribal homeland/s

72 Carved meeting house and the central building of a marae

73 Unrestricted, free from tapu

Appendix 2: Seven ‘community-up’ practices used to guide whānau suicide stories

Table 20: ‘Community-up’ approach applied to the whānau suicide stories

Practices	Quantitative data analysis	Whānau suicide stories
Aroha ki te tangata	<ul style="list-style-type: none"> • Treating the information about rangatahi with respect • Telling a strength-based data story 	<ul style="list-style-type: none"> • Allowing whānau to choose where they told their story • Establishing connectedness through whakawhanaungatanga (process of establishing and building relationships, and relating well to others) • Acknowledging and understanding peoples’ backgrounds • Respecting the extent of cultural engagement by the whānau
He kanohi kitea		<ul style="list-style-type: none"> • Meeting with whānau face-to-face to explain the kaupapa before the establishment of any research relationship • Conducting the research face-to-face • Aiming always to protect the reputation of the researcher’s whānau, hapū and iwi through proper conduct
Titiro, whakarongo... kōrero	<ul style="list-style-type: none"> • Seeking to comprehend the information before writing about it and seeking explanations 	<ul style="list-style-type: none"> • Developing understandings of a context through quiet observation, in order to find a place from which to speak • Allowing whānau to set the agenda, including the pace and content of what is shared
Manaaki ki te tangata	<ul style="list-style-type: none"> • Feeling a duty of care for the lives of those represented in the data 	<ul style="list-style-type: none"> • Providing and sharing kai with whānau • Providing a koha to acknowledge the time and knowledge whānau have shared
Kia tūpato	<ul style="list-style-type: none"> • Rituals of whakanoa to lift the tapu on data about the deceased, and to pay respect to those who have passed (Keefe et al 1999) 	<ul style="list-style-type: none"> • Ensuring whānau are fully informed about the purpose of the research • Allowing whānau to practise their own tikanga • Having a protocol to respond to whānau distress • Having a researcher safety protocol (Towns 2014) • Ensuring cultural supervision for the researcher
Kaua e takahia te mana o te tangata		<ul style="list-style-type: none"> • Acknowledging that whānau are the owners of what they choose to share • Allowing whānau to decide if, when, how and with whom their kōrero is shared (within the constraints of the legislation)
Kia mähaki		<ul style="list-style-type: none"> • Actively working to reduce distance between whānau and researcher • Supporting whānau understanding of the research

Source: Adapted from Kennedy and Cram (2010, pp 6–7, Table 1)

Appendix 3: Characteristics of the sample used for the mental health service users systems review

A sample of 20 mental health service users who died by hanging between 1 January 2007 and 31 December 2011 were selected from DHB incident reports and coronial inquiry records.

There was a mix of DHBs, types of reports (DHB, coroner or both), inpatients and outpatients, age and gender (Table 21).

In terms of representativeness of the subgroup population who died by hanging, females were over-sampled and Māori under-sampled.

Table 21: Characteristics of the sample of 20 mental health service users

DHB records (total)	14
Coroners' reports (total)	6
Both DHB and coroners' (paired)	4
Inpatients	3
Age range	15–64 years
Females	7
Males	13
Māori	3
Non-Māori	17
Have Corrections file (no active sentence)	3

Appendix 4: Consultation

A consultation draft of the report was sent out on 22 May 2015 for feedback on the recommendations by 5 June 2015. The document was sent to 57 stakeholders (including the 20 DHBs) plus the Health Quality & Safety Commission Board, Māori Caucus and CYMRC members. The SuMRC wishes to thank the following 32 organisations and individuals for their useful responses.

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Chief Coroner, Judge D Marshal
Child, Youth and Family
Department of Corrections
Dr Annette Beautrais
Emeritus Professor David Fergusson
Emma Skellern
Health Quality & Safety Commission Māori Caucus
Kia Piki te Ora
Lakes DHB
Le Va
MidCentral DHB
Ministry of Health
Nelson Marlborough DHB
New Zealand Police
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Ngā Hau e Whā, Kieran Moorhead
Ngā Hau e Whā, Victoria Roberts
Nigel Fitzpatrick
Professor Barry Taylor
Royal Australian and New Zealand College of Psychiatrists
Royal New Zealand College of General Practitioners
Skylight
Tairāwhiti DHB
Taranaki DHB
University of Otago, Dr Shyamala Nada-Raja
Waikato DHB
Waka Hourua and Te Rau Matatini (joint response)
Whanganui DHB
Witi Ashby
Work and Income New Zealand



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