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

Report to the Ministry of Health

31 May 2016

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Ngā Rāhui Hau Kura

In his role as Cultural Advisor to the Suicide Mortality Review Committee (SuMRC) feasibility study, Matua Witi Ashby has gifted the name Ngā Rāhui Hau Kura to the study. Ngā Rāhui Hau Kura derives from the kōrero[1] taught to him by his matua,[2] Pene Tipene of Ngāti Hine and Te Rarawa. Matua Witi recalls his tupuna[3] reciting this mātauranga[4] in a wānanga[5] when he was young. The only known written version of this mātauranga comes from Te Haupapa-o-Tāne of Ōrongonui.[6] Its fuller meaning, to support and umbrella this mahi hōhonu,[7] 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 hau[8] 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 wairua[9] or life essence of all these living things, most commonly conveyed through the expression 'Tihei mauri ora',[10] 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 mahi[11] 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

[1] Narrative/s, story/stories, account/s, discourse

[2] Father/s, parent, uncle/s; respectful title for older male/s

[3] Ancestor

[4] Information, knowledge, education, wisdom, understanding

[5] Seminar/s, series of discussions

[6] Te Haupapa-o-Tāne was born in the early 1800s and 'schooled' in the whare wānanga of his people – Ngāti Uenuku of Tūhua, 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*. Founded in 1892 and continuing to this day, this quarterly publication is aimed at the scholarly study of Māori and other Pacific peoples and cultures. Its early issues contain a rich repository of Indigenous texts and traditions, often published in local languages with English translations, contributed by Pacific peoples such as Te Haupapa-o-Tāne, as well as missionaries, anthropologists (social, cultural, physical and biological), archaeologists, historians and linguists working in Micronesia, Melanesia and Polynesia.

[7] Deep, esoteric work

[8] Soul/s, essence, breath/s

[9] Spirit/s, soul/s

[10] 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'.

[11] Work, job/s, activity/activities

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 karakia[12] and the mana[13] of our ancestors to be able to bring back our breath cycles so that we are able to continue on with our mahi.

Rāhui[14]

Rāhui is a softer version of tapu.[15] It allows for stabilisation to occur or for normality to appear or regenerate through a timeframe usually set by kaumātua.[16] 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,[17] 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[18]

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 wāhine[19] of Ngāti Hine. This whakanoa only applies within the rohe pōtae[20] 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 whare tupuna[21] done by wāhine throughout Aotearoa.

[12] Incantation/s, ritual chant/s, prayer/s, blessing/s
[13] Integrity, prestige, authority, power, influence, status
[14] Embargo, quarantine
[15] Restricted, sacred, forbidden, confidential
[16] Respected elder/s – male and female
[17] Sea, lake
[18] To remove/free from tapu, make ordinary
[19] Women
[20] Tribal territory/territories, tribal homeland/s
[21] Carved meeting house and the central building of a marae

> 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 noa[22] 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[23] who died by suicide in Aotearoa New Zealand between 1 January 2007 to 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.

[22] Unrestricted, free from tapu

[23] Māori youth

Acknowledgements

The SuMRC is grateful to the Ministry of Health for supporting this trial of a suicide mortality review mechanism. We are also grateful to the Health Quality & Safety Commission for agreeing to the trial, establishing the SuMRC and offering dedicated secretariat support throughout the trial. Most notably, the SuMRC would like to acknowledge Shelley Hanifan (Manager, Mortality Review Committees), Joan Mirkin, Dr Maria Poynter and Dr Brandy Griffin for the extensive support they provided throughout the project.

In addition, the data collection and analyses were carried out by a research team based at the University of Otago, Wellington. The SuMRC is grateful for the contributions of the research team: Dr Gabrielle Jenkin, Ms June Atkinson, Ms Sarah McKenzie, Dr Debbie Peterson, Dr Lynne Russell (Kāi Tahu, Ngāti Kahungunu, Kāti Māmoe, Rangitāne, Ngāti Porou), and Professor Sunny Collings. Our thanks too to Dr Fiona Cram (Ngāti Kahungunu) for assisting in the finalisation of the rangatahi Māori chapter.

We would also like to acknowledge and thank Mr Witeria (Witi) Ashby (Ngāpuhi) of the Mental Health Foundation in his capacity as our Cultural Advisor. Our grateful thanks to the Mental Health Foundation for supporting Witi to do this work. Dr Lynne Russell, who was the primary author of the rangatahi Māori chapter, acknowledges Witi as follows: 'I personally am indebted to Witi for the rāhui he has placed on this mahi. It continues to secure my wellbeing, to allow me to breathe. His koha kōrero underpins the context for this report ensuring we maintain our focus on the prevention of further loss of life through greater understanding of suicide.' We are also grateful to Wi Keelan (Ngāti Porou, Ngāti Kahungunu, Ngāpuhi), Chief Advisor Māori Health, Ministry of Health, and Chas McCarthy (Ngāti Tūwharetoa, Te Atihaunui a Pāpārangi), Senior Advisor Māori Health Innovation, Ministry of Health for their guidance on the rangatahi Māori mahi.

We are especially grateful to the whānau of rangatahi Māori who have died by suicide who participated in the pilot of the whānau suicide stories.

> Kaha te titiro i ngā wā i mua kei reira ngā hohonutanga whakaaro. Whakahoki mai ngā whakaaro ki muri, kei whiri, kei kōrero, kei mahi ai tahi huarahi oranga mō āpōpō.
>
> 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.

We must acknowledge the strength of all those who participated in the pilot of the whānau suicide stories. To the grandmothers, grandfathers, mothers, fathers, siblings, nephews, nieces and friends who shared the stories of their loved ones or supported the storytellers by their presence, the SuMRC and the work we aim to do to prevent others travelling the road your whānau has, thank you. Ka nui te mihi aroha ki a koutou katoa.

We acknowledge the support of the government agencies that provided time, advice or data for this project:

- Ministry of Health | Manatū Hauora
- District health boards
- Accident Compensation Corporation | Te Kaporeihana Āwhina Hunga Whara
- Office of the Chief Coroner, Coronial Services of New Zealand | Purongo O te Ao Kakarauri
- Ministry of Justice | Tāhū o te Ture
- New Zealand Police | Ngā Pirihimana O Aotearoa
- Department of Corrections | Ara Poutama Aotearoa
- Ministry of Education | Te Tāhuhu o te Mātauranga
- Ministry of Social Development | Te Manatū Whakahiato Ora
- Housing New Zealand | Te Kaporeihana ā-Whare o Aotearoa
- Inland Revenue | Te Tari Taake

We are also grateful to the Child and Youth Mortality Review Committee (CYMRC) and the staff at the Mortality Review Data Group, University of Otago New Zealand, for granting access to the CYMRC data and providing training in the use of the CYMRC database.

Finally, the SuMRC wishes to thank the 34 organisations and individuals who responded to the consultation document. The comments and insights have significantly influenced this final document.

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 DHB 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
- Dr Jemaima Tiatia-Seath, lecturer based at Te Wānanga o Waipapa School of Māori Studies and Pacific Studies, the University of Auckland
- Prof Roger Mulder, Head of the Department of Psychological Medicine at the University of Otago, Christchurch
- Maria Baker (Ngāpuhi me Te Rarawa iwi), doctorate student focused on the experiences of Māori with mental illness and health services
- Dr John Crawshaw, Director of Mental Health and Chief Advisor, Mental Health, at the Ministry of Health (ex officio member)
- Prof Sunny Collings, Director of Social Psychiatry and Population Mental Health Research Unit, University of Otago, Wellington (advisor to the SuMRC).

Expert Advisory Group

The Expert Advisory Group preceded the SuMRC and provided advice on the establishment of the feasibility study and the subgroups. Expert Advisor Group members were:

- Prof Sunny Collings (Chair), Director of Social Psychiatry and Population Mental Health Research Unit, University of Otago, Wellington
- Prof 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)
- Morag McDowell, representing the Chief Coroner.

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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 percent higher than for non-Māori.

Every suicide is unimaginably tragic for families 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 SuMRC, research team and secretariat on their impressive achievements to date.

Professor Alan Merry ONZM FRSNZ
Chair, Health Quality & Safety Commission

Committee Chair's introduction

Suicide is devastating for all those personally affected and is a tragedy for our society as a whole. In introducing this report, I would like to first acknowledge the grief of the families, whānau and friends whose loss has contributed to the data we have used. We hope that the learnings from these deaths will help us to prevent further deaths by suicide.

The New Zealand Government has recognised the need to address this matter with determination and commitment. The *New Zealand Suicide Prevention Action Plan 2013–2016* builds on advances made as a result of the previous plan and provides a springboard for further efforts. An important part of the 2013–16 plan has been to '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'.

A time-limited Suicide Mortality Review Committee (SuMRC), under the auspices of the Health Quality & Safety Commission, was established in May 2014 to manage the trial. This report, *Ngā Rāhui Hau Kura*, is the result. The SuMRC believes that the trial has demonstrated that the mortality review mechanism is not only feasible, but more importantly, that it can provide useful knowledge about contributing factors and patterns of suicide that is either new and can guide new suicide prevention activities, or that reinforces and strengthens existing activities.

It is important to note that the SuMRC carried out its work and finalised this report within tight timeframes. As a result, some potentially useful analysis was not able to be completed. In particular, a lack of comparators in some key areas has meant that it is sometimes difficult to assess whether a finding is significant or not. This first cut at collecting and analysing the data available has been tantalising. Although it has provided some new findings as well as reinforcing or updating previous research results, it has also provided glimpses of the kind of potentially powerful findings we could expect to deliver in the longer term from the rich data collected. If the Government agrees to an ongoing suicide mortality review function, we would be in a great position to do this. As one of the agencies responding to the consultation document noted, 'There is gold in here, it just has to be mined.'

Having said this, some of the findings from the trial about previous involvement of people who died by suicide with New Zealand Police, Department of Corrections, and Child, Youth and Family provide opportunities for improved suicide prevention activities. It is also clear that although many people who later die by suicide have accessed mental health services at some point, there are just as many who have not – people who may have suffered major difficulty and distress. It is important for us to find out more about both groups and to use that information to better understand the potential role of not only health, justice and social agencies, but importantly, our broader communities.

We have also identified a real need to investigate further the role of alcohol and drugs in suicide – but will need to work with other agencies to ensure both testing and collection of data before we can make further progress on this important area.

You will have noticed that this report, *Ngā Rāhui Hau Kura,* is very long with a large number of tables. There is a reason for this. An important part of the trial was to determine what data was available and whether it could be used for the purposes of mortality review. So we asked for, and received, data from a number of key agencies – large quantities of data! Once this was analysed, it became evident that some provided useful insights while some did not – and for some we couldn't really tell without further work. We considered including only the data that provided clear insights. However, we want people to see the original data, not just our 'take' on it, hence the large number of tables and length of the report. We also wanted to demonstrate the potential for carrying out further work on the large amount of material collected.

To make it easier for you to read this report, there is a comprehensive executive summary, a summary at the start of each section, and a guidance section on how to read the document – depending on how much detail you are looking for.

I would like to acknowledge and thank the many people and agencies who have provided data, been involved in the work or provided feedback. We could not have produced this report without your commitment to this important work. I would also like to thank all the SuMRC members and the secretariat for their many hours of hard work and for contributing their exceptional knowledge and expertise. I acknowledge your deep commitment to this project and to contributing to the prevention of suicide in New Zealand.

Professor Rob Kydd
Chair, Suicide Mortality Review Committee

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 their 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 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 serious adverse events reporting.

How to read this report

Ngā Rāhui Hau Kura is the first report of the SuMRC. To make your reading experience easier, the SuMRC would like to bring to your attention the following:

The length of the report. The full report is long and contains a large number of tables. How much of the report you choose to read will depend on the reason you are reading it.

Most people will simply want a broad overview of the report and its findings. In this case we suggest that you read:

- the kōrero at the front of the document, which provides insights into the origin of the name of this report, *Ngā Rāhui Hau Kura*
- Committee Chair's introduction
- Executive summary
- Chapter 1: Context for the suicide mortality review feasibility study
- overview sections at the start of chapters 4, 5 and 6 (the specific chapters relating to rangatahi Māori, mental health service users and men of working age)
- Chapter 7: Discussion and recommendations.

If you have an interest in one of the specific subgroups studies, we suggest that you read:

- Chapter 1: Context for the suicide mortality review feasibility study

and either:

- Chapter 4: Rangatahi Māori
- Chapter 5: Mental health service users
- Chapter 6: Men of working age.

If you have a specific interest in data collection and methodologies used, we suggest that you read:

- Chapter 2: Study design
- Chapter 3: Data sets
- Methodology sections of chapters 4, 5 and 6 (the specific chapters relating to rangatahi Māori, mental health service users and men of working age)
- Appendix 2: Technical appendix on the calculation of rates
- Appendix 3: Data request – Ministry of Health.

Consistency. The various chapters had different authors. While the SuMRC has tried to ensure that the report reads as a 'whole', in some instances the nature of the information and emphasis found in the various chapters differs. The way that references are used and discussion of previous research also differ. This is especially so in chapters 4, 5 and 6 (rangatahi Māori, mental health service users and men of working age), which were researched and written by different people.

Mortality review is different from research. As part of the consultation process some researchers commented that the data collection and analysis underpinning this report was not really 'research' in a pure sense. Some noted that it appeared to be a 'trawl' through a whole lot of data. This is correct to some degree. The mortality review committees have unique legislative powers to acquire data from agencies. This allows the committees (and their agents) to collect and match data across a large number of databases. One of the first roles of any mortality review process is to collect and clean all the potentially useful data (both quantitative and qualitative) available from these multiple agencies and then analyse it to see if any useful findings emerge. If the data collection was hypothesis-driven or based on previous research, opportunities to find new areas of interest could well be missed. Hence the appearance of a 'trawl', and the length of this first report.

The experience of other mortality review committees has been that mortality review gets closer to research once the first collections have been analysed and areas for more targeted investigation are identified. It also gets closer to research when qualitative methods are used, such as reviews of documentation.

It is also the experience of other mortality review committees that some researchers are keen to use the data for their own research. This data may be made available within the parameters of the legislation and committee policy, which is available on the Health Quality & Safety Commission's website. In the case of suicide mortality data collected for this report, availability will be dependent on whether or not the SuMRC continues at the end of the trial.

Comparable population rates. The consultation process on the draft report identified that in order to tell if a finding is significant, comparable population rates are needed. For example, to conclude that the finding that 45% of rangatahi Māori who died by suicide had a file with Child, Youth and Family is significant, we first need to know what percentage of Māori rangatahi overall have had a file with Child, Youth and Family. Except in a few instances, it was not possible to get comparators for most of the data in the time available for the trial. This is explained in more detail in Appendix 2. Other mortality review committees shared this problem in their early phases.

Executive summary

Context and background

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, 549 New Zealanders took their own lives. Suicide rates for males, youth, 40–44-year-olds, and Māori are disproportionately high (Ministry of Health 2015). The overall suicide rate has decreased by 19.5% since it peaked in 1998, driven by a decrease in male suicide.

The *New Zealand Suicide Prevention Action Plan 2013–2016* specified an action for the Health Quality & Safety Commission (the Commission) and the Ministry of Health to trial a suicide mortality review mechanism (Ministry of Health 2013). The aims of this study were to improve knowledge of contributing factors and patterns of suicidal behaviour, to better identify key intervention points for suicide prevention, and to gather information on how suicide mortality review might look and operate in New Zealand.

What is mortality review?

Mortality review is a specific activity that reviews and reports on particular deaths, with a view to reducing the numbers of such deaths. When the information has been collected, sorted, organised and analysed, recommendations for change are developed and promoted. Mortality review necessarily operates over a longer time period; its efficacy can be seen in mortality trends over 10 years or longer. Sector relationships and inter-sectoral actions are key. It is different to pure academic research based on the traditional scientific method because it is not hypothesis-driven, and it is different to a coronial inquiry because the focus is on finding patterns across a number of related deaths (rather than determining cause and circumstances surrounding an individual death) and the review of the case is often done collectively by an inter-sector group.

Mortality review committees have powers to collect a wide range of personal information and in turn must securely protect that information. Due to their unique data collection powers, mortality review committees are able to match data from different government data sets. This provides a better picture of the life and death of the deceased, which aids in future prevention efforts.

In New Zealand, mortality review committees can only be established by the Board of the Commission under section 59E of the New Zealand Public Health and Disability Act 2000. There are four permanent mortality review committees:

- 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).

They differ in the numbers of deaths under their review, the way they collect information and how they contribute to mortality prevention.

The Commission began work on the suicide mortality review feasibility study in late 2013, and a formal Suicide Mortality Review Committee (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 Ministry of Health continued its involvement over the course of the study.

Criteria for success of the study were agreed between the Ministry of Health and the Commission. These included whether the study was able to:

- develop and test a process for cross-agency data collection
- test a number of tiered approaches and capture the lessons in developing and implementing those approaches
- identify whether analysis of this data provides useful insights
- provide, where possible, additional information on contributing factors and patterns in three population subgroups
- identify, where possible, potential indicators, intervention points or policy/practice levers with potential to prevent suicide and improve equity
- explore the resource requirements of the approaches tested.

Methodology

During the planning phase, the epidemiology of suicide in New Zealand was reviewed by the Expert Advisory Group and the SuMRC resolved to focus on three population groups with particularly high rates of suicide:

- rangatahi Māori (Māori youth), aged 15–24 years at the time of their death[24]
- users of specialist mental health services, defined as those 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.

These groups comprised 71% of all deaths by suicide during the five-year period.

Deaths between 1 January 2007 and 31 December 2011 were included, provided the death had been confirmed as suicide by a coroner. More recent years' data was excluded because there were increasing numbers of deaths that were still in the process of coronial inquiry.

The SuMRC population was defined using these subgroups and timeframes as the 'inclusion criteria'.

[24] 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.

Table E1: Tiers of analysis used for each subgroup of the SuMRC feasibility study

Tier of data	Rangatahi Māori (15–24 years)	Mental health service users	Men (25–64 years)
Tier 1 Demographic data from multiple sources: All three subgroups: • Ministry of Health's Mortality Collection • Coronial Services	✓	✓	✓
Rangatahi Māori subgroup only: • Child and Youth Mortality Review Committee (CYMRC)	✓		
Mental health service users subgroup only: • Ministry of Health's Programme for the Integration of Mental Health Data (PRIMHD)		✓	
Tier 2 Additional analyses on each subgroup, particularly in relation to service use, using data from multiple data sets: All three subgroups: • Ministry of Health: – National Minimum Dataset (NMDS) – National Non-Admitted Patients Collection (NNPAC) – PRIMHD • New Zealand Police • Department of Corrections • Accident Compensation Corporation	✓	✓	✓
Rangatahi Māori and men of working age subgroups only: • Housing New Zealand	✓		✓
Rangatahi Māori subgroup only: • Ministry of Education • Ministry of Social Development (Child, Youth and Family)	✓		
Tier 3 Paper-based systems review, using files from district health boards and Coronial Services		✓	
Tier 4 In-depth personal review, using new/primary information obtained from close informants	✓		

Data was requested from a number of government agencies. A 'tiered' approach to data was used, with tiers defined by different layers or types of information. At the highest levels – Tiers 1 and 2 – descriptive analyses for all three subgroups were completed using the data obtained. Tier 3 and Tier 4 analyses were each restricted to one subgroup for the study

(Table E1). (For more information on mortality review methods and tiers of analyses, see Chapters 1 and 2.)

Tier 3 analysis was a qualitative review of district health board (DHB) and coronial inquiry records, using a subset of mental health service users' paper files. This part of the study was designed to develop and evaluate a framework for reviewing paper records from a variety of sources concerning people who experienced mental illness. (For more information on the Tier 3 methods and analyses, see Chapter 5.)

Tier 4 analysis was designed to test a process for qualitative data collection within mortality review. Previous research has indicated that interviewing bereaved families, friends and colleagues can build up a more complete picture of the circumstances surrounding a person at the time of a suicide. Stories allow understanding of context and circumstances and so can be helpful in identifying early warnings, common themes and opportunities for prevention. Another power of stories is for training and insight as stories have the power to capture peoples' imagination and attention to create teachable moments. The SuMRC aimed to test whether this Tier 4 approach had value for mortality review, and agreed to support it for the rangatahi Māori subgroup, as 'whānau suicide stories'. A Māori researcher undertook the research for this subgroup, and developed the tentative ideas about a Tier 4 analysis into a full whānau suicide storytelling research plan. (For more information on the Tier 4 methods and analyses, see Chapter 4.)

Cultural considerations

Cultural considerations were important to the SuMRC. The SuMRC has one Māori member who is supported by a Māori Caucus that operates across all mortality review committees. The Māori researcher was supported by a cultural advisor throughout the study. Key Māori stakeholders were consulted during the rangatahi Māori research plan development, and at various points along the study. The research plan highlighted the need to proceed according to tikanga principles that upheld the mana of the deceased, their whānau, and te ao Māori.

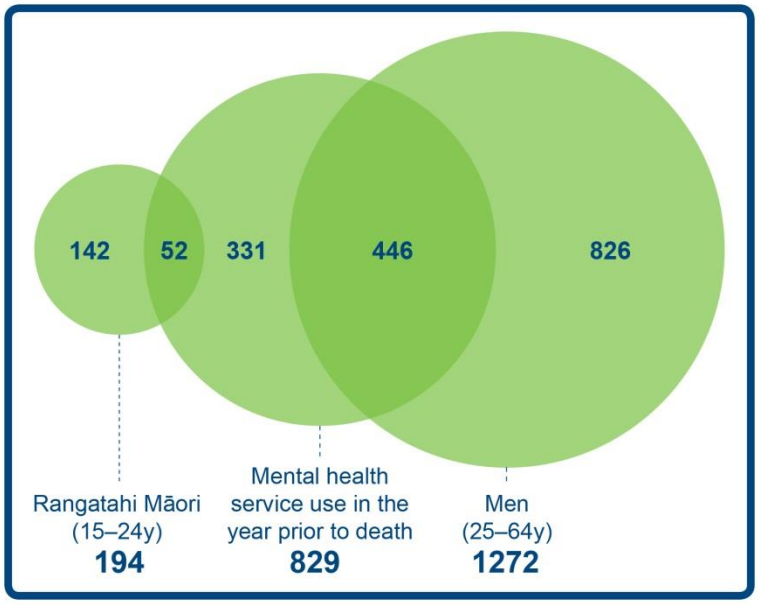
Sector feedback

The SuMRC requested sector feedback from 56 key stakeholders on the draft recommendations. Stakeholders included central government agencies (both health and non-health), DHB mental health and Māori health teams, Māori health representatives, consumers, key academics, non-governmental organisations (NGOs), and professional bodies working in mental health. Stakeholder feedback was received from 30 of these groups and individuals, and resulted in some key changes being made to both the recommendations and the wider report. The list of organisations that provided feedback on draft recommendations, along with the key issues raised, is listed in Appendix 1.

Results

The SuMRC identified 1797 people for inclusion in its data set. This represents 71% of the total of 2530 people who died by suicide during 2007–11. There was some overlap between the subgroups studied, which means that some people were included in more than one subgroup (Figure E1).

Figure E1: Deaths by suicide included in the SuMRC study, by subgroup and overlap



The diagram shows that although many people who die by suicide accessed mental health services within the year prior to their death, even more did not – people who have suffered major difficulty and distress. This demonstrates the importance of the work of the SuMRC in investigating cross-agency data sets and records as well as personal stories to see whether these provide useful insights.

Accurately defining the number of rangatahi Māori was difficult because data sets used different ethnicity collection methods and classifications. The Mortality Collection identified 167 rangatahi Māori, but the CYMRC data set included 193 rangatahi Māori. One further rangatahi Māori was identified in the Coronial Services data set, but this person was identified as non-Māori in the CYMRC data set. After significant discussion, the number in the rangatahi Māori subgroup was set at 194.

Data was received from a number of sources, out of 13 requests.[25] No data was received from the Ministry of Justice in time to be included. Due to data quality issues, data was not provided by the Office of the Director of Mental Health. Information from Inland Revenue required an exemption under the Tax Administration Act 1994, and the time for this to be effected meant that the aggregate data (received in June 2015) was not able to be considered as part of the SuMRC feasibility study.

Acquiring data took significantly longer than anticipated. This was primarily due to the need to build new interagency relationships, and secondarily due to a lack of established processes. Once data was obtained, linkage across data sets was possible but time-consuming. (For more information on the collection of data by agency, see Chapter 3.)

[25] There were 10 different data sources – these included eight government agencies, one statutory committee, and a number of DHBs.

Demographic data and agency data findings (Tiers 1 and 2)

Some findings reinforced or updated previous research, with notable findings as shown in Table E2. 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. Māori deaths were younger than other ethnicities in the mental health service user subgroup (the peak age band was 15–34 years compared to 20–49 years for non-Māori). Thirty percent of men and 40% of mental health service users were unemployed at the time of their deaths. 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: 93% for rangatahi Māori, 57% for mental health service users and 58% for men. This was more commonly the method for Māori: 93% for rangatahi Māori, 76% for Māori mental health service users and 72% for Māori men. Two-thirds of people died at home. Within the men subgroup, 6.9% were construction and trade workers, and 6.8% were farm, forestry and garden workers.

Table E2: SuMRC findings that reinforce previous knowledge

	Rangatahi Māori 15–24 years (n=194)	**Mental health service users (n=829)**	**Men 25–64 years (n=1272)**
Demographics			
Male sex	125 (64%)	565 (68%)	1272 (100%)
Person living in a deprived area (most deprived deciles – ie, NZDep2006* deciles 9–10)	95 (49%)	Not analysed	Not analysed
Māori ethnicity	194 (100%)	163 (20%)	202 (16%)
Unemployment†			
Person was unemployed at the time of their death	Poor data	286/712 (40%)	329/1111 (30%)
Māori in subgroup who were unemployed at the time of their death	Poor data	75/141 (53%)	70/168 (42%)
Details of suicide			
Died by hanging, suffocation or strangulation	180 (93%)	474 (57%)	733 (58%)
Māori within subgroup who died by hanging, suffocation or strangulation	180 (93%)	123 (76%)	145 (72%)
Died at home	126 (65%)	552 (67%)	864 (68%)

* NZDep2006 = New Zealand Index of Deprivation 2006

† For men of working age and mental health service users, unemployment data was only available for a portion of the group. For more information, see Chapter 5 and Chapter 6.

In addition to the SuMRC findings that reinforce previous knowledge, there are some new and notable findings (Table E3). About half of the rangatahi Māori and men had a mental health service record, and about a third of those had contact with mental health services in the year preceding their deaths. Within the rangatahi Māori subgroup, 45% had a file with Child, Youth and Family (CYF), and 12% had been placed under a legal status by CYF.

Significant proportions of each subgroup had come to the attention of New Zealand Police (Police)[26] or the Department of Corrections (Corrections): 61% of rangatahi Māori, 50% of mental health service users and 41% of men had a Police record of an alleged offence, some within three months of their deaths (18%, 14% and 10% for each subgroup, respectively). Corrections held information on 40% of rangatahi Māori aged 17–24 years, 31% of mental health service users and 27% of men, and a proportion within those groups were serving a sentence at the time of their deaths (14%, 9% and 5% respectively).

Over one-third of rangatahi (34.0%) attained at least one secondary school qualification, while over half (58.6%) went on to participate in post-secondary (tertiary) education. Of those, 21 completed a post-secondary qualification. The highest qualification attained by the majority of these 21 was a Level 1 to Level 4 certificate; two rangatahi attained a higher, degree-level qualification. Data on stand-downs, suspensions and expulsions suggests that disengagement with education systems was a concern for a number of these rangatahi.

Table E3: SuMRC findings that reveal new or stronger findings

	Rangatahi Māori 15–24 years	**Mental health service users**	**Men 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	18/194 (9%)	Not analysed	Not analysed

[26] It is important to note that this offence data from New Zealand Police is just for alleged offences and offenders. There are other data sets (eg, NIA_Occurrences) that include data on offenders, victims and witnesses, but that data has not been reported here. Other research by Linsley et al (2007) in Durham and Darlington suggests that half of those who had contact with Police within three months of death by suicide were perpetrators and half victims. Future research could use data on offenders, victims and witnesses to provide a more detailed picture on past involvement with Police for those who have died by suicide.

closed in the year prior to death			
Person 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 education	95/162 (58.6%)	Not analysed	Not analysed
Completed a post-secondary qualification	21/162 (13.0%)	Not analysed	Not analysed

Note: the sample size for rangatahi Māori varies depending on data availability. See Chapter 4 for more information.

* Data is for rangatahi aged 17–24 years only because children under 17 do not come to Correction's attention.

The very high percentage of mental health service users (48%) who had contact with a mental health service in the week before their death warrants further investigation before any conclusions can be drawn. However, in the meantime, the SuMRC will bring this finding to DHBs' attention. It is important to note that findings such as this do not reflect on the performance of individuals. Rather, like most other findings from mortality review processes, they highlight potential system or policy issues.

For the 194 rangatahi Māori, in addition to the key findings about education participation and high rates of involvement with mental health services, CYF, Police, and Corrections, there were other potentially useful findings: 107 (55%) were teenagers at the time of their deaths, and 106 (55%) were reported in CYMRC data as having an argument with whānau or a partner prior to their deaths. Forty-two (22%) had been exposed to family violence. Twenty-seven (14%) had disclosed sexual abuse at some point; for female rangatahi this was 16/69 (23%). Forty-seven (24%) of the 194 rangatahi were parents. Of these 47 parents, 46% were males aged 20–24.

An analysis of narrative in the CYMRC database, including coroners' reports, found reference to mental illness in 80 of those in the rangatahi Māori subgroup (41.2%). Thirty-one of these rangatahi (38.8%) did not appear to have had any interaction with specialist mental health services in their lives, yet through the information gathered for the coronial process, there was suggestion of the presence of depression.

Data relating to alcohol and drug use (including prescription/pharmacy drugs) wasdifficult to analyse due to a large number of missing variables. For example, for approximately a third of people in all three subgroups there was no data or 'not stated' data about alcohol in the blood at the time of their deaths. The analysis of rangatahi Māori data suggests that 98/194 (51%) may have had problematic alcohol and/or drug use, although this needs to be interpreted with caution due to the quality of data. For men and mental health service users, data on prescription/pharmacy drug involvement in death was 'unknown' for 74% and 73% of deaths, respectively.

Mental health service users systems review (Tier 3)

For the paper-based systems review, the researchers used a sample of 20 mental health service users. The sample was chosen with regard to the limited timeframe, the availability and completeness of reports, and to obtain maximum regional variation. Qualitative analysis of their DHB and coronial files was undertaken, using a consumer lens framework developed by the research team.

The paper-based systems review identified that people who died by suicide usually had complex issues that challenged conventional mental health treatment. The review noted that for some service users there was a pattern of increasing (the amount of) contact with mental health services, without necessarily identifying whether it was the most appropriate care for that person; in other words, more of the same care was given, without consideration of its efficacy. The review concluded that the complex care requirements may have led to services becoming distracted by the number of issues requiring attention. The review also noted a lack of a recovery focus in the care arrangements for those people whose files were reviewed; that is, there was little evidence that services had been hopeful that their clients would recover and statements were made that the person died as a result of their mental illness, which indicated a view that the person's death was inevitable.

Whānau suicide stories (Tier 4)

Four whānau suicide stories were collected. The stories took between two and six hours to collect, although this does not include a consultative phase where the relationship between

the research team and whānau was developed. Varying numbers of whānau members were involved. The whānau involved in storytelling reported the process as having significant benefit as a healing experience.

The key learning from testing whānau suicide storytelling is that significantly more time and resource is required to develop the process. This is particularly the case for managing whānau expectations within the legal framework for mortality review, assuring an appropriate level of Māori involvement, and determining whether the process is useful for mortality review (as distinct from suicide postvention).

There were tensions between traditional mortality review and Kaupapa Māori approaches that were evident in areas such as consultation, study timeframes, data ownership, publication expectations, the 'sampling' methodology, and whether to define a 'unit' as an individual or a whānau.

Given that testing the feasibility of a suicide storytelling process was part of the trial, the fact that it was a learning process was to be expected. Despite the problems encountered, the SuMRC considers that such qualitative research will be important going forward – it provides unique data and is critical to understanding what the bigger data means.

Limitations

This SuMRC analysis has several limitations, many of which relate to its status as a feasibility study.

The very limited timeframe for the study was one of the key limitations. This meant that the amount of time spent on acquiring data limited the time available for analyses. Similarly, data from some agencies was not obtained, and there needed to be a decision to stop pursuing data at the expense of analysing data that had been collected.

Some analyses were limited by the data available to the SuMRC, including the quality of some of the data. The fact that the PRIMHD data set started in July 2008 means that there is likely to be underreporting of mental health service use, and was combined with data from the Mental Health Information Nation Collection[27] for those who died early in the 2007–11 time period. Inconsistent ethnicity coding was another example. Alcohol and drug data was severely limited due to significant numbers of missing variables (ie, post-mortem alcohol and drug levels were not completed or not available in the data set). The Ministry of Education was not able to find matches for all of the rangatahi Māori (162 files were found out of 194 rangatahi Māori). In addition, there is little data available from primary care.

Both the tight 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. The data presented in Chapters 4, 5 and 6 of this report demonstrate this as a

[27] The Mental Health Information National Collection (MHINC) was where data on national mental health service use was collected before PRIMHD was established. MHINC under-reports secondary mental health service use because of incomplete data reported by some providers, particularly NGOs.

possibility, but to a limited degree. If a permanent committee were to be established at the end of this trial, it might choose to undertake more cross-agency data matching.

The analyses describe the subgroups of interest, but there is no population comparator. For example, the report does not compare the unemployment rate of men who died by suicide with the male unemployment rate in the New Zealand population for 2007–11. Primarily, this was due to the limited time available for the study – comparative proportions would have taken significant time to attain. There were also some methodological concerns with undertaking comparisons. These are described in Appendix 2.

Some of these limitations were experienced by other mortality review committees in their early phases. In particular, the amount of time spent on interagency relationship development and the lack of denominators/rates are frequent limitations of early mortality review committee reports.

Whānau suicide storytelling limitations are discussed in the Results section (above, and again in Chapter 4). Because this section of the analysis was primarily exploratory, the primary results related to process learnings.

Conclusions

The suicide mortality review feasibility study was successful in its primary goal to trial a SuMRC. The SuMRC obtained data on 1797 people from 10 agencies. A number of tiers of data analysis were tested.

Some findings are new – either for the New Zealand context, or in the strength of association. Some findings corroborate previous research. Involvement with CYF[28], Police and Corrections was particularly notable. Data on mental health service use showed that approximately half of rangatahi Māori and men who died by suicide accessed these services within the last 10 years. The high number of mental health services users who accessed mental health services within the week prior to their death by suicide also appears to be significant.

With whānau suicide storytelling, the legal, cultural and ethical processes were complex, and the boundaries between these three processes were not always aligned. The SuMRC believes that whānau stories, as carried out in this study, should be refined before being reconsidered for mortality review. Self-evidently, Kaupapa Māori approaches need Māori-centred processes along the entire pathway. This requires more consideration and thought to succeed within a mortality review framework.

Whilst the numbers reviewed were small, the systems review revealed a pattern of increasing but ineffective service use for some mental health service users.

[28] This is a similar finding to a study by Annette Beautrais, Peter Ellis and Don Smith of suicide deaths among youth in contact with CYF published in August 2001 in *Social Work Now*. This study found that 129 young people aged 12–16 years died by suicide in New Zealand between 1994 and 1999, and of these, 43% had been in contact with CYF at some stage in their lives.

A mortality review lens on SuMRC data

A particular strength of mortality review is that it can often reveal new insights by looking at aggregated data sets for the first time. The SuMRC data shows that people who died by suicide are usually known to multiple agencies. Agencies such as CYF, Police and Corrections are not involved in the lives of the majority of New Zealanders. Yet these agencies were involved in the lives of a significant number of people in the SuMRC data set. The summative picture, if one can be drawn, is of a group of people who are often vulnerable in a number of ways. While this finding is not new in theories of suicidal psychology (see, for example, O'Connor and Nock 2014), the SuMRC analyses demonstrated little evidence of interagency information-sharing or collaboration. This is despite the fact that almost all this data was known before each death.

Interagency approach

Based on its findings, the SuMRC believes that interagency collaboration should be a key component of suicide prevention activities. This echoes the key elements of the World Health Organization's (WHO's) suicide prevention strategy (WHO 2014). Future suicide prevention activities should aim to progress the interagency agenda so that suicide prevention is approached across all social services and not solely within health.

There are good national initiatives occurring at present. CYF supports a Toward Wellbeing suicide prevention programme to support social workers working with children and young people who are experiencing suicide ideation or have attempted suicide.[29] Moreover, suicide awareness training is undertaken in several 'frontline' government agencies, and a national interagency committee for suicide prevention has been established. However, interagency relationships (particularly between social agencies like DHBs, mental health NGOs, schools, Police, Corrections, CYF, and Work and Income New Zealand) are in their infancy in several regions and could be prioritised as a key prevention activity. There is an opportunity to be forward-thinking as development of a new suicide prevention strategy and action plan occurs for 2016.

Success and future of the feasibility study

The SuMRC believes that the study has been successful and recommends that an ongoing SuMRC is established. The study has demonstrated that mortality review for suicide is possible, and that the work to date has only scratched the surface of possible learnings and prevention opportunities. The benefits of a longer-term SuMRC are that it could exhaustively analyse existing data, in conjunction with other agencies, in ways that are not currently possible. While a full cost-effectiveness evaluation was not a task for this study, the SuMRC believes there are several models that could be cost-effective, particularly if a national (rather than regional) analysis was continued, and the SuMRC was given the opportunity to prioritise particular groups with high rates of suicide. The SuMRC has suggested a possible future work plan but there are many groups with high suicide rates and this would ultimately be determined by an ongoing SuMRC as its first task.

[29] For more information on Toward Wellbeing, go to http://www.practicecentre.cyf.govt.nz/policy/assessment-and-decision-making/resources/towards-wellbeing-suicide-prevention-programme-information-for-supervisors.html

Additional advantages of an ongoing SuMRC are that it could contribute to suicide data activities recommended by the WHO (2014), it could provide a data depository for hypothesis-driven research (eg, from external agencies), and it could link in to the work of the existing child and youth; perinatal and maternal; and family violence mortality review committees.

Our initial experience with whānau stories has identified that careful use of this method has potential to provide insights that provide deeper meaning to the quantitative data and could form an important part of suicide mortality review going forward.

Finally, interagency collaboration should also occur within mortality review itself. Key advisors from other agencies would be appropriate to feed into a permanent SuMRC, either as data advisors for agency data, or as policy advisors for suicide prevention recommendations.

The SuMRC counsels that its experience with this study, and that of other mortality review committees in their early phases, highlight the need for longer-term funding in order to establish the SuMRC's infrastructure and relationships before an impact on suicide rates can be expected. The CYMRC has been in existence since 2002. In this time the annual number of deaths has fallen from a peak in 2007 of 696 to 515 in 2013, largely concentrated since 2009. The Perinatal and Maternal Mortality Review Committee has been in existence since 2005 and between 2009 and 2013 there was a significant reduction in perinatal related mortalities (ie, deaths of babies under 28 days and still births) from 4 per 1000 to under 3 per 1000.

In closing, the SuMRC believes that New Zealand's high suicide rate speaks to a need to systematically examine our data and trends closely, and that a mortality review mechanism is an appropriate vehicle for this activity.

Chapter 1 Context for the suicide mortality review feasibility study

1.1 Overview

This chapter:

- outlines the origin of the suicide mortality review feasibility study and its aims – and how the success of the study will be measured
- describes the role of mortality review committees, their legislation and the various models and processes
- outlines the difference between pure research and mortality review – and how results of mortality review are used by researchers for further in-depth research
- describes how mortality review fits into the broader picture of other agency responsibilities for suicide prevention, and in particular, for information that will inform better-targeted suicide prevention activities.

1.2 Origin of the 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 that 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'.

In September 2013 the Ministry of Health formally contracted the Commission to undertake the study, and to report by 30 June 2015. An Expert Advisory Group was set up to establish the parameters of the study. This included some recommendations about the study design and scope.

Given the timeframe for the feasibility study, the Expert Advisory Group decided to focus on subgroups of interest. They recommended three subgroups for the study, based on particularly high rates or numbers of suicide and likely acceptability:

- rangatahi Māori, aged 15–24 years[30]
- users of specialist mental health services, defined as people who have had face-to-face contact with specialist mental health and addiction services in the year leading up to their death by suicide
- men of working age, aged 25–64 years.

Further rationale for these three subgroups is contained in Chapter 2.

[30] 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.

The Expert Advisory Group also recommended testing different analytical approaches. This included high-level and in-depth analyses of personal information collected from several different agencies, individual case reviews based on collected 'paper' files, and proxy informant interviews.

In June 2014, the Commission established the SuMRC under the New Zealand Public Health and Disability Act 2000 (the NZPHDA). The NZPHDA sets out the data collection powers and information security provisions of mortality review committees. The powers in the NZPHDA were considered important to ensure the work plan would succeed in the tight timeframe of the study, and to protect the confidentiality of the information gathered.

The seven members of the SuMRC were supported by a secretariat at the Commission. Following a competitive tender process, the University of Otago (Wellington) was contracted to carry out the data collection and analysis work for the study and prepare a draft report. The University of Otago subcontracted work on rangatahi Māori to Victoria University of Wellington.

Consultation with key mental health groups and individuals was undertaken during the study development phase. Nominations for the SuMRC membership were publicly advertised and appointments were decided using the Commission's usual mortality review committee appointment procedures.

Figure 1.1: Timeline of this study

1.3 Aims of the study

The specific aims of the suicide mortality review feasibility study, as set out in the contract between the Ministry of Health and the Commission, are 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.

1.4 How the success of the study will be measured

The success criteria for the study agreed between the Ministry of Health and the Commission are listed below. This report should be read in the context of these criteria.

The study will be successful if it has:

- tested a number of tiered approaches/mechanisms and captured the lessons in developing and implementing these
- provided additional information on contributing factors and patterns in the three population subgroups selected because they have higher rates of suicide
- provided insights that might point to potential indicators, intervention points or levers to prevent suicide and improved equity for these subgroups
- tested a process for cross-agency data collection
- captured what has been learned
- explored the cost-effectiveness of the mechanisms tested for adding to the evidence base on contributing factors and patterns of suicidal behaviour.

1.5 Mortality review committees

1.5.1 The Commission's role in mortality review

The Commission has a specific role in national mortality review, due to its statutory responsibility for determining the direction, scope and implementation of national mortality review. This responsibility is carried out through mortality review committees that the Commission establishes under section 59E of the NZPHDA.

A 'mortality review committee' is a statutory body empowered by the NZPHDA to review and analyse the circumstances that result in preventable deaths, in order to provide evidence-based advice on how these deaths can be avoided.

Section 59E of the NZPHDA enables the Commission to appoint one or more mortality review committees. Committees established under the NZPHDA have important powers and constraints, including:

- the ability to collect information that is relevant to the performance of its functions – this may include patient records, clinical advice and related information
- the ability to require provision of information – every person who fails, without reasonable excuse, to comply with a requirement to provide information under the NZPHDA commits

an offence and is liable to a fine not exceeding $10,000 and, if they are a member of a registered occupational profession, liable to disciplinary proceedings

- confidentiality of information and liabilities for breaching confidentiality – every person who discloses information contrary to the NZPHDA commits an offence and is liable to a fine not exceeding $10,000 and, if they are a member of a registered occupational profession, liable to disciplinary proceedings.

In addition to the time-limited SuMRC, there are four existing mortality review committees:

- the Child and Youth Mortality Review Committee (CYMRC), which reviews the deaths of children and young people from 28 days to 25 years of age
- the Perinatal and Maternal Mortality Review Committee (PMMRC), which reviews the deaths of babies and mothers associated with pregnancy and childbirth
- the Family Violence Death Review Committee (FVDRC), which reviews deaths caused by other family members, particularly when a pattern of abuse was known to occur in the relationship prior to the death event
- the Perioperative Mortality Review Committee (POMRC), which reviews surgery-related deaths of patients who were under the care of a surgeon at the time of the death or had been within the 30 days preceding the death.

All committees publish reports summarising key findings, make recommendations on how to reduce the numbers of the type of deaths that they review, and work actively with agencies to encourage implementation of recommendations.

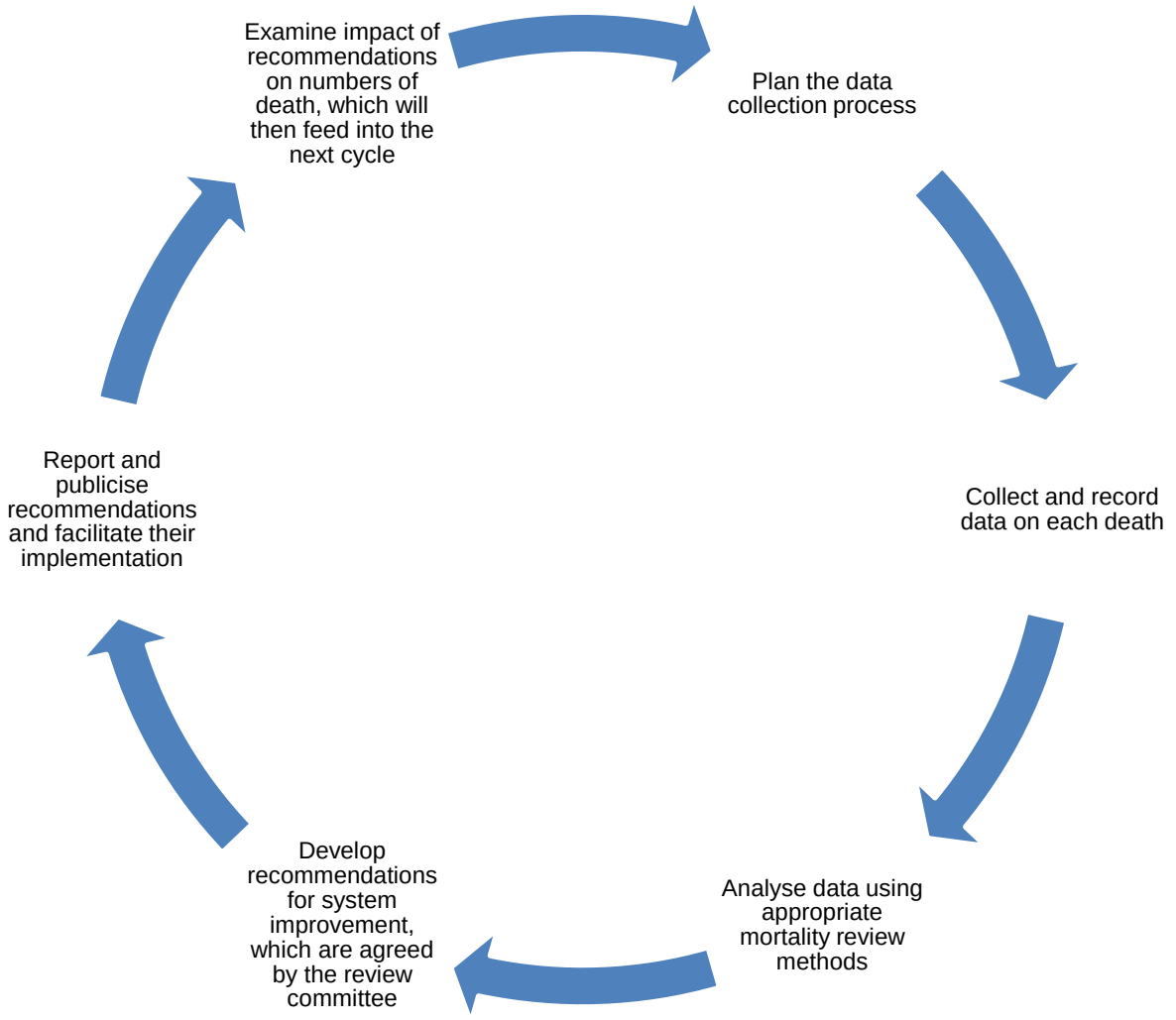
1.5.2 General mortality review methods

Mortality review seeks to understand the causes, patterns and effects of mortality within a population of interest, for the purpose of reducing further harm and death.

Analyses of national records form a useful first step in understanding mortality patterns, contributing factors and other circumstances relevant to deaths in a specified group. Additional information can be collected in a range of ways, from key informants (eg, lead maternity carers who provide information around the death of a mother or baby) and single organisational reviews (eg, New Zealand Police internal family violence review), through to in-depth inter-sector analyses of single cases undertaken in the local community where the death occurred.

Mortality review can also serve as a feedback mechanism to assist service providers, policymakers and researchers to develop and monitor implementation of recommendations to reduce deaths and subsequently measure whether there is a reduction in deaths.

Figure 1.2: Mortality review feedback loop



Mortality review uses a variety of methods depending on the specific population group being studied, the questions which need to be answered, and the data and resources available.

The following is an overview of methods which may contribute to a mortality review system.

Tier 1: Population analysis

The first tier of mortality review involves the collection and analysis of quantitative data in order to describe the mortality of the population of interest in a general sense, and report patterns of association and trends over time. This analysis usually relies on pre-existing routinely collected agency data. The Commission's mortality review committees refer to this level of analysis as 'Tier 1'.

Generally, Tier 1 allows only limited ability to analyse or understand causal pathways to deaths or opportunities for prevention. The high-level analysis provided at Tier 1 is most useful for describing patterns of mortality, for comparisons over time or across groups (eg, international comparisons) and for highlighting areas for further investigation, where the

application of other methods might yield greater benefit. Tier 1 analysis is necessarily limited by the extent and quality of the pre-existing data, which has generally been collected for other purposes.

Tier 2: Subgroup analysis

If a subgroup of the population of interest is identified for further detailed study, the approach selected will depend on the size of the subgroup, the data and other resources available, and the specific questions being asked. A Tier 2 review will require additional data to be collected and analysed (eg, written case notes) to understand more about causes and contributing factors, as well as prevention. Tier 2 is often completed by a team of experts reviewing the data collectively, or by an expert researcher or specialist (eg, midwife for perinatal deaths), or a combination of the two.

Tier 2 analyses allow data to be drawn together and linked in ways not previously possible across sectors. Experience of other mortality review committees suggests that when this is done well, it frequently reveals missed opportunities for prevention. Matching of data enables common themes, contributory circumstances and warning signs to be identified. This provides an evidence base for system change, quality improvement and prevention activities.

Tiers 3 and 4: Individual case review

Individual case review can be approached in a number of ways. There may be a systems review involving multiple agencies, a psychosocial autopsy reviewing agency records and interviewing family and friends, an internal agency review, or a combination of strategies.

As an example, the Commission's FVDRC uses a 'window on the system' lens because events associated with family violence deaths can seldom be prevented by one agency alone. Such reviews are characterised by multi-agency review teams that review individual deaths. The agencies are interested in understanding the lives of the deceased (and possibly the lives of their family members, friends or other individuals that might have been significant in the life of the deceased) to understand how services worked (or failed to work) together to provide services prior to the death event. This Tier 3 FVDRC review is intensive and most of the agencies involved in the life of the victim have representatives present at the meetings.

Individual case review can also include information collected from friends and family/whānau, 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.

Tiers 3 and 4 reviews are labour- and time-intensive, so they are generally only conducted on a few cases. The service providers who participate in the reviews are experts in their fields and can identify whether the issues identified in the case are typical within their field. This allows the review team to generalise findings from a few case reviews to a broader interagency system.

1.5.3 How mortality review fits into the broader picture of other agency responsibilities for suicide prevention

Suicide deaths in New Zealand are already commonly reviewed or considered by several different agencies and there are a number of existing reviews or data sets that may be drawn together under a suicide mortality review process.

- The Ministry of Health publishes *Suicide Facts: Deaths and Intentional Self-Harm Hospitalisation*s annually. This includes simple analyses of suicide deaths by youth, age, sex, ethnicity, method, deprivation level, district health board (DHB) area and rural/urban location. It includes people being treated under the Mental Health (Compulsory Assessment and Treatment) Act 1992. It also includes comparisons with international data.
- The Programme for Integration of Mental Health Data (PRIMHD) database held by the Ministry of Health is a single national mental health and addiction information collection of service activity and outcomes data for health consumers. While this database is on all mental health and addiction service users, information can be extracted on those service users who may have died by suicide. The data is collected from DHBs and non-governmental organisations (NGOs). Access to PRIMHD is tightly controlled, but data on individuals can be made available to the consumer, doctors treating the individual, the person's DHB, and approved health researchers. The information includes date of birth, ethnicity, gender, diagnoses, legal status (if applicable), type of treatment provided (including where, when and how often), statistics relating to the outcome of treatment, date of referral to the service, date of discharge from the service and National Health Index (NHI) number. The start date for PRIMHD is 1 July 2008.
- Police attend most sudden deaths. When they suspect suicide, they notify the coroner. The Coroners Act 2006 provides a suicide review function. Coroners are independent judicial officers (legally trained) who are required under the Coroners Act to open an inquiry into all deaths that appear to be self-inflicted, and to direct an investigation to establish the cause and circumstances of those deaths usually within a defined geographical region in New Zealand. Coroners obtain information from a wide variety of sources and make factual findings (including the finding of 'suicide'). They also make comments or recommendations to prevent the occurrence of other deaths in similar circumstances. These findings, comments and recommendations are based on the evidence gathered. While there are many similarities between the aims of coroners and the aims of the mortality review committees, one of the key differences is that mortality review committees are not mandated to legally establish the formal cause of death; instead, mortality review committees look to see how future deaths of the same nature can be prevented.
- The Director of Mental Health's Annual Report includes 'serious adverse events' which are reported to the Commission in response to the National Reportable Events Policy. This includes reporting of suspected suicides of people that are known to mental health services, where service-based reviews have already occurred.
- The Commission reviews a small proportion of suicide deaths via its four existing committees; in particular, child and youth suicides, maternal suicides and family violence murder-suicides.

- A number of agencies may carry out some form of internal review following a suicide death that is directly relevant to them. For example, if a patient has died while in care, the care provider might choose to conduct an internal review. Generally, the service provider undertakes a detailed analysis to examine the factors contributing to the death, with particular attention to whether its staff may have inadvertently contributed to the death or missed opportunities to prevent the death. The findings of the analysis are fed back into quality assurance processes in order to improve future performance and reduce harm. While agency-initiated reviews are important for internal performance and service delivery, they are rarely cross-agency and the data is rarely aggregated to examine specific population groups.

Suicide mortality review in New Zealand is an opportunity to build on this information and use it to increase understanding of suicide and develop evidence-based recommendations to prevent death by suicide.

Chapter 2 Study design

2.1 Overview

This chapter outlines the design for the suicide mortality review feasibility study. It provides an overview of the three subgroups and four tiers of analysis, and outlines key definitions and data. Ethical, cultural and safety considerations are also addressed.

2.2 Subgroup focus

As noted in Chapter 1, the Commission and the Ministry of Health agreed to focus on three population subgroups for this study: Māori youth (rangatahi Māori), users of specialist mental health services, and men of working age. The rationale for their selection is summarised below.

2.2.1 Rangatahi Māori (aged 15–24 years)

According to Ministry of Health data, just over one in every five people (21.9%) who took their own lives in 2012 was Māori. This made the rate of Māori suicide 17.8 people per 100,000 of the Māori population, compared with a rate of 10.6 per 100,000 for non-Māori. In other words, the risk of Māori suffering profound emotional distress and dying by suicide was almost twice that for non-Māori (Ministry of Health 2015).

Improving the health status of Māori is a priority objective for government. Although the absolute numbers of rangatahi Māori who die by suicide are low, rates continue to be high. This represents a significant health inequality warranting further attention.

This is already a very well researched group and much is known about key risk factors. The SuMRC's initial intent was to test whether it could add some value by focusing on the role of alcohol and drug use, complementing work being done in other policy spheres in relation to alcohol use in New Zealand, but significant variation in the collection of alcohol and drug information made this unfeasible.

Ultimately, however, the most significant benefit of including this group has been the opportunity to develop and pilot an approach to understanding individual suicides from life course, whānau and whakapapa perspectives that might uncover or emphasise new opportunities for prevention. Although these findings are specific to this trial group, the overall approach could be adapted for other groups should a permanent national suicide review mechanism be established.

2.2.2 Users of specialist mental health and addiction services

Users of specialist mental health and addiction services – 'mental health service users' – are a priority for the Ministry of Health in future mortality review work. Due to the nature of their illnesses, mental health service users are often at increased risk of suicide. Service users are also a vulnerable group because of the nature of their engagement with health services

and other government agencies. Having a focus on deaths by suicide in this group is consistent with mental health sector policies and strategies.

Following a death by suicide, health and sometimes social agencies conduct formal or informal reviews of varying nature and quality. However, such reviews may be to some extent focused on the needs of services and agencies. There is no formal mechanism to bring these reviews together to identify common areas for improvement. Sustainable and systematic oversight of these processes, with an effective feedback loop, is often missing. National mortality review can help to fill this gap because it has the ability to gather these reviews and look for common themes.

Another benefit of including this subgroup in the trial was the opportunity to explore in-depth paper reviews on a small number of patients to try and understand the service-use experience from the consumer's perspective in the year leading up to the death event, with the hope that such reviews might provide greater insight into the deaths of these patients.

2.2.3 Men of working age (aged 25–64 years)

Deaths by suicide among this subpopulation account for the largest number of suicides in New Zealand, yet this group is probably the least studied. While some of the key risk factors for men and suicide are known in a general sense, little is known about the potential points for effective intervention. The SuMRC's intent with this subgroup was that such cross-agency data matching and analyses could provide new information about this subgroup.

2.3 Tiers of analysis

The concept of levels or analytical tiers is based on that used by most existing New Zealand mortality review committees (see Chapter 1 for a further discussion).

Tier 1 analyses provide high-level demographic overviews (using routinely collected data from government agency data sets), while Tier 2 analyses provide more specific subgroup overviews (also using government and, if possible, other agency data sets).

For specific subgroups, additional analytical approaches (based on a small number of cases) were developed and tested and their utility assessed. These are systems review and whānau suicide storytelling (referred to as Tier 3 and Tier 4, respectively).

For the purposes of this study, systems review is defined as an integrated analysis of 'paper' records held by agencies about a particular person. The purposes of systems review are to investigate 1) how services operated internally and together in supporting the person prior to their death, and 2) interactions between individuals and the wider context with a focus on developing an understanding of why events occurred in the way they did prior to death. The systems review process was tested on users of specialist mental health services.

The whānau suicide stories were collected and analysed for rangatahi Māori. A Kaupapa Māori approach was tailored for this group so that grieving whānau could use pūrākau[31] of

[31] Storytelling

rangatahi Māori deaths by suicide, and so that an appropriate analytical frame could be applied to those stories. It involved undertaking qualitative interviews with bereaved whānau of rangatahi Māori to develop an understanding of the life, circumstances and suicide trajectory of rangatahi who died by suicide.

The different tiers of investigation and their application to the population subgroups are summarised in Table 2.1.

Table 2.1: Levels of analysis for the SuMRC feasibility study

	Rangatahi Māori	**Mental health service users**	**Men**
Tier 1 Demographic data	✓	✓	✓
Tier 2 Subgroup overviews	✓	✓	✓
Tier 3 Systems/integrative review	-	✓	-
Tier 4 Whānau suicide storytelling	✓	-	-

Tier 1 and 2 level analyses are provided for all three subgroups. Tier 3 is for mental health services users only and Tier 4 for rangatahi Māori only. Further detail of each tier is provided in the relevant subgroup chapters that follow.

2.4 Inclusion criteria

This study examines deaths by suicide for the five-year period 1 January 2007 to 31 December 2011.

2.5 Sampling frame

The sample frame for the study is primarily the Ministry of Health's Mortality Collection. There were two potential data sources for deaths by suicide from 2007 to 2011: the Ministry of Health and Coronial Services of New Zealand. The Ministry of Health data on suicide deaths was available for all months of the period 2007–11. The coronial data set only had data on suicides from the start of their database in July 2007, so six months of suicide data was missing.

Ultimately, the Ministry of Health mortality data set was chosen as the sample frame for the following reasons: 1) it covered the period of observation; 2) it was available early in the data acquisition period of the study; and 3) its use would facilitate comparison with data in routine

reporting by the Ministry of Health, such as *Suicide Facts: Deaths and Intentional Self-Harm Hospitalisations*.

The rangatahi Māori subgroup used a different sampling frame due to variation in ethnicity classification between the primary source data sets. This is outlined further in Chapter 4: Rangatahi Māori.

Most of the data presented in the tables in Chapters 5 and 6 of this report is Ministry of Health data, which we received first. Additional data from Coronial Services is presented in the appendices (as the coronial data did not arrive until much later). Only coroners' data on closed cases was accessed, as agreed with the Chief Coroner at the beginning of the study.

2.5.1 Cohort and subgroup identification

All deaths registered from 2007 to 2011 with an underlying cause of death of intentional self-harm (International Classification of Diseases (ICD-10) codes X60–X84) were extracted. These were:

- prioritised ethnicity = Māori, age range 15–24, or
- individuals recorded as having face-to-face activity with mental health or addiction services in the 12 months prior to death, or
- sex = male, age range 25–64.

These extracted data sets provided our subgroup populations: rangatahi Māori, mental health service users and men of working age. Individuals could be included in more than one group.

Initially, the study population was set at 1785 people at the end of the cohort identification period. Those with Māori ethnicity according to the NHI but not according to the Mortality Collection were excluded (see section 2.6.1 and Chapter 4 for the rationale). Those older than 64 years at the time of death were excluded. This reduces the risk of creating statistical bias because for 50% of DHBs, mental health care for those over 65 years is undertaken by care for the elderly services rather than mental health services (Director of Mental Health, personal communication, December 2014). Ultimately, the CYMRC identified 1797 people for inclusion.

2.6 Key definitions

2.6.1 Māori ethnicity

The definition of Māori ethnicity varied within and between data sets. It was known from the New Zealand Census Mortality Study that Māori ethnicity from the Mortality Collection now has good correlation with a person's self-identification (Blakely et al 2008). Therefore ethnicity as defined in the Mortality Collection was used.

For rangatahi Māori, the additional CYMRC data set resulted in differences to ethnicity coding, and therefore the number in the subgroup changed. This is outlined further in Chapter 4: Rangatahi Māori.

2.6.2 Mental health service users

Mental health service users were defined as those aged under 65 who had face-to-face contact with mental health or addiction services in the 12 months prior to death. The PRIMHD data set was used as the source of this information.

2.7 Overview of subgroup numbers

The number of suicides under investigation in this study, for the five-year period 2007–11, is shown by subgroup in Table 2.2.

Table 2.2: Numbers of people who died by suicide (2007–11) in subgroups

Subgroup	n
Rangatahi Māori (15–24 years)	194
Mental health service users (<65)	829
Men (25–64 years)	1272

NB: There is overlap between groups (ie, individuals may be counted in more than one group)

2.8 Data analysis

A priority for data analysis was to provide new information, rather than duplicating what is already reported in other publications. For this reason, the SuMRC has generally avoided reporting analyses that are available in the Ministry of Health's annual *Suicide Facts* publication.[32]

It was anticipated by the SuMRC that rates would be reported as part of the subgroup analyses. However, combining knowledge of the available data and the rationale for creating rates, it was concluded that it was only feasible and appropriate to produce rates in two instances. These were the rates for suicide by five-year age group and ethnicity, and the rates for DHBs in some cases. A more detailed discussion around the calculation of rates for this feasibility study is provided in Appendix 2.

This decision was based on two key considerations: appropriateness and feasibility. Both of these relate to the nature of the available data and the likely utility of rates in each context, and the question of what was hoped to be learned from the data.

Rates are most useful for comparison. When the influences (or risk factors) for death by suicide are being considered, good quality denominators are needed to address these questions. For example, to answer whether cannabis use is a risk factor for suicide, not only would the degree of recent cannabis use among those who died by suicide need to be known, but also the degree of cannabis use among the rest of the population.

The first principle to consider in determining where rates might be appropriate is whether the characteristic being described is specific to those people who have died by suicide. The

[32] *Suicide Facts* includes analysis of people who are being treated under the Mental Health (Compulsory Assessment and Treatment) Act 1992. This group has not been separately analysed in this trial.

second principle is whether good quality denominators can be ascertained for calculating a rate.

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.

The researchers found that, for these subgroup analyses, and for particular characteristics (eg, drug/alcohol use, criminal justice history), the current data sources are limited for determining an appropriate denominator.

2.9 Cultural considerations

All organisations involved in the SuMRC study recognised that cultural considerations needed to be at the forefront of the entire process. The decision to focus on three particular subgroups was made with consideration of the higher rate of suicide by Māori in these groups.

The SuMRC has one Māori member who was supported by the Commission's Māori Caucus. The Caucus is composed of the Māori members of all five mortality review committees.

Research for the rangatahi Māori subgroup was undertaken by a Māori researcher, subcontracted for research expertise in Māori suicide. The researcher was supported by a cultural advisor who is also significantly experienced in Māori suicide. The research team began two months after the SuMRC was established, and their first task was developing the rangatahi Māori research plan. In addition to the lead Māori researcher's extensive experience in Māori research, the non-Māori members of the research team have worked with Māori in research and development roles.

All research processes and practices used to undertake the rangatahi Māori research were based on tikanga[33] principles that reflect Māori values, beliefs and worldviews, such as whanaungatanga,[34] mana whenua,[35] mana tangata,[36] kaitiakitanga,[37] manaakitanga[38] and hauora.[39]

Meaningful consultation with key Māori stakeholders and relevant Māori experts was undertaken. This was used to guide the ethics as applied in iwi and Māori settings and the

[33] Correct procedure, custom, lore, method, manner, practice, protocol

[34] Relationship/s, kinship/s, sense of family connection

[35] 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

[36] Human rights, status

[37] Guardianship

[38] Hospitality, kindness, generosity, support – the process of showing respect, generosity and care for others

[39] Health, vigour

identification of suitable tools of engagement for the collection of whānau suicide stories, including the strategies for gaining participation and maintaining the safety of the data, mātauranga,[40] whānau and researchers.

2.10 Ethical considerations

The status of mortality review committees under the NZPHDA affords exemption to the usual processes of ethical review and approval. However, the legislation sets out specific protections that are designed to fulfil some of the ethical obligations of researchers. These relate specifically to information protection and privacy, and the ethical standards expected of those with access to data.[41] The SuMRC appointed members of the research team as their 'agents', giving the researchers the same rights and responsibilities in relation to privacy and protections as SuMRC members.

Although this research did not require formal ethical approval, the approaches to research – in particular, the qualitative research that involved directly contacting bereaved whānau – were discussed with a Health and Disability Ethics Committee representative. The ethical issues of note for the Ethics Committee representative have all been addressed by the SuMRC and the research team.

The primary ethical concerns in the study related to tensions between 'Western' ethical approaches and those approaches that are preferred under a Kaupapa Māori research approach. These are discussed further in the next section.

2.10.1 Ethical issues of specific importance for Māori

Tikanga Māori and its philosophical base of mātauranga Māori[42] must be integrated with indigenous values, Western ethical principles and understandings from the Treaty of Waitangi in order to guide the ethical decision-making processes of Kaupapa Māori research (Pūtaiora Writing Group 2010).

A range of Māori research ethics models have been developed to guide researchers and ensure that tikanga and cultural concepts are acknowledged. More recently, the framework *Te Ara Tika* (Pūtaiora Writing Group 2010) has been developed to guide Māori research ethics and to help clarify key ethical concepts for Māori.

Mortality review committees are permitted, under strict conditions in the legislation, to collect and store data without the knowledge of the bereaved whānau. For the collection of whānau suicide stories, bereaved whānau were contacted directly by the research team to gather further (qualitative) data. Whānau therefore became aware that information about their whānau member was being used. The kaitiaki[43] role of the Māori research team was important.

[40] Information, knowledge, education, wisdom, understanding

[41] For more information, see section 59E and Schedule 5 of the NZPHDA.

[42] Māori knowledge originating from the tīpuna, includes Māori worldviews and perspectives.

[43] Guardian/s, custodian/s, caretaker/s, keeper/s

A second ethical consideration in approaching bereaved whānau was how to make initial contact. The interpersonal connection that is necessary to undertake pūrākau research was commenced through whakapapa[44] links between the Māori research team and the whānau. This is different to a Western research ethics framework, where it would be more appropriate for the researchers to have no relationship with the whānau to ensure that the whānau's decision to be involved was not influenced by their relationship with the researcher.

Working with Māori, from a Māori-specific methodology, requires that any research process conducted with Māori must destabilise power imbalances, and aim to provide benefit for Māori participants.

2.11 Safety considerations

Analysing data about suicides means there is potential to be exposed to distressing material. The SuMRC ensured that support was available to all those associated with this work. It developed guidelines for how researchers should take care of themselves when working with traumatic material. The advice was adapted from guidance used by the FVDRC. It recommends:

- keeping clear boundaries – limiting the work to fixed hours, sticking to them and avoiding taking work home
- rigorously respecting confidentiality as this avoids stressful situations later
- avoiding invitations to break boundaries
- learning strategies that help you switch off from work
- building in self-care strategies when you know the work is going to be hard – ie, exercise, good nutrition, relaxation and pleasure
- knowing the limits of your knowledge and seeking expertise when needed, remembering that the suicide sector is a complex one
- prioritising regular supervision and attending it
- prioritising debriefing after the hard work – setting informal times together as routine after hui to process material, and sharing the difficult stuff with your team or a trusted other, such as a supervisor, as soon as possible after the event (Towns 2014).

The advice also outlines a number of warning signs that should trigger a review of researcher safety.

Individual researchers approached their safety in different ways. For some, this meant accessing the database in a pair. Reflection and informal debriefing were undertaken. The Māori research team derived much of their strength through following tikanga – including the use of karakia, wai and kōrero. External support was also offered by some stakeholder groups.

[44] Genealogy, ancestry

2.12 Consultation

Consultation was undertaken at various points during the study. (Consultation during the origins of the SuMRC was discussed in Chapter 1.)

A particular objective in consultation was to ensure appropriate Māori engagement and contribution to the research process. Consultation with Māori served several purposes. It ensured that there was constructive critique of the proposed research project and its potential impact on Māori. It also provided an opportunity for he kanohi kitea[45] processes. Discussion of the cultural safety of any research project, the risks for Māori engaging in it, and consideration of ways in which risks might be mitigated are also important. Similarly, consultation was required to determine the relevance of research outcomes for Māori, and to ensure that clear benefits for Māori could be fed back to appropriate parties.

Consultation (both formal and informal) with Māori was undertaken at various points during the research process.

The Ministry of Health required the Commission to consult on draft recommendations. The list of organisations that provided feedback on draft recommendations, along with the key issues raised, is listed in Appendix 1.

[45] In a Kaupapa Māori research practice context, this is about the importance of meeting with people face-to-face.

Chapter 3 Data sets

3.1 Overview

Initially, the research team identified over 20 government and administrative data sets of potential relevance for the study, in consultation with the secretariat and the SuMRC in the early months of the project.

Acquiring data was significantly more time-consuming than anticipated. This was due to the need to establish new interagency relationships. Identifying the appropriate person in each agency was also challenging in many cases. Once the correct contact had been identified, the process of acquiring data followed a process unique to each agency. There are no standard cross-agency processes for researchers to access data.

Ultimately, the research team was able to gather data from 10 sources: Ministry of Health, CYMRC, DHBs, Coronial Services, Accident Compensation Corporation (ACC), Ministry of Social Development (Child, Youth and Family (CYF) and Work and Income New Zealand), New Zealand Police (Police), Department of Corrections (Corrections), Ministry of Education, and Housing New Zealand. The data varied in quality and utility.

The research team did not receive data from the Ministry of Justice and Inland Revenue in time to be included in this study, although negotiations around the legal frameworks for data-sharing with these two agencies progressed throughout the course of the study. Data from these two agencies will be available in future.

The researchers were unable to investigate data from other agencies due to the tight timeframe and the need to prioritise work within this. Such agencies considered included: Statistics New Zealand; Department of Internal Affairs' adoption records, New Zealand Transport Agency, Immigration New Zealand; Insolvency and Trustee Service; the Companies Register; and private debt collection agencies.

3.2 Data set identification

Much of the data of potential use for the purposes of suicide mortality review are collected and held by government entities. Key government agencies and statutory administrative data sets identified by the secretariat and the research team, and a summary of the data of interest at the commencement of the study (excluding age, sex and ethnicity data), are shown in Table 3.1. More detailed descriptions of the data sets from these agencies and the actual data requested and received are provided in section 3.3.

Table 3.1: Government and administrative data sets of interest at the commencement of the study

Source	Data of interest
Agencies from which data was obtained (although not all data requested was received)	
Accident Compensation Corporation (ACC)	Sensitive claims: sexual abuse and counselling. For men, ACC claims for injury (sports, employment related).
Child and Youth Mortality Review Committee (CYMRC)	Detailed data for the rangatahi Māori subgroup can be found in the CYMRC database. The CYMRC database is a data warehouse that stores data on each deceased person from a wide range of agencies and local reviews providing detailed contextual information around the death.
Coronial Services of New Zealand	Confirmed cases of suicide, demographic data, methods, occupation, marital status, coroner's findings and recommendations, detailed contextual information.
Department of Corrections	Sentencing reports, criminal details, nature of offending, date of offending, date of conviction, nature and duration of sentence.
District health boards (DHBs)	DHB incident reports on those who died by suicide who had recently (28 days) used mental health services.
Housing New Zealand	Data on Housing New Zealand clients. Evictions, waiting lists, list of those requiring housing for mental health reasons, unpaid rent, community group housing, other relevant data.
Ministry of Education	School attended (including enrolment in kōhanga reo or kura kaupapa Māori), changes in school enrolments, suspensions, expulsions, truancy, subject choice, reading recovery, educational outcomes, years secondary and tertiary education, highest school qualification, any other relevant educational outcome, alternative schooling.
Ministry of Health	Mortality Collection (MORT) National Minimum Dataset (NMDS) National Non-Admitted Patients Collection (NNPAC) Programme for the Integration of Mental Health Data (PRIMHD)
Ministry of Social Development	Work and Income: benefit receipt, benefit type (unemployment, sickness, etc). CYF: nature, timing, and outcomes of any interactions with CYF.
New Zealand Police	Contact with Police. Suicide alerts, informal assessment of those in custody overnight, drink-driving, traffic offences, violence, family violence, drunk and disorderly, other relevant offences, firearms licences, revoking of firearms licences, protection orders, speeding fines, reconciliation after violence and protection orders.
Agencies for which data was requested, but not received or not received in time	
Inland Revenue	Unpaid tax, child maintenance/child support arrangements, other.
Ministry of Justice	Child custody, domestic violence, court ordered counselling.

Office of the Director of Mental Health	Reportable events, including deaths of patients subject to the Mental Health (Compulsory Assessment and Treatment) Act 1992, events where there is likely to be media interest, serious events involving special patients (such as absence without leave) or events where media interest is likely, and events involving the death of a voluntary patient in an inpatient unit.
Agencies for which data acquisition was not pursued	
Department of Internal Affairs	Legal adoptions in New Zealand.
Immigration New Zealand	Information on immigration status, work permits or temporary visas.
Insolvency and Trustee Service	Information on current bankruptcies, No Asset Procedures and Official Assignee administered liquidations, and bankruptcies and No Asset Procedures discharged less than four years ago.
New Zealand Transport Agency	Fatal single-occupant motor vehicle crashes.
Statistics New Zealand	Integrated Data Infrastructure (IDI): new large database of government administrative data (Ministry of Justice, Ministry of Education, Ministry of Social Development, ACC, Inland Revenue, Police), Statistics New Zealand survey data and health data for the working-age population.

The initial list of potential data sets and agencies was modified over time as it became clearer which agencies had relevant data, and which should be prioritised in the timeframe available. It became clear that New Zealand Transport Agency data was not useful because any fatal single-occupancy motor vehicle crashes that had been determined to be suicide would be included in the coronial data set. Similarly, the Statistics New Zealand Integrated Data Infrastructure (IDI) data is not yet considered to be sufficiently detailed to be of use to the SuMRC (but it is thought to have high potential for future use). Bankruptcy data on the insolvency register was trialled but considered too time-consuming to manually search. Adoptions data was considered but the negotiations process was considered lower priority due to the low rate of adoptions in New Zealand.

It is important to note that some of the data sets held by these agencies that were not considered further for the feasibility study might still provide data of use to a suicide mortality review process if more time was available to assess their relevance. It is expected that this is especially the case for the IDI data set held by Statistics New Zealand.

3.3 Data sets requested

Following the initial consideration of possible data, the research team requested the following.

3.3.1 Ministry of Health – Analytical Services

Data description: The data sets of interest held by the Ministry of Health are the Mortality Collection (MORT), the National Minimum Dataset (NMDS), the National Non-Admitted Patients Collection (NNPAC) and the Programme for the Integration of Mental Health Data

(PRIMHD). The Mortality Collection is one of 16 data sets managed by the Ministry of Health's Analytical Services team. It contains basic demographic data for all deaths registered in New Zealand since 1988: the 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 the deceased's NHI number. It also classifies the underlying cause of death for all deaths registered in New Zealand.

The NMDS is the Ministry of Health's national collection of public and private hospital discharge data, including coded clinical data for inpatients and day patients. It provides information on hospital discharges, hospital procedures and discharges that involve injury or poisoning by sex, age, ethnicity, deprivation, DHB region, selected diagnoses and procedures, length of stay and bed days, inpatient and day cases.

The NNPAC includes hospital data on emergency and outpatient activity. It contains information going back to 2006 and includes information on the type of services provided and the health speciality involved.

The PRIMHD is the Ministry of Health's national collection of mental health and addiction data, which is collected from DHBs and NGOs. The PRIMHD contains data going back to 1 July 2008 on mental health and addiction services and those who use these services.

Data requested: See Appendix 3.

Data obtained: Names of those who died by suicide in the study time period and data requested as per Appendix 3.

3.3.2 Ministry of Health – Office of the Director of Mental Health

Data description: There is no data dictionary or publicly available description of the data held by the Office of the Director of Mental Health. The Office of the Director of Mental Health maintains a database of 'reportable events' and it is a requirement for DHBs to notify the Office of the Director of Mental Health if one of the following categories of incident occurs:

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

Data requested: Data on those who died by suicide by hanging during the period 2007–11. Deaths by hanging were a focus in order to limit the number of reports for analysis (due to time constraints), and because hanging is a method of significant interest due to its lethality.

Data obtained: The Office of the Director of Mental Health provided the research team with five examples of the information available on their database. This data had to be retrieved manually, using screenshots.

3.3.3 District health boards

Data description: The Ministry of Health requires DHBs to review a death if a service user has died by suicide after having had contact with the DHB's mental health services within a fixed period of time. Since 2012 the period under scrutiny has been up to 28 days; prior to this it was seven days. The data is qualitative information that has elements of the following:

- a description of the person undertaking the inquiry, and a record of who was interviewed or present at the inquiry meeting (if one was held)
- a summary of the clinical details of the person who died
- an outline of the contacts the person had with the service including names of personnel, their position and organisation, summary of clinical notes and any management plans, in date order for the time period leading up to their death
- a summary of the person's care and a discussion as to what improvements could have been made
- conclusions
- recommendations (if any).

Data requested: Incident reports (related to deaths by hanging) within 28 days of using DHB mental health services. A month was chosen as there is now a requirement for deaths within a month of service use to be reported on by DHBs, although this was not the case during the time period on which the study was focusing.

Data obtained: There were 320 potential reports from the 20 DHBs (although inquiry records did not exist for all of these people). There were 102 reports received from 10 DHBs. Seventeen of these reports from four DHBs could not be included in the sample as they did not arrive in time to be analysed. Of the 85 reports remaining (received in time for our analysis), 30 were considered to not be useable as they did not contain enough detail about the person or contained only recommendations. Some contained only a short summary and a list of action points. This left 55 reports potentially available for the mental health service user systems review.

3.3.4 Coronial Services of New Zealand

Data description: The Coronial Services Case Management System (CMS) is a national database of coronial cases in New Zealand (every death reported to a coroner since 1 July 2007). There is no data dictionary held by Coronial Services of New Zealand. Data is entered into the CMS and is drawn from a range of documents, including Police reports, post-mortem reports, medical histories, witness statements, toxicology reports and coroner's findings. It is noted that the primary purpose of these documents is not to record statistical data but to help a coroner investigate the cause of death.

Of interest for this feasibility study is the following data from the CMS:

- demographic data (age, sex, ethnicity, date of birth/death)
- name
- place of usual residence
- how long they lived in New Zealand

- country of birth
- employment (usual occupation)
- marital status.

As well, data containing the coroner's provisional and final findings as to cause(s) and circumstances of death, and a brief summary of the Police report on the circumstance of the death are held. Also of interest are the coroner's findings and recommendations. Additionally, there are the individual coronial case files which contain detailed data for all cases of those people who died by suicide.

Data requested: Electronic database of information on closed cases held by Coronial Services, any coroner's findings and recommendations, and paper files for a selection of cases.

Data obtained: Names of confirmed cases of those who died by suicide. Electronic data for cases of suicide, containing the following information:

- name
- demographic data (age, sex ethnicity, date of birth/death)
- home address
- address and site of death
- usual occupation
- cause of death (methods and substances involved).

Data on marital status was missing. Data on marital status was requested again in February 2015, and provided to the Data Manager on 20 February 2015 (too late to be analysed for this report). Coroners' findings and recommendations were also provided (if made).

Electronic copies of the coroners' reports were also obtained for 55 people in the mental health service user subgroup, and 30 coroners' reports for those in the men subgroup.

3.3.5 New Zealand Police

Data description: Variables of interest were identified by the research team after discussion with New Zealand Police, with the data request formalised in a written research proposal.

Data requested: Data was initially requested on those who had died by suicide who had any contact with Police (as a subject of incident, witness/bystander, victim or for an offence[46]). For those identified as having had contact with Police, the occurrence history was sought. This included a mix of incidents and offences (threatened or attempted suicide, mental health related call, drink driving, traffic offences, violence offences, family violence, drunk and disorderly, and other relevant offences).

A validity check on this data was done by extracting all sudden death incident codes (1S) for the study time period, because Police attend most sudden deaths. Automatic and manual

[46] 'Offence' or 'offender' should be read as 'alleged offence' or 'alleged offender' through the whole report.

searching on this check-back method revealed that some people had been missed out of the first extract. This additional data was requested and provided.

Data obtained: Overall, only 42 (out of the initial 1785 people of interest) were not found in the Police extract (25 out of 829 for the mental health subgroup; 29 out of 1272 for the men subgroup; 3 out of the 167 rangatahi Māori in the Mortality Collection). The research team received three databases:

- National Intelligence Application Occurrences (contains incident/offence code description, long narrative, occurrence start date, person occurrence role type (subject of incident, witness or bystander, victim or offender)
- National Intelligence Application Offences (contains offence start date, code description – offence or incidence codes)
- National Intelligence Application Charges (contains offence code and description, offence count and date, date charge laid, final court outcome)

3.3.6 Department of Corrections

Data description: No data dictionary was provided.

Data requested: Data needs were discussed via a series of emails, phone conversations and face-to-face meetings.

Data obtained: Quantitative data provided by Corrections (as far back as they have): start and end date of sentence, sentence or order grouping and detail, sentence sequence and sequence within a sentence (where there are multiple sentences imposed at the same time). Hard copies of individual case files for a select sample (a mix of rangatahi Māori, mental health user and men of working age cases) of Corrections clients were provided.

3.3.7 Housing New Zealand

Data description: Information on Housing New Zealand's website notes that the agency houses more than 200,000 people in its 69,000 properties nationwide, including about 1500 houses for community groups providing residential services. Data requirements and data availability were discussed via emails and phone conversations.

Data requested: Data on those who had died by suicide who had been clients/tenants of Housing New Zealand during 2007–11. Specifically the research team requested data on evictions, waiting lists, those requiring housing for mental health reasons, unpaid rent, community group housing and 'any other relevant information' they hold.

Data obtained: Housing New Zealand identified 71 instances of tenancies (some people had multiple tenancies over the study period). Data was provided on housing status at the time of death ('housed' only variable), waiting list prioritisation (prioritised A–D), number of moves in the last 12 months (range was 0–10), and main reason client applied (homeless, financial problems, health problems, overcrowding, tenancy terminated, family reasons, personal safety, internal transfer, discrimination, underutilised property, other reason, special need, house for sale, unable to sustain private accommodation, unliveable property, need modified house, no data).

3.3.8 Ministry of Education

Data description: A data dictionary was not provided; however, the contact from the Ministry of Education did refer us to the appropriate sections of their website. This, together with a brainstorming session between the research team members, informed the data request to the Ministry of Education.

Data requested: For the rangatahi Māori subgroup only, data was requested on:

- school attended, including enrolment in kōhanga reo or kura kaupapa Māori
- changes in school enrolments
- suspensions, expulsions, truancy (historically and ongoing at the date of suicide – eg, were they still at school/studying at the time of suicide)
- subject choice (including te reo Māori) for mainstream secondary school students
- involvement in reading recovery
- educational outcomes
- years secondary and tertiary education
- highest school qualification
- any other relevant educational outcome
- alternative schooling.

Data obtained: Information for 183 of the 187 rangatahi Māori (in the SuMRC cohort). The key variables of interest were:

- number of schools attended
- school enrolment history
- school qualification attainment
- post school qualification attainment
- tertiary participation
- tertiary qualification completions
- non-enrolment notification
- alternative education.

3.3.9 Ministry of Social Development

Data description: No data dictionary was provided.

Data requested: In the first instance the research team requested a data match so that they could know how many of the people who died by suicide had CYF and Work and Income data.

Data obtained: A spreadsheet of the 1785 in the initial cohort of interest who had Work and Income and/or CYF files was provided. Of these, 528 had had contact with CYF and 1539 had had contact with Work and Income, and 513 had had contact with both. The research team was in the process of requesting more detailed data, on benefit type, benefit history

and types of CYF interactions, but ran out of time. This data is very important to obtain, as it would provide benefit type, history and other important information about CYF interactions.

3.3.10 Accident Compensation Corporation

Data description: No data dictionary was provided.

Data requested: Sensitive claims: sexual abuse and counselling. For men, ACC claims for injury (sports, employment related), and compensation paid.

Data obtained: Demographic data, accident date, activity prior, injury cause, injury contact, external agency, scene, road accident, organised sport, client earner status, occupation (level 5 of New Zealand Standard Classification of Occupations).

3.3.11 Child and Youth Mortality Review Committee

Data description: The CYMRC reviews and reports on deaths of all children and young people in New Zealand aged between 4 weeks and 24 years. The CYMRC has been collecting this data since 1 January 2002. The CYMRC database is a data warehouse that stores data on each deceased person from a wide range of agencies, as well as data from local reviews. A data dictionary was provided. The local review data often contains narratives that provide details about the context of the death, including drug and alcohol use.

Data requested: Full access to the data set requested.

Data obtained: Full access to the database was made available to two members of the research team, on agreement that only rangatahi Māori suicides were reviewed.

3.3.12 Ministry of Justice

Data description: Information is owned by the Judiciary and the database holds criminal, civil and family courts information from 2004 to the present. Information on fines is held separately.

Data requested: Information was requested about prosecutions (and what they were for), convictions (including the offence codes and descriptions), orders for drug and/or alcohol rehabilitation, fines, and orders relating to guardianship and/or care of children, including protection orders.

Data obtained: No data was obtained in time for the study. Ministry of Justice staff members lodged a request with the Judiciary to facilitate this, but were advised at the end of February 2015 that neither the Chief Justice nor any other judge could provide the requested approval. This response prevented approval via any other method in the time available to meet the SuMRC's needs. The request was subsequently approved and Justice agreed in theory to provide data to the SuMRC; this means that data will be available in the future should the SuMRC continue.

3.3.13 Inland Revenue

Data description: Inland Revenue advised that they were not in a position to share a list of database variables, due to secrecy issues. However, they worked with the data team to refine the initial data request so that it aligned with their database variables.

Data requested: The following information was requested:

- application for financial hardship
- whether any Inland Revenue debt had been written off
- outstanding tax returns (for personal income tax, or company tax where the person was a director)
- overdue student loan payments or instalment arrangements
- overdue child support payments or late payment penalties
- domestic maintenance payments
- Inland Revenue audit activity.

Data obtained: No data was obtained in time for the study. Initially, Inland Revenue advised that they were not permitted to release data to the SuMRC, because the secrecy provisions of the Tax Administration Act 1994 superseded the information-sharing requirements of agencies under the NZPHDA. However, Inland Revenue also advised that an exemption could be granted by the Minister of Finance, under the Tax Administration Act, that would allow aggregated data to be shared. The Associate Minister of Health, Hon Peter Dunne, supported this approach. Inland Revenue requested an exemption from the Minister of Finance, but the exemption was not approved in time to release identifiable data to the SuMRC during the analysis phase of the project. Ultimately, Inland Revenue did provide a summary of aggregate data, but it did not arrive in time to be included here.

3.3.14 Summary of data obtained

Table 3.2 summarises the data requested, and those which were ultimately obtained, from the various agencies. The number of files for each agency does not necessarily match the number in the cohort. This is for various methodological reasons, including the data set not existing for part of the 2007–11 time period, only requesting data for a subgroup of the whole cohort, or some people in the cohort not having a file with the agency in question.

Table 3.2: Summary of high-level agency data obtained

Agency	Number of suicide cohort with agency files	Caveats
Ministry of Health Analytical Services (deaths by suicide)	'working cohort' of 1775	Upper age limit on mental health consumers
Office of the Director of Mental Health	No data	
DHBs	102 (85 received in time for analysis)	Varying quality
Office of the Chief Coroner	1536 (85 coroners' reports)	6 months of data unavailable electronically; closed

Agency	Number of suicide cohort with agency files	Caveats
		cases only
New Zealand Police	1743. This included data on subject of incident, witness or bystander, victim or offender. Only offender data was used and only for the 10 years prior to death.	Police advise that offences data under-records actual offences
Department of Corrections	471 (10 files for individuals)	
Housing New Zealand	71	
Ministry of Education	183 Māori youth	
Ministry of Social Development	528 with CYF data 1539 with Work and Income data 513 with Work and Income and CYF data	Needs further investigation
ACC	1714	Note:ACC changed its policy on eligibility for financial entitlements in 2010. From this date, claimants with wilful self-inflicted injuries must have an accepted mental injury claim to be eligible.
CYMRC	1248 records from their extract, 299 matched to SuMRC ID, 281 potentially used	
Ministry of Justice (Family Courts)	No data in time for analysis	
Inland Revenue	No data in time for analysis	

3.3.15 Data request process

The process for requesting agency data generally began with a letter sent to an identified contact person, outlining the SuMRC's mandate, the relevant legislation and status of researchers as agents of the SuMRC, and intention to discuss a data request. Further communication was required to discuss the details of the request, particular variables, and how the process was best facilitated.

Agencies often required clearance from their legal teams or management before clearance was given. One agency discussed the request with the Privacy Commissioner. This is not an uncommon experience for new mortality review committees.

As for all internal and external research proposals, New Zealand Police required a full research proposal to be submitted, a standard Police vetting process to be undertaken, and a research contract to be signed. Other non-vetted members of the research team were only able to view de-identified data.

The Ministry of Social Development requested a memorandum of understanding to outline the data-sharing process.

The Ministry of Justice indicated that a memorandum would be drafted by the Chief Family Court Judge, outlining what information Ministry of Justice staff members could release. This was not completed within the timeframe of the study, and the Ministry of Justice contact advised that they were undergoing a wider process of legal review for access to their data. Since the completion of the study, the Ministry of Justice has advised that they will provide information subject to receiving a full data request.

Inland Revenue commenced the process of seeking an exemption under the Tax Administration Act to release aggregated data, but it was not completed by the analysis phase of this study.

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. Data exchange included giving the cohort list to each agency as a means of identifying the cohort (using publicly available information only), and then the agency provided the corresponding data set in return.

3.3.16 Data request process challenges

The extent of time and human resource required to identify and obtain data from the various government administrative data sets was not anticipated. It was initially thought by the secretariat and the research team that this work would be able to 'piggy back' on the relationships that had been established previously for some of the other mortality review committees, particularly the FVDRC. However, this has not been the case, as many prior contacts were not appropriate for the SuMRC or were no longer in that position.

Both the secretariat and the research team spent significant amounts of time and energy establishing and building new relationships with key personnel from the various government agencies. There were also a number of occasions where the research team asked the secretariat to step in to speed up some of the agency responses to our data requests when the process had stalled.

We have also learned that each agency has different processes and procedures to follow when it receives data requests.

3.4 Data management

3.4.1 Data storage

A single SAS program was written to analyse all quantitative data, and a separate file was created with all the SAS formats used. All emails to and from the different organisations were stored in a folder called 'Data Requests' with a separate subfolder for the requests to the DHBs or the Office of the Chief Coroner for some of their reports.

3.4.2 Data security

All analyses were conducted on a single computer, by one person. Other researchers only had access to essential information. On receiving data, each person was allocated a unique

anonymous identifier and identifying information such as NHI number or name was only used in specific circumstances when it was absolutely necessary to process data. In accordance with the research agreement, raw information received from the New Zealand Police is securely held on the special Iron Key encrypted memory stick and was processed from there. The processed files are kept on a single computer, password protected, in a locked office.

3.4.3 Data cleaning

Standard initial data cleaning was carried out on the data sets. Consistent values for gender, ethnicity, date of birth and date of death were obtained from the Ministry of Health and applied across all agency data. As this is a feasibility study, a comprehensive cleaning and consistency check of data over all data sources was not undertaken (this would be a time-consuming but important step if a permanent SuMRC data collection was established). Therefore when examining the data an important caveat is that some of the numbers within and across data sets do not always add up.

3.4.4 Data matching

The data from each data source was examined, coded and labelled. Each data set had some core variables added to it (ID, SuMRC subgroup flags, sex, ethnicity, date of birth and date of death). If the data set had multiple observations per person, some summary information of that data was created showing date distributions, numbers of records and so on. A combined data set with one observation per person was created and updated with any new data. There is also a data set that contains all the different IDs for a person that have been given to the different organisations.

3.4.5 Managing and organising data

The main tool used for data analysis was SAS 9.4. Data was organised in different folders for the different organisations with separate folders for requests to, and data received from, the organisation. When information was requested from each organisation, a unique ID was generated so that data sets could not be combined by those organisations.

Chapter 4 Rangatahi Māori

4.1 Overview

The *New Zealand Suicide Prevention Strategy 2006–2016* (Associate Minister of Health 2006, p 3) defines suicide as 'the act of intentionally killing oneself'. According to Ministry of Health data, just over one in every five people (21.9%) who took their own lives in 2012 was Māori. This made the rate of Māori suicide 17.8 people per 100,000 of the Māori population, compared with a rate of 10.6 per 100,000 for non-Māori. In other words, the risk of Māori suffering profound emotional distress and dying by suicide was almost twice that for non-Māori (Ministry of Health 2015).

The Ministry of Health (2015) reports that half of Māori (n=61) who died by suicide in 2012 were aged 15–24 years, while a quarter (n=39) were 25–44 years old. Rangatahi Māori (aged 15–24 years) were 2.8 times more likely to die by suicide than non-Māori youth. Suicide rates for this age group have been higher for Māori males than for non-Māori males (rate ratios ranging from 1.1 to 2.4), and for Māori females than for non-Māori females (rate ratios ranging from 2.0 to 5.0) each year, from 2003 to 2012.

The first goal of this chapter is to describe the demographic and other characteristics of rangatahi Māori aged 15–24 years (inclusive) who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011.[47] A wealth of data pertaining to this group of rangatahi was analysed, including their education, engagement with health services, employment status, housing status, the locality of their deaths by suicide, the suicide methods they used, and the prevalence of additional known and potential risk factors.

The second goal of this chapter was to seek additional information about rangatahi lives and suicide deaths from a small number of whānau who were bereaved by rangatahi suicide. A whānau suicide stories method was used to gather whānau stories of four rangatahi Māori who had died by suicide between 2007 and 2011. Storytelling approaches show great potential as a way of 'getting behind the numbers' and enabling bereaved whānau to be heard. In addition, at times, whānau have information on precipitating factors that has not been voiced in official inquiries.

Direct family and whānau involvement with mortality review is a relatively new area that requires further thought and guidance before its place in formal mortality review processes can be established. The objectives of this part of the study were to explore if and how whānau can be engaged to tell their stories about the suicide of a whānau member, and to examine the complementarity between knowledge sourced from databases and narratives gained from whānau. Due to legal limitations on reporting under the NZPHDA, whānau suicide stories cannot be shared in full. However, the key learnings from this approach are reported.

[47] 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.

In organising this chapter, key tables have been presented alongside the text. For the purposes of this chapter, where the words ‘rangatahi’ or ‘rangatahi Māori’ are used on their own, they should be read to mean ‘rangatahi Māori aged 15–24 years (inclusive) who died by suicide between 2007 and 2011’. Further information about the definition of rangatahi Māori from a historical perspective can be found in Appendix 4, whilst additional tables that are not key observations are included in Appendix 5.

4.1.1 Key observations from Tier 1 and Tier 2 data

- Numbers: 194 rangatahi Māori aged 15–24 years died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011.
- Gender: Males accounted for almost two-thirds (n=125/194, 64.4%) of the rangatahi Māori subgroup population.
- Age group: Over half (n=107/194, 55.2%) of the rangatahi Māori subgroup were teenagers aged 15–19 years at the time of their death. This percentage was even higher for female rangatahi Māori, with 62.3% (n=43/69) of the females aged 15–19 years at the time of their death.
- Education: Of the 162 rangatahi for whom the Ministry of Education provided educational information, just over a third (n=55/162, 34.0%) had attained at least one school qualification. Twenty-one rangatahi had completed a tertiary qualification. The highest tertiary qualification attained by the majority of the rangatahi was a Level 1 to Level 4 certificate. Two rangatahi attained a higher, degree-level qualification.
- Relationship status: 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 death by suicide. The whānau narratives about their deaths identified this as an important factor in their suicide.
- Previous suicide attempts: One-third (n=9, 34.6%) of the female rangatahi in the age group 20–24 years had previously attempted suicide.
- History of self-harm: Nearly a third of the female rangatahi in the age group 15–19 years (n=14, 32.6%) had a history of self-harm.
- Mental health service contacts: A third of the rangatahi (n=52/167, 31.1%, Mortality Collection) had contact with mental health services in the year preceding their death by suicide. The CYMRC database referenced mental health concerns for over 40% (n=80/194, 41.2%) of the rangatahi. Of these, over one-third (n=31/80, 38.8%) did not appear to have had any interaction with specialist mental health services within the last 10 years.
- Parental status: Just over 40% (n=36, 41.4%) of the rangatahi in the age group 20–24 years were parents.
- Alcohol and other drugs: Less than two thirds (n=105/167, 62.9%) of rangatahi were tested for the presence of alcohol in their blood at the time of their death. Of those, half of the rangatahi (n=55/105, 52.4%) tested positive for alcohol at the time of their death. The positive tests for 18 of these rangatahi only registered a trace of alcohol in their blood. The 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 undercounts.

- CYF data: CYF reports of concern had been made for 79 (40.7%) rangatahi. Over half (n=46) of these rangatahi had one or two CYF reports of concern. Twenty-eight rangatahi (n=194, 14.4%) had five or more reports of concern over their lifetimes. Twenty-three rangatahi (n=87, 26.4%) had been placed under legal status by CYF at some stage in their life. The CYF cases for 12 of these rangatahi (n=87, 13.8%) were still open at the time of their death by suicide.
- Police data: Police records for offences in the 10 years prior to death existed for 61% of rangatahi. In the year prior to death 34% had an offence record and within three months of death, 18%.
- Corrections data: Corrections records existed for over two-fifths (40.2%) of the 134 rangatahi aged 17–24 years.

4.1.2 Key observations from whānau suicide stories

Four whānau participated in the whānau suicide stories. Their stories were about rangatahi who were welcomed into the whānau as pēpi[48] and spoken of in loving terms as they grew into tamariki[49]. Their teenage years were more difficult, with whānau telling about rangatahi who struggled to cope with illness, anxiety, loneliness, and relationship disappointments.

The whānau were not hesitant about trying to access help for their rangatahi, and spoke about attending counselling and mental health services, and calling upon Police and CYF. When these agencies were involved right up to the death of their rangatahi, the whānau expressed their anger that the agencies had not been able to help prevent their rangatahi dying by suicide.

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. It was only a short time later that they took their own lives.

The whānau suicide stories demonstrated the generosity of whānau in talking about the lives of the rangatahi they had lost. The method 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. When two of the four stories were compared with the information about the rangatahi on the CYMRC database, it became evident that 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 more conventional mortality review. The use of this method to more fully understand the circumstances surrounding a death by suicide should continue to be explored.

4.1.3 Methodology

Mortality review committees are permitted to collect and store data without the knowledge of the bereaved whānau. This is permitted under strict conditions in the legislation. For the collection of the whānau suicide stories, bereaved whānau were contacted directly by the research team to gather further (qualitative) data. Whānau therefore became aware that

[48] Baby/babies
[49] Children

information about their whānau member had been collated and reviewed. The kaitiaki role of the Māori research team was important in relation to both the information in the databases being reviewed, and the experiences and knowledge gathered from whānau.

Working with Māori, from a Māori-specific methodology, requires that any research process conducted with Māori must destabilise power imbalances and aim to provide benefit for Māori participants. Culturally safe implementation of the study was fundamental and addressed in a number of ways. Dr Lynne Russell was subcontracted to lead the review of the rangatahi Māori subgroup. Matua Witi Ashby agreed to act as Cultural Advisor on the SuMRC feasibility study through his role as Kaitakawaenga for the Mental Health Foundation of New Zealand (and previously as the Māori Resource Development Manager for Suicide Prevention Information New Zealand), providing the Māori member of the research team in particular with essential cultural support. Consultation occurred 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, whānau and the SuMRC research team.

Seven 'community-up' research practices[50] guided the culturally safe implementation of the SuMRC feasibility Study. Linda Smith (1999, 2012) outlined these practices in her book on decolonising research methodology (see Table 4.1). Since then Linda Smith (2006b), Ruwhiu et al (2009), and Cram and colleagues (Cram 2001, 2009; Cram, Kennedy et al 2015; Cram and Phillips 2012; Kennedy and Cram 2010; Pipi et al 2004) have written about their use within Kaupapa Māori research and evaluation. Kennedy and Cram (2010), in particular, write about the application of the practices in research with whānau.

The expression of these values-based practices with the rangatahi Māori subgroup of the feasibility study is summarised in Table 4.2. A distinction is made between the quantitative and qualitative components of the study. Although not explicitly spelt out in Table 4.2, these practices guided the Māori researcher, particularly in the collection of the whānau suicide stories.

Table 4.1: 'Community-up' approach to defining research conduct

Cultural values	Researcher guidelines
Aroha ki te tangata	Have respect for people – allow people to define their own space and meet on their own terms
He kanohi kitea	Be a face that is known and seen within a community
Titiro, whakarongo … kōrero	Look and listen (and then maybe speak) – develop understanding in order to find a place from which to speak

[50] When 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 that communities should be involved in decisions about the ethical research practices that are respectful for them (Smith 2006a).

Cultural values	Researcher guidelines
Manaaki ki te tangata	Share, host, and be generous
Kia tūpato	Be careful – be politically astute, culturally safe, and reflective about insider/outsider status
Kaua e takahia te mana o te tangata	Do not trample on the status or dignity of a person
Kia māhaki	Be humble – do not flaunt your knowledge; find ways of sharing it

Source: Adapted from Smith (2006b, p 12, Diagram 1). See also Smith 1999 and Cram 2001.

Table 4.2: 'Community-up' approach applied to the current study

Practices	Quantitative data analysis	Whānau suicide stories
Aroha ki te tangata	• Treating the information about rangatahi with respect • Telling a strength-based data story	• Allowing whānau to choose where they told their story • Establishing connectedness through whakawhanaungatanga[51] • Acknowledging and understanding peoples' backgrounds • Respecting the extent of cultural engagement by the whānau
He kanohi kitea		• 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	• Seeking to comprehend the information before writing about it and seeking explanations	• 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	• Feeling a duty of care for the lives of those represented in the data	• Providing and sharing kai with whānau • Providing a koha to acknowledge the time and knowledge whānau have shared
Kia tūpato	• 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)	• Ensuring whānau are fully informed about the purpose of the research • Allowing whānau to practice their own tikanga • Having a protocol to respond to whānau distress • Having a researcher safety protocol (Towns 2014) • Ensuring cultural supervision for the

[51] Process of establishing and building relationships, and relating well to others

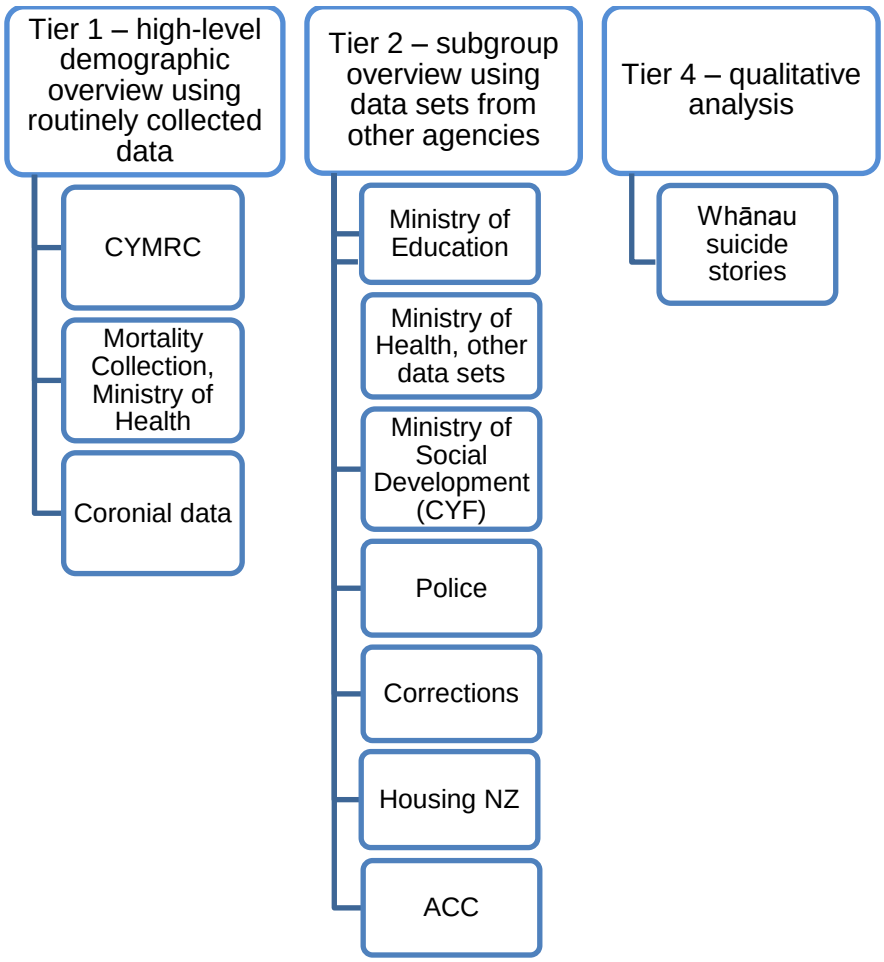
Practices	Quantitative data analysis	Whānau suicide stories
		researcher
Kaua e takahia te mana o te tangata		• Acknowledging that whānau are the owners of what they choose to share • Allowing whānau to decide if, when, how and with whom their kōrero is shared (within the constraints of the legislation)
Kia māhaki		• 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)

4.1.4 Methods

Two distinct but complementary methods of data collection were used: demographic and other data for Tiers 1 and 2, and whānau suicide stories for Tier 4 (Figure 4.1).

Figure 4.1: Overview of feasibility study tiers and methods used for the rangatahi Māori subgroup



4.1.5 Demographic data

Accurately defining the number of rangatahi Māori was difficult because data sets used different ethnicity collection methods and classifications. The Mortality Collection identified 167 rangatahi Māori, but the CYMRC data set included 193 rangatahi Māori. One further rangatahi Māori was identified in the Coronial Services data set, but this person was identified as non-Māori in the CYMRC data set. After significant discussion, the number in the rangatahi Māori subgroup was set at 194.

Demographic data (Tier 1) was gathered from the CYMRC, the Ministry of Health and Coronial Services. Additional Tier 2 data was collected from the Ministry of Health, Police, Corrections, ACC, CYF, Housing New Zealand, and the Ministry of Education about rangatahi who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011.[52]

Variability in the information available about these rangatahi meant that it was not always possible to report on all of the data provided. To this end the denominator for each analysis is reported. Unless specifically mentioned, the information about the rangatahi is drawn from the CYMRC database.

Rangatahi Māori subgroup inclusion criteria

Three criteria qualified rangatahi Māori for inclusion in the data set analysed for this study; namely they:

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

Decisions related to the first and third inclusion criteria are discussed below. Other data inconsistencies also created problems with defining the population under study. There was a difference in the spelling of seven of the names or surnames of the rangatahi, resulting in double-ups of data provided from various sources.

Definition of suicide and sampling frame

The CYMRC database was used as the sample frame for the rangatahi Māori subgroup due to inconsistencies between the Ministry of Health's Mortality Collection and the Coronial Services CMS.

While suicide is 'the act of intentionally killing oneself' (Associate Minister of Health 2006, p 3), classification of a death as a suicide within the Mortality Collection is based on the verdict of the coroner's court. Despite this, variation exists in the Mortality Collection and the Coronial Services CMS. According to the Mortality Collection, 167 rangatahi Māori died by suicide between 2007 and 2011. The Coronial Services CMS records 142 rangatahi suicides during that time, although only 126 of these were identified as Māori on the Coronial Services CMS.

[52] Data was also collected from Work and Income, but due to time constraints it was not analysed and reported.

The CYMRC collects data from the Mortality Collection and the Coronial Services CMS, and matches the data via unique identifiers. Therefore, the Mortality Collection and the CMS both become subsets of the CYMRC database in terms of identifying suicide as the cause of death.

Classification of ethnicity

The need for standardisation in the collection and reporting of ethnicity data has resulted in the Ministry of Health's *Ethnicity Data Protocols for the Health and Disability Sector* (2004) and Statistics New Zealand's *Statistical Standard for Ethnicity 2005*.

The ethnicity classification system used in the Mortality Collection comes from death certificates completed by the funeral director (or undertaker) in consultation with the whānau or family. There is now greater completion of ethnicity data in death certificates because funeral directors are now required to ask the next of kin the ethnicity of the deceased, rather than assign it themselves (or not assign any ethnicity when they did not know). The reliability of this data is therefore greater, with this process allowing for the deceased's expression of their ethnic identity during their lifetime to be taken into account.[53]

After consultation with the Commission's Māori Caucus in 2010, the CYMRC concluded that death certificates are currently the most reliable source of ethnicity data. While ethnicity data in the CYMRC database comes from multiple information sources, it is ranked in the following order: Death certificate > Birth certificate > Health sources (NHI and other Ministry of Health data sets) > Coroner > Other sources. There is relative completeness of death records in the CYMRC database, though the majority of youth deaths do not have a birth record in the database.

According to the CYMRC database, there were 193 rangatahi Māori (15–24 years) deaths by suicide between 2007 and 2011 (compared to the 167 in the Mortality Collection[54] and the 126 in the Coronial Services CMS).

Sixteen rangatahi who were classified as dying by suicide in both CYMRC and the Coronial Services CMS had different ethnicity classifications in each database. While these 16 were identified as Māori in the CYMRC database, they were classified as other ethnicities in the Coronial Services CMS.[55] In addition, one rangatahi was identified as Māori in the Coronial Services CMS, but had no ethnicity classification in the CYMRC database. After much consideration, a decision was made to include this case as well. All 17 of these rangatahi were included in the final data set.

The final data set was therefore n=194.

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[53] The system used in identifying the ethnicity of those who die by suicide still affords potential misclassification, however. Completed death certificates are manually coded in the Mortality Collection by Ministry of Health staff. Coding is still reliant on the accuracy of the death certificate and the manual transfer of that data to national data sets.

[54] In addition to these 167 rangatahi Māori, a further seven were identified as Māori in their NHI records, but not on their death certificates. These seven were not included in the study, however, because the death certificate data was prioritised over the NHI records.

[55] In the Coronial Services CMS, these 16 rangatahi are identified as either Cook Island Māori (2), New Zealand European (9), Pacific Island (3), Tongan (1) or Not Specified (1). However, all 16 of these rangatahi have Māori ethnicity identified through the CYMRC database.

4.1.6 Whānau suicide stories

The whānau suicide stories method retrospectively reconstructs the life history, behaviour, and the social, cultural and psychological features of deceased rangatahi, as well as the events preceding their suicide, through the stories told about them by their whānau. The 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 pūrākau (Hawton et al 1998).

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 whānau were identified through the personal networks of the researcher and kaumātua and approached about the study. During these preliminary meetings the whānau were informed about the study and its purpose, and invited to participate. The researchers then visited those whānau who agreed to participate to gather their story. Participants were interviewed in a mutually agreed location (in three cases this was the participant's home).

After the sharing of kai provided by the researcher, data was gathered via in-depth interviews with the permission of the participants.

There was no interview schedule and the interviews were unstructured so as to allow the whānau to tell their stories in their own way. However, the research questions outlined in the initial research plan for the rangatahi Māori subgroup were used as prompts where necessary and relevant.

Some stories took longer than others to collect. There was a range of two to six hours for the 'formal' storytelling process, with other parts of the whānau stories often told outside of the 'formal' story through texts, telephone conversations, and additional visits. Three of the whānau suicide stories were audio-recorded, with whānau permission. The recordings were not transcribed, as they were only recorded to assist with accuracy in writing up the stories.

Upon completion of the data analysis, the tapes were destroyed or returned to the whānau according to their preferences.

Analysis of whānau suicide stories

A narrative was written, based on each whānau suicide story, and returned to the whānau. The narrative stories, although not presented here, were examined using a three-stage framework that became evident to the Māori researcher as a natural fit with the data as it unfolded. The three stages were:

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.

A comparison between the collated data and the whānau story was possible for two of the four rangatahi who were from the rangatahi Māori subgroup.[56]

4.2 Findings

4.2.1 Tier 1 – Demographic overview and details of the death event

The rangatahi Māori subgroup consists of 194 rangatahi aged 15–24 years who died by suicide in Aotearoa New Zealand between 1 January 2007 and 31 December 2011. Unless specifically mentioned the information about the rangatahi is drawn from the CYMRC database.

Age, sex, gender

Over half (n=107/194, 55.2%) of the rangatahi Māori subgroup were aged 15–19 years at the time of their death. This percentage was even higher for female rangatahi Māori, with 62.3% (n=43/69) of the females aged 15–19 years at the time of their death. Males accounted for almost two-thirds (n=125/194, 64.4%) of all rangatahi deaths by suicide (Table 4.3).

Table 4.3: Age and sex of rangatahi Māori who died by suicide, 2007–11 (n=194) (CYMRC data)

Age at death (5-year groups)	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	100.0	69	100.0	125	100.0

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

Iwi affiliation

Identification of the iwi of each of the rangatahi in the rangatahi Māori subgroup was not possible. The Coronial Services CMS did not collect this information and, while the CYMRC maintained an iwi field at times,[57] it had not been used very extensively; only five rangatahi had iwi recorded.

Marital status

Marital status was recorded for the 142 rangatahi in the Coronial Services CMS. Of those, 7 out of 53 (13.2%) females and 14 out of 89 (15.7%) males in the group were recorded as married or in a de facto relationship.

[56] Of the two where no comparison was possible, one rangatahi was two months shy of turning 15 when they died, and the other was a couple of months past their 24th birthday when they died. These two stories were included in the whānau suicide stories analysis because they fulfilled the primary aim of the research, being to explore the model in a mortality review context.

[57] The iwi field was removed from the CYMRC 'Case Review' form in March 2011, but later reinstated in November 2013.

Occupation

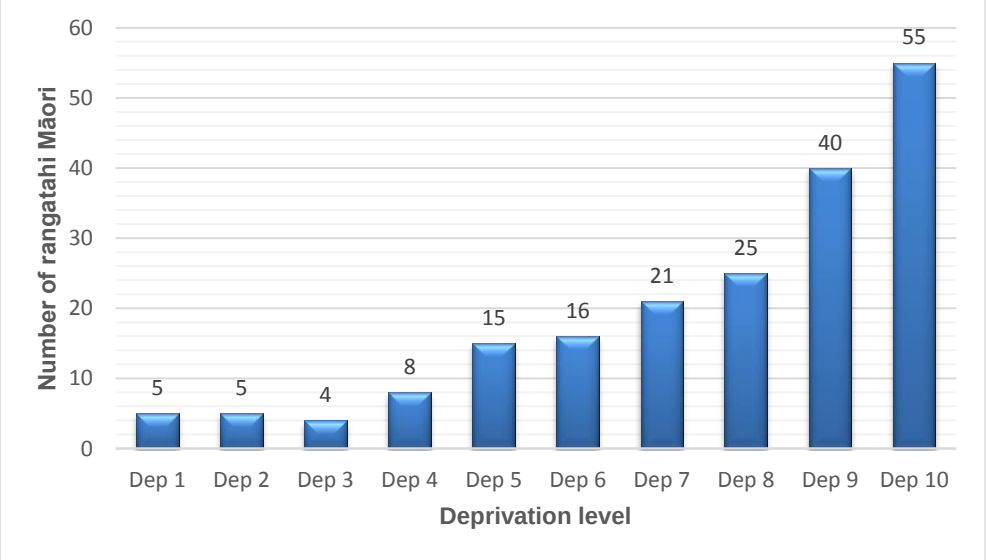
Out of the 194 rangatahi Māori in this subgroup, 188 had occupations identified on the CYMRC database and/or the Coronial Services CMS. Of those, 134 were on the CYMRC database only, 2 were on the Coronial Services CMS only, and 52 were on both. These 52 differed between the two databases (eg, the occupation of a rangatahi is reported as 'Student' on the CYMRC database, but 'Unemployed' on the Coronial Services CMS). Due to these discrepancies, only the CYMRC data is reported here.

The most common occupations identified are 'Student' (n=44/134, 32.8%), 'Unemployed' (n=26/134, 19.4%) and 'Beneficiary' (n=7/134, 5.2%). Given the level of disagreement within the databases, these figures should be treated with caution.

Deprivation of area of residence

Socioeconomic deprivation of the rangatahi Māori subgroup was measured using NZDep2006.[58] Almost half (n=95/194, 49.0%) of the rangatahi lived in areas described by NZDep2006 as the most deprived; that is, decile 10 (n=55/194, 28%) and decile 9 (n=40/194, 21%) areas (Figure 4.2). 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 2010b).

Figure 4.2: Deprivation of area of usual residence of rangatahi Māori who died by suicide, 2007–11 (n=194) (CYMRC data)



[58] The NZDep2006 index of socioeconomic deprivation combines census data relating to income, home ownership, employment, qualifications, family structure, housing, and access to transport and communications to provide a deprivation score for all geographical areas of Aotearoa New Zealand divided by meshblocks defined by Statistics New Zealand. NZDep2006 groups deprivation scores into deciles, where 1 represents the areas with the least deprived scores and 10 the areas with the most deprived scores. A value of 10, therefore, indicates that a meshblock is in the most deprived 10% of areas in Aotearoa New Zealand.

DHB region where suicide occurred

DHB region for where the suicide occurred was identified for the 167 rangatahi in the Ministry of Health's Mortality Collection. The highest number of rangatahi suicides occurred in the Counties Manukau DHB region (n=23/167, 13.8%) (Table 4.4). When the number of suicides is presented as a percentage of the population of rangatahi in each DHB region, Wairarapa DHB region had the highest percentage (0.66%), followed by Tairāwhiti (0.32%) and Lakes (0.30%).

Table 4.4: DHB regions where suicide occurred for rangatahi Māori who died by suicide, 2007–11 (n=167) (Ministry of Health data)

DHB region	All suicides		Māori 15–24-year-old population, 2006*	Suicides as % of DHB population†
	n	%	n	%
Wairarapa	6	3.6	912	0.66
Tairāwhiti	10	6.0	3138	0.32
Lakes	16	9.6	5304	0.30
Bay of Plenty	16	9.6	7329	0.22
West Coast	s	s	s	0.21
MidCentral	10	6.0	5091	0.20
Counties Manukau	23	13.8	12,096	0.19
Hawke's Bay	10	6.0	5742	0.17
Canterbury	11	6.6	6411	0.17
South Canterbury	s	s	s	0.17
Southern	8	4.8	4893	0.16
Northland	9	5.4	6873	0.13
Capital and Coast	7	4.2	5226	0.13
Auckland	7	4.2	5736	0.12
Whanganui	3	1.8	2514	0.12
Waitematā	9	5.4	7875	0.11
Waikato	12	7.2	12,426	0.10
Hutt	4	2.4	3900	0.10
Nelson Marlborough	s	s	s	0.10
Taranaki	s	s	s	0.07
Total	167	100.0	101,295	0.16

Note: 's' indicates frequency and rate suppressed due to small numbers.

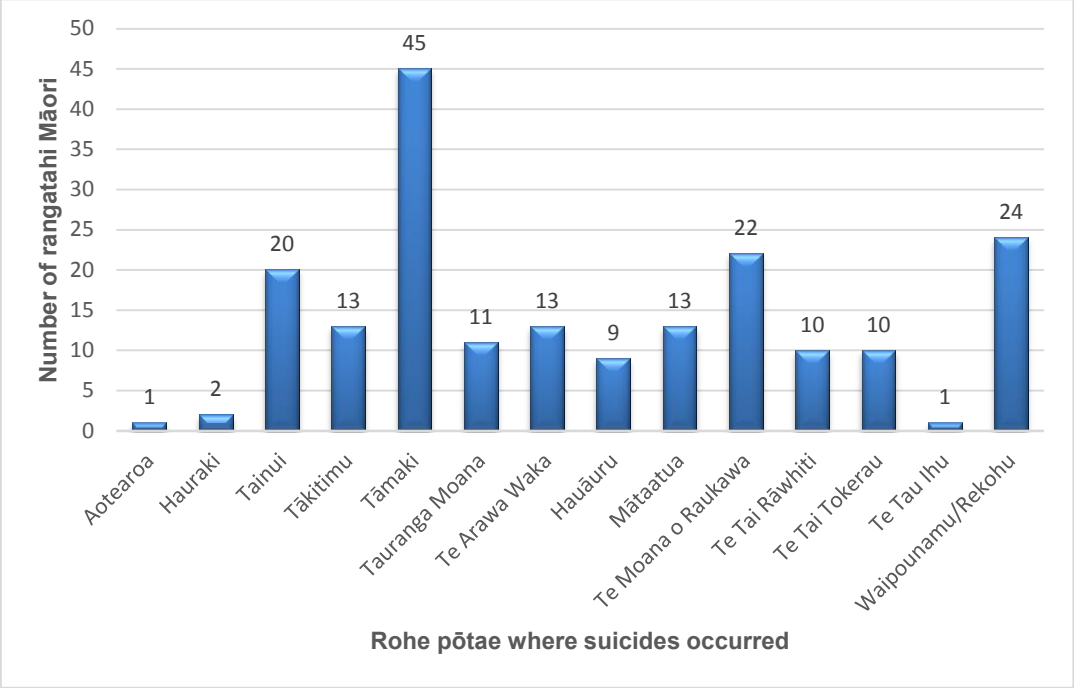
* Source for DHB resident rangatahi population: 2006 Census.

† The time period (2006) of this Ministry of Health data showing the population of rangatahi Māori aged 15–24 years in each DHB region precedes that of the SuMRC feasibility study (2007–11); however, it does provide a general indication of the significance of the number of rangatahi Māori deaths by suicide in each of the DHB regions.

Rohe pōtae where suicide occurred

Te Puni Kōkiri's Te Kāhui Māngai (Directory of Iwi and Māori Organisations) identified 13 rohe pōtae[59] that can be used to identify where the suicides of the 194 rangatahi occurred. Nearly one in every four rangatahi suicides (n=45, 23.2%) occurred in the Tāmaki rohe (Figure 4.3).

Figure 4.3: Rohe pōtae where suicides occurred for rangatahi Māori who died by suicide, 2007–11 (n=194) (CYMRC data)



Note: The identification of one rohe pōtae as 'Aotearoa' indicates that the suicide of one rangatahi occurred at sea.

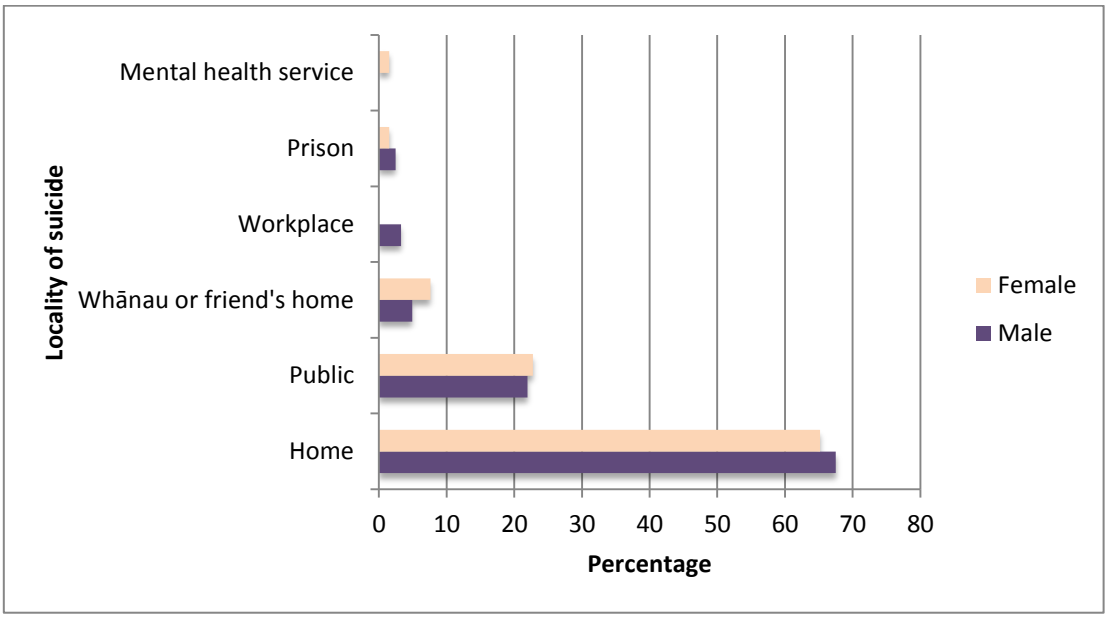
Locality of suicide

The CYMRC database provided information about location of death for 189 of the 194 rangatahi Māori. Approximately two-thirds (67.5% of males; 65.2% of females) died by suicide in their own home or on the property they lived at (Figure 4.4).[60] More than one in five (22.2%) rangatahi died by suicide in a public place, such as a reserve or a school property. Four rangatahi died by suicide in prison and two rangatahi died on site in a mental health service. Overall, there was little difference between male and female rangatahi in the locality of their death by suicide.

[59] Tribal territory/territories, tribal homeland/s or boundary/boundaries of iwi groups defined according to prominent geographical features, including mountains, rivers, and lakes

[60] Some in the rangatahi Māori subgroup were still alive when found and transported to hospital but later 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 4.4: Location of fatal suicide attempt by sex for rangatahi Māori who died by suicide, 2007–11 (n=189) (CYMRC data)



Suicide method

The primary sources for cause-of-death information are (i) Medical Certificates of Causes of Death completed by certifying medical practitioners and (ii) Coroner's Findings. The Registrar-General of Births, Deaths and Marriages supplies this information to the Analytical Services Team at the Ministry of Health, and the CYMRC uses this information to record causes of death in the CYMRC database.

The majority (92.8%) of rangatahi died as a result of hanging (intentional self-harm by hanging, strangulation and suffocation) (Table 4.5). There was no gender difference in method of suicide.

Table 4.5: Prevalence of methods of suicide by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=194) (CYMRC data)

Method of suicide	All		Sex			
			Females		Males	
	n	%	n	%	n	%
Intentional self-harm by hanging, strangulation and suffocation	180	92.8	64	92.8	116	92.8
Intentional self-harm by other means (grouped to preserve anonymity)	14	7.2	5	7.2	9	7.2
Total	194	100.0	69	100.0	125	100.0

Found by

The tūpāpaku[61] of rangatahi were most often found by whānau members (n=86/194, 44.3%), most commonly parents.

In 26 (13.4%) cases, a stranger found the tūpāpaku of the rangatahi, and in 21 (10.8%) cases it was the girlfriend, boyfriend or partner of the rangatahi who found them.

4.2.2 Tier 2 – Additional information about the lives of the rangatahi

Additional information about the lives of the rangatahi prior to their deaths was analysed using data from the CYMRC and other agencies, including the Ministry of Health, Police, Corrections, ACC, CYF, Housing New Zealand and the Ministry of Education.

Education

Education data was available for 162 of the rangatahi Māori (except in relation to enrolment data, which is explained below). This data came from various sources. A further 19 rangatahi were also included in the Ministry of Education database, but were excluded because they were not identified as Māori in either the CYMRC database or the Coronial Services CMS (n=5), or no corresponding code was provided to be able to match them with either of these databases (n=14).

Enrolment in secondary school

Enrolment information was available for only 87 of the rangatahi Māori in our subgroup because the Ministry of Education's electronic enrolment management system, which provides information on student enrolment, was not fully implemented across all schools until the end of 2007; as a result, no data was available for students that may have left school or died by suicide prior to this time.

Enrolment and participation in school generally provides a positive and consistent structure for most young people. Likewise, disruption to schooling as a result of housing instability can be detrimental.

The school enrolment data showed that just over half of these rangatahi (54.0%) were recorded as having attended one school, 26.4% were recorded as having attended two schools, and 18.4% were recorded as having attended three or more schools.

Due to the time constraints of the feasibility study, the length of each of these school enrolments was not analysed. Further analysis of this data is required to provide a fuller picture.

Secondary qualifications

The National Certificate of Educational Achievement (NCEA) is the main national qualification for secondary school students in New Zealand. There are three levels of NCEA

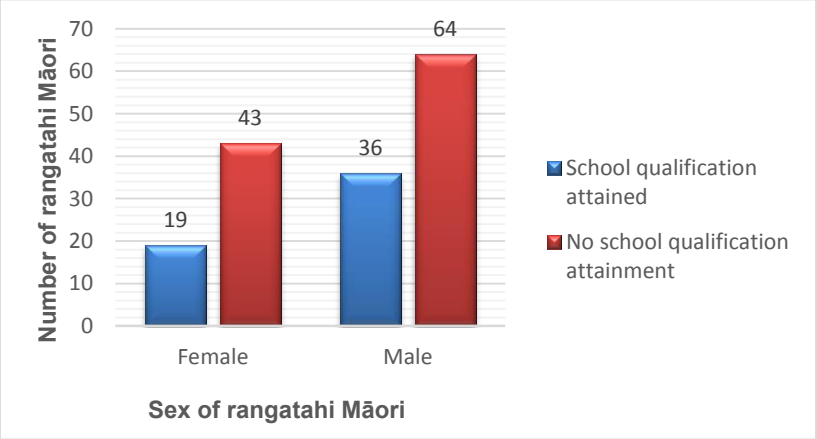
[61] Corpse/s, cadaver/s, body/bodies of deceased person/persons

certificates. In general, students work through NCEA Levels 1 to 3 in Years 11 to 13 at school.[62]

Of the 162 rangatahi for whom this data was available, over a third (34.0%) attained at least one secondary school qualification. This number is considerably lower than the overall national attainment for this age group. According to the 2013 Census, approximately 84% of all young people aged 15 to 24 years had attained at least one qualification (ie, at minimum, an NCEA Level 1 qualification) (Statistics New Zealand 2015).[63]

Differences between the number of males and females who had attained at least one qualification were not great. Thirty-six percent of male students and 30.6% of female students had attained at least one qualification at school (Figure 4.5). A greater proportion of male rangatahi gained literacy and numeracy qualifications, while a greater proportion of female rangatahi gained NCEA qualifications across all levels (Figure 4.6).

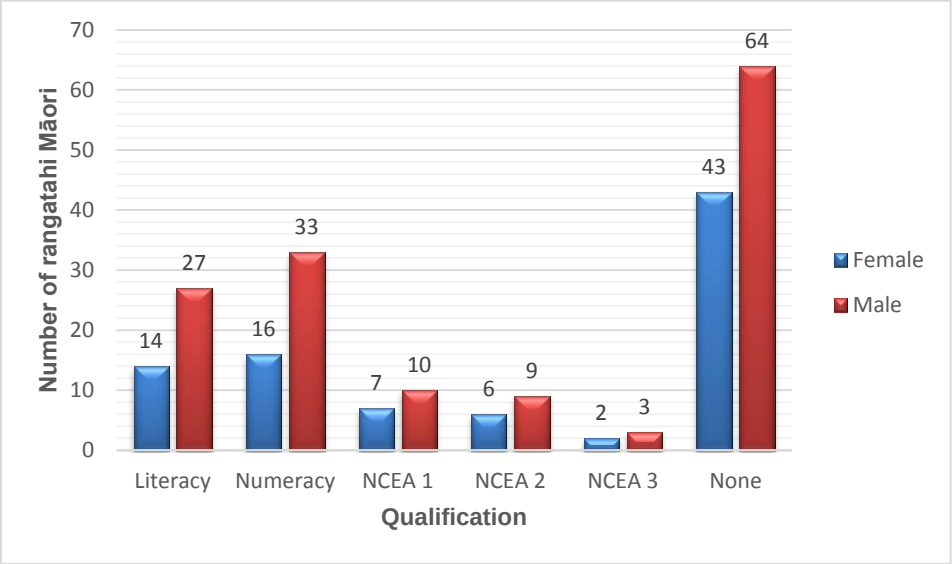
Figure 4.5: Educational qualification attainment by sex for rangatahi Māori who died by suicide, 2007–11 (n=162) (Ministry of Education data)



[62] Years 11 through 13 roughly correspond to 15 to 18 years of age. For more information on NCEA, see http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/understanding-ncea/how-ncea-works/.

[63] Education data for this age group is difficult to interpret because rangatahi died at different ages. Some rangatahi would not have had any opportunities to complete a qualification (eg, if they were 15 years old when they died, they may not have had the opportunity to sit NCEA 1, while some would have had nine more years to do so if they died at 24 years). The comparison provided here with the 2013 Census data takes some of this into account, but is still not a direct comparison. The census data is cross-sectional taken at one point in time, whereas the data on the rangatahi in the SuMRC group was not cross-sectional and was gathered at different points in time up until their deaths.

Figure 4.6: Educational qualifications by sex for rangatahi Māori who died by suicide, 2007–11 (n=162) (Ministry of Education data)



Note: The numbers will add to more than 162 because some students will have attained more than one qualification.

Participation in post-secondary education

Over half (59%) of the 162 rangatahi had participated in post-secondary (tertiary) education. This percentage of young people in some type of post-secondary education is high. According to a recent report published by the Ministry of Education,

> Over the last 10 years, differences in the rate of participation in tertiary education have narrowed substantially among the ethnic groups for young people … Of people aged 15 to 24 years, Europeans, Māori and Pasifika all had a participation rate in tertiary education in 2013 of 28 percent. (Wensvoort 2014, p 22)

Of the 95 rangatahi Māori who participated in post-secondary education:

- 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.

The majority (n=83, 87.4%) were enrolled in Level 1 to Level 4 qualifications, while 12 (12.6%) were enrolled in higher, degree-level qualifications. In comparison, Wensvoort (2014) found participation rates in higher, degree-level qualifications for young Māori under 25 years of age to be 8.6% in 2013, while participation rates in non-degree qualifications for young Māori under 25 years was just 20% in 2013 (Wensvoort 2014). Therefore, both the 12.6% of rangatahi enrolled in higher, degree-level qualifications and the 87.4% of rangatahi enrolled in non-degree qualifications is high compared to other Māori of the same age group.

Post-secondary qualifications

Of the 95 rangatahi who participated in some type of post-secondary education, 21 had completed a qualification.[64] The highest qualification attained by the majority of these rangatahi was a Level 1 to Level 4 certificate. Two rangatahi attained a higher, degree-level qualification.

Eleven (11.5%) of the 95 rangatahi who participated in post-secondary education were enrolled in or completed a qualification that was Māori focused. Of the three that completed such a qualification, one completed a Level 2 certificate at a whare wānanga, one completed a Level 3 certificate at a polytechnic, and one completed a Level 4 certificate at a whare wānanga.

Educational disengagement

Non-Enrolment Notifications (NENs) occur when a student is not enrolled at a school for 20 consecutive days. Thirty-one (19.1%) of the 162 rangatahi for whom the Ministry of Education provided educational information had NENs recorded. Most had one NEN, but three had two NENs, and two had three NENs.

Alternative education

Seventeen (10.5%) of the 162 rangatahi for whom the Ministry of Education provided educational information attended alternative education at some point in their schooling. Nine (52.9%) of the 17 rangatahi were aged 14 years at the time they were first enrolled in alternative education.[65] In addition, nine (52.9%) of the 17 rangatahi were female. This accounted for 14.5% (n=9/62) of the total number of female rangatahi for whom the Ministry of Education provided educational information. In comparison, just 8.0% (n=8/100) of the total number of male rangatahi attended alternative education. The period of time spent in alternative education varied from weeks to three years, averaging 13 months. One rangatahi attended two different alternative education schools.

An Early Leaving Exemption is granted to 15-year-olds to leave school into work or employment. Early Leaving Exemptions were only recorded for four (2.5%) of the 162 rangatahi for whom the Ministry of Education provided educational information – two female students and two male students.

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[64] The New Zealand Qualifications Framework provides accurate information about all quality-assured senior secondary school and tertiary education qualifications in New Zealand (NZQA nd, p 2). The 10 New Zealand Qualifications Framework levels are based on complexity, with Level 1 being the least complex and Level 10 being the most complex. Levels 1–4 are certificates; Levels 5 and 6 are diplomas; Level 7 can be a bachelor's degree, graduate diploma or certificate; Level 8 can be a postgraduate diploma/certificate or a bachelor honours degree; Level 9 is a master's degree; and Level 10 is a doctoral degree. Levels 7–10 are degree-level qualifications (NZQA nd, p 5). The New Zealand Qualifications Authority (NZQA) is responsible for quality assuring all non-university tertiary education organisations, and approves qualifications developed by these organisations. Meanwhile, Universities New Zealand is the statutory body with primary responsibility for quality assurance matters in the university sector. Non-university tertiary education organisations include institutes of technology, polytechnics, industry training organisations, government training establishments, private training establishments and wānanga (NZQA nd, pp 22–28).

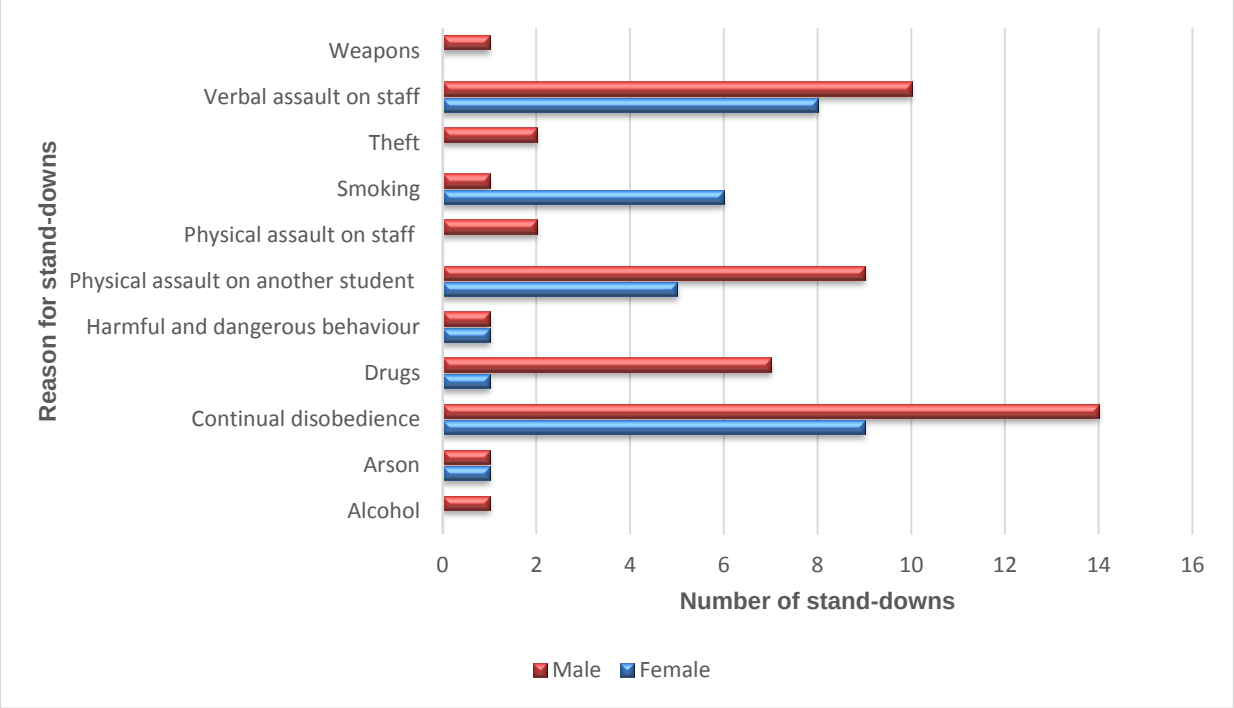
[65] One of the rangatahi Māori (aged 12 years) fell outside of the age grouping defined by the Ministry of Education.

Stand-downs, suspensions[66] and expulsions

Stand-downs, suspensions, expulsions and/or truancy of those in the rangatahi Māori subgroup, both historically and ongoing at the date of their suicides, were identified as important variables.

Forty-three (26.5%) of the 162 rangatahi were stood down from the schools they attended at some point. The mean age of those from the rangatahi Māori subgroup who were stood down was 14 years. Over half (n=22, 51.2%) of these 43 rangatahi were stood down more than once. Most commonly stand-downs were for verbal and physical abuse (threatened and actual) against other students and staff, or for 'continued disobedience' (Figure 4.7). Thirteen rangatahi were stood down for smoking or drugs, including substance abuse.

Figure 4.7: Primary reasons for stand-downs from school by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=43*) (Ministry of Education data)



* 80 stand-downs for 43 rangatahi

Eighteen (11.1%) of the 162 rangatahi were suspended from the schools they attended at some point. The reasons for suspension varied, but were primarily for unacceptable behaviour categorised as 'continual disobedience'. Most of the 18 rangatahi who were suspended at some point were only suspended once (n=13/18, 72.2%).

[66] 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. Following a suspension, the Board of Trustees decides how to address the student's misbehaviour. The Board of Trustees can 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). The Ministry of Education provided data on up to two suspensions per person for each of those in the rangatahi Māori subgroup, along with associated notes.

Eleven (6.8%) of the 162 rangatahi were expelled from the school they attended at some point. The majority (n=9/11, 81.8%) of these rangatahi were male. The reasons were varied, but most expulsions (n=5/11, 45.5%) were for continual disobedience.

Given the disadvantage associated with poor literacy and educational under-achievement and its effect on wellbeing, it was hoped that data may have been available to indicate whether any of those in the rangatahi Māori subgroup had been involved in reading recovery. Such information may be important for further research into any possible correlation between illiteracy and increased risk of suicide. However, no such data was provided.

In addition, it was anticipated that data concerning te reo Māori subject choice of the rangatahi Māori and any enrolments in kura kaupapa Māori would be provided as well. Such data was considered possibly significant in determining strength of cultural identity of the rangatahi Māori. However, no secondary school subject choice data was provided and no enrolments in kura kaupapa Māori were identified.

Primary health care

The majority (87.4%) of the 167 rangatahi with Ministry of Health data were enrolled in a primary health organisation (PHO) (Table 4.6).

Table 4.6: PHO enrolment status by age group and sex of rangatahi Māori who died by suicide, 2007–11 (n=167) (Ministry of Health data)

PHO enrolment status	All		Age at death			
			15–19 years		20–24 years	
	n	%	n	%	n	%
No PHO enrolment	5	3.0	1	1.1	4	5.1
PHO enrolment not current	16	9.6	10	11.2	6	7.7
PHO enrolment current	146	87.4	78	87.6	68	87.2
Total	167	100.0	89	100.0	78	100.0

Mental health service access

Over half of the 167 rangatahi (n=90/167, 53.9%) with Ministry of Health data had accessed mental health services, and 52 (31.1%) of them had contact with mental health services in the year preceding their death by suicide (Table 4.7).

Table 4.7: Prevalence of mental health service by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=167) (Ministry of Health data)

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	100.0	65	100.0	102	100.0

The PRIMHD data set provides information going back to July 2008 on mental health service contacts – everything from phone calls to inpatient stays. For those rangatahi who had accessed specialist mental health services, the median number of service contacts within 90 days of the deaths by suicide was 4.0 (mean 17.1, minimum 1, maximum 236). There was a mean of 14.9 telephone contacts, 7.4 onsite community mental health team appointments and 4.0 community mental health team visits in the rangatahi's home and 1.0 in Māori cultural settings. The median number of service contacts within seven days of the deaths by suicide of the rangatahi was 2.0 (mean 5.7, minimum 1, maximum 53). There was a mean of 5.5 telephone contacts, 4.6 onsite community mental health team appointments and 3.0 visits to rangatahi in emergency departments.

An analysis of narratives in the CYMRC database, including coroners' reports, found reference to mental illness in 80 of those in the rangatahi Māori subgroup (n=80/194, 41.2%). Thirty-one of these 80 rangatahi (38.8%) did not appear to have had any interaction with specialist mental health services in their lives, yet through the information gathered for the coronial process, there was suggestion of the presence of depression.

Previous suicide attempts and histories of self-harm

Coronial reports and other narratives contained within the CYMRC database identified rangatahi who had previously attempted suicide or who had histories of self-harm.[67]

Thirty-five (n=35/194, 18.0%) rangatahi had previously attempted suicide (Table 4.8). One-third (n=9/26, 34.6%) of the female rangatahi in the age group 20–24 years had previously attempted suicide.

Thirty-nine (n=39/194, 20.1%) rangatahi had histories of self-harm (Table 4.9). 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.

[67] It was anticipated that the PRIMHD would provide information concerning previous suicide attempts and/or histories of self-harm for those in the rangatahi Māori subgroup. However, no such data was provided.

Table 4.8: Prevalence of previous suicide attempts by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=35) (CYMRC data)

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	18.0	18	26.1	17	13.6

Note: Percentages have been calculated by age group and sex. Out of the 194 rangatahi, 107 were aged 15–19 years and 87 were aged 20–24 years. Of the 107 aged 15–19 years, 43 were female and 64 were male. Of the 87 aged 20–24 years, 26 were female and 61 were male. Out of all 194 rangatahi, 69 were female and 125 were male.

Table 4.9: Prevalence of self-harm* by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=39) (CYMRC data)

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	29.0	19	15.2

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

* In this context, a distinction is not made between self-harm behaviour with suicidal intent, or non-suicidal intent.

Family violence

Coronial reports and other narratives contained within the CYMRC database suggest family violence was prevalent in the lives of some of the rangatahi.

Forty-two (n=42/194, 21.6%) of the rangatahi had either been exposed to family violence as tamariki, most commonly as a witness to domestic violence in their whānau, or had been in a violent relationship later in their short lives (Table 4.10).

Thirty-one (n=31/42, 73.8%) of these 42 rangatahi were male, accounting for almost a quarter (n=31/125, 24.8%) of all rangatahi males.

Because family violence can often go unreported, these numbers are most likely an undercount.

Table 4.10: Prevalence of exposure to family violence by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=42) (CYMRC data)

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

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Sexual abuse

Coronial reports and other narrative contained within the CYMRC database identified that 27 (n=27/194, 13.9%) of the rangatahi Māori subgroup had disclosed sexual abuse at some point in their lives[68] (Table 4.11). The disclosure rate was two to three times greater among females than among males in the rangatahi Māori subgroup. These numbers are likely to be an undercount.

Table 4.11: Prevalence of sexual abuse disclosure by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=27) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	15	14.0	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

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

On CYF records

CYF held data on 77 of the rangatahi Māori. A further 10 were identified from the CYMRC database as having had some contact with CYF, resulting in a total of 87 (44.8%) of the 194 rangatahi Māori in this subgroup (Table 4.12).

Reports of concern or notifications[69] had been made for 79 (40.7%) of the 194 rangatahi. Over half (n=46/79, 58.2%) of these rangatahi had one or two CYF care and protection

[68] 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 also uses a referral code to identify a history of sexual abuse, but this data was not specifically analysed in this study.

[69] 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

reports of concern. Twenty-eight rangatahi had five or more reports of concern over their lifetimes, 12 of whom had 10 or more reports of concern and two of whom had more than 20 reports of concern each.

Twenty-three (26.4%) of the 87 rangatahi had been placed under legal status by CYF at some stage in their life. Most (n=18) 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.

Table 4.12: Contact with CYF by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=87) (CYF and CYMRC data)

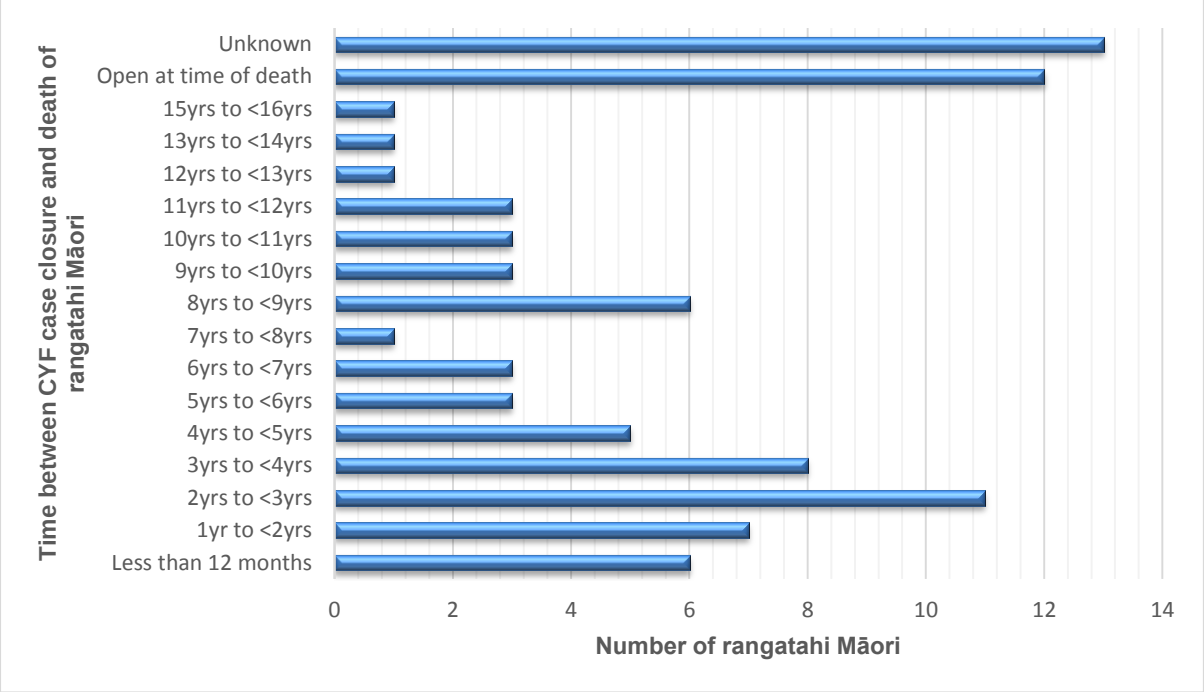
Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	56	52.3	22	51.2	34	53.1
20–24 years	31	35.6	12	46.2	19	31.1
Total	87	44.8	34	49.3	53	42.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

The CYF cases for 12 of these rangatahi were still open at the time of their death by suicide (Figure 4.8). Six others had their cases closed within the year prior to their deaths. The last involvement with CYF for 31 of the rangatahi was between one and five years before their deaths; for 16 it was between six and ten years before their deaths; and for nine rangatahi it was more than 10 years before their deaths.

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.

Figure 4.8: Time between closure of CYF case and death for rangatahi Māori who died by suicide, 2007–11 (n=87) (CYF and CYMRC data)



Takatāpui[70]

Coronial reports and other narrative contained within the CYMRC database suggest issues surrounding sexuality were significant in 7.2% (n=14/194) of the deaths by suicide of the rangatahi (Table 4.13). The stigma associated with homosexuality appeared to be particularly significant for the males in this population, who were bullied about their sexual orientation. Unrequited love was thought to contribute to the deaths of two lesbian rangatahi.

Table 4.13: Prevalence of identification as takatāpui by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=14) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	6	5.6	3	7.0	3	4.7
20–24 years	8	9.2	4	15.4	4	6.6
Total	14	7.2	7	10.1	7	5.6

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Experiences of bereavement

Coronial reports and other narrative contained within the CYMRC database suggested that 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

[70] Māori who identify as lesbian, gay, bi-sexual, transgender or intersex.

and friends. Eight of these rangatahi had experienced multiple deaths, with these being multiple suicides for four of the rangatahi.

Twenty-three (11.9%) of the 194 rangatahi were bereaved due to deaths by suicide (Table 4.14). Three of these rangatahi were bereaved by suicide twice, and one was bereaved by suicide six times. This is likely to be under-recorded.

Table 4.14: Prevalence of rangatahi who were bereaved due to deaths by suicide of whānau and friends by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=23) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	15	14.0	8	18.6	7	10.9
20–24 years	8	9.2	2	7.7	6	9.8
Total	23	11.9	10	14.5	13	10.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Twenty-eight (14.4%) of the 194 rangatahi were grieving the loss (not by suicide) of a whānau member or friend (Table 4.15). Four of these rangatahi were also bereaved due to a death by suicide at the same time. It should be noted, however, this trial did not have the capacity to analyse or make comment on issues of contagion. Bereavement by suicide was more common among rangatahi aged 15–19 years, compared with those aged 20–24 years.

Table 4.15: Prevalence of rangatahi who were bereaved due to deaths (non-suicide) of whānau and friends by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=28) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	19	17.8	8	18.6	11	17.2
20–24 years	9	10.3	2	7.7	7	11.5
Total	28	14.4	10	14.5	18	14.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Relationship issues

Data surrounding relationship issues prior to and ongoing at the dates of death by suicide of those in the rangatahi Māori subgroup was only available from coronial reports and other narrative contained within the CYMRC database.

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

which the narratives identified as important factors in their deaths. Thirteen had arguments with whānau members, 85 had arguments or breakups with a partner, and eight had both.

Twenty-one (10.8%) of the 194 rangatahi had a disagreement with someone from their whānau (almost always a parent) in the period immediately prior to the death event that was recognised in the associated narrative as being significant to their deaths (Table 4.16).

Table 4.16: Prevalence of whānau relationship issues preceding death event by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=21) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	12	11.2	6	14.0	6	9.4
20–24 years	9	10.3	2	7.7	7	11.5
Total	21	10.8	8	11.6	13	10.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

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 death by suicide (Table 4.17). This event was recognised in the associated narrative as being perceived as a significant contributor to their deaths. Over half of the total male rangatahi population (n=63/125, 50.4%) experienced partner relationship issues, as did nearly half of the total female rangatahi population (n=30/69, 43.5%). These events were more prevalent for both male and female rangatahi aged 20–24 years.

Table 4.17: Prevalence of partner relationship issues preceding their deaths by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=93) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	44	41.1	16	37.2	28	43.8
20–24 years	49	56.3	14	53.8	35	57.4
Total	93	47.9	30	43.5	63	50.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Parenthood

Forty-seven (24.2%) of the 194 rangatahi were parents at the time of their deaths. Just over 40% (n=36/87, 41.4%) of the rangatahi in the age group 20–24 years were recorded as being parents (Table 4.18). Compared with the females in this group (n=8/26, 30.8%), a higher proportion of the males aged 20–24 years (n=28/61, 45.9%) were recorded as being parents.

Table 4.18: Prevalence of parenthood by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=47) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	11	10.3	4	9.3	7	10.9
20–24 years	36	41.4	8	30.8	28	45.9
Total	47	24.2	12	17.4	35	28.0

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Termination of pregnancy

Coronial reports and other data contained within the CYMRC database suggest 10 (14.5%) of the 69 females in the rangatahi Māori subgroup had had a pregnancy terminated in their lifetime (Table 4.19). Termination of pregnancy was also mentioned for two of the male rangatahi.

Table 4.19: Prevalence of significant termination of pregnancy by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=12) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	5	4.7	4	9.3	1	1.6
20–24 years	7	8.0	6	23.1	1	1.6
Total	12	6.2	10	14.5	2	1.6

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Drugs and alcohol

Coronial and CYMRC data

Coronial reports and other narrative contained within the CYMRC database provide further information about the recreational drug use/abuse and or alcohol use/abuse, and the specific role of alcohol or drugs in the deaths by suicide of those in the rangatahi Māori subgroup. This data should be considered with caution since there is likely to be significant undercounting.

This data suggests that 37 (19.1%) of the 194 rangatahi Māori were drinking alcohol, or alcohol was identified as a problem for them in their lives (Table 4.20). In addition, 18 (9.3%) of the 194 rangatahi had taken drugs in the period of time preceding their deaths, or they had used drugs at some point in their lives.

Table 4.20: Prevalence of consumption of alcohol or use of other drugs prior to their deaths or problematic alcohol or other drug use by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=55) (CYMRC data)

Drug	Age at death	All		Sex			
				Females		Males	
		n	%	n	%	n	%
Alcohol	15–19 years	21	19.6	11	25.6	10	15.6
	20–24 years	16	18.4	2	7.7	14	23.0
	Alcohol total	37	19.1	13	18.8	24	19.2
Other drugs	15–19 years	11	10.3	2	4.7	9	14.1
	20–24 years	7	8.0	3	11.5	4	6.6
	Other drugs total	18	9.3	5	7.2	13	10.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Coronial reports and other narrative contained within the CYMRC database suggest more than one in five (n=44/194 22.7%) of those in the rangatahi Māori subgroup had been referred to alcohol or drug addiction services or alcohol or drug counselling (Table 4.21). Males were more likely to be referred than female rangatahi (26.4% vs 15.9%).

Table 4.21: Prevalence of referral to alcohol and drug addiction services or alcohol and drug counselling by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=44) (CYMRC data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	22	20.6	7	16.3	15	23.4
20–24 years	22	25.3	4	15.4	18	29.5
Total	44	22.7	11	15.9	33	26.4

Note: See Table 4.8 for information on the denominator data used to calculate percentages.

Ministry of Health data

Ministry of Health data provided information on toxicology tests for 167 rangatahi who were tested for the presence of alcohol in their blood at the time of their death (Table 4.22). A third were found to be negative (n=50/167, 29.9%). Fifty-five (32.9%) tested positive for alcohol at the time of their death; of those, 18 had a positive test that only registered a trace of alcohol in their blood. Aside from these results of the toxicology tests, the Mortality Collection does not provide any other definitive information concerning the role of alcohol use in the deaths of these rangatahi.

Table 4.22: Prevalence of blood alcohol detected at the time of their death by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=167) (Ministry of Health data)

Detection of alcohol	All		Sex			
			Females		Males	
	n	%	n	%	n	%
No	50	29.9	22	33.8	28	27.5
Trace	18	10.8	6	9.2	12	11.8
Yes	37	22.2	19	29.2	18	17.6
Not stated	55	32.9	13	20.0	42	41.1
No data available	5	3.0	4	6.2	1	1.0
Not tested	2	1.2	1	1.5	1	1.0
Total	167	100.0	65	100.0	102	100.0

No conclusions can be made about the role of other drugs in the deaths of the 167 rangatahi due to the level of missing or unknown data (Table 4.23). The toxicology reports tested positive for the presence of cannabis for almost 10% of rangatahi (n=15/167, 9.0%).

Table 4.23: Prevalence of drugs detected in their blood at the time of their deaths by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=167) (Ministry of Health data)

Drug	Detection	All		Sex			
				Females		Males	
		n	%	n	%	n	%
Cannabis	No	45	26.9	25	38.5	20	19.6
	Yes	15	9.0	6	9.2	9	8.8
	Unknown	107	64.1	34	52.3	73	71.6
	Total	167	100	65	100	102	100
Illicit drugs	No	62	37.1	33	50.8	29	28.4
	Yes	2	1.2	0	0	2	2.0
	Unknown	103	61.7	32	49.2	71	69.6
	Total	167	100	65	100	102	100
Prescription/Pharmacy drugs	No	55	32.9	27	41.5	28	27.4
	Yes	2	1.2	1	1.5	1	1.0
	Unknown	110	65.9	37	56.9	73	71.6
	Total	167	100	65	100	102	100
Volatile substance	No	15	9.0	9	13.8	6	5.9
	Yes	2	1.2	1	1.5	1	1.0

	Unknown	150	89.9	55	84.6	95	93.1
	Total	167	100	65	100	102	100
Other drugs	No	16	9.6	10	15.4	6	5.9
	Unknown	151	90.4	55	84.6	96	94.1
	Total	167	100	65	100	102	100

Gang affiliation

Coronial reports and other narrative contained within the CYMRC database identified 9.3% (n=18/194) of the rangatahi Māori as having affiliation to a gang, either themselves or through their whānau.

Police[71]

Data was received for four categories – subject of incident, witness or bystander, victim and offender. Only offence data was used.

Police identified that offence records existed for 119 (61.3%) of the 194 rangatahi. As would be expected, those aged 20–24 years had a greater average number of offences compared with those aged 15–19 years (12.8 and 9.1 respectively). The mean number of offences across both age groups was 10.8 (Table 4.24).[72]

Table 4.24: Prevalence of rangatahi in Police records by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=119) (Police data)

Age at death	Offences		
	Number of rangatahi	Total number of offences	Mean number of offences
15–19 years	63	571	9.1
20–24 years	56	714	12.8
Total	119	1285	10.8

Note: Individuals can have more than one offence recorded.

Of the specific offences, 68 rangatahi had offences for ‘dishonesty’, 67 for ‘misc/admin/unknown’, and 62 for ‘drugs/antisocial’.

Of the 68 ‘dishonesty’ offences, the mean number of dishonesty offences that female rangatahi Māori were charged with was 5.0, while the mean number of dishonesty offences that male rangatahi Māori were charged with was 7.6.

[71] All references to ‘offenders’ and ‘offences’ are ‘alleged offenders’ and ‘alleged offences’.

[72] The SuMRC sought to gather some comparison data on how many members of the general public might have Police records or be recorded as having an offence. Data is available in the Statistics New Zealand IDI that could be used to calculate this in future.

Of the 67 'misc/admin/unknown' offences, the mean number for female rangatahi Māori was 4.7; for male rangatahi Māori it was 6.6.[73]

Male rangatahi Māori were also charged with a higher mean number of violent offences defined as homicide, kidnapping/abduction, robbery, grievous assaults, serious assaults, minor assaults, intimidation/threats and group assemblies.

Over half (54.6%) of the 119 rangatahi Māori who had come to the attention of the Police with offence records had done so in the year before they died (Table 4.25). A small proportion (3.9%) of males had come to the attention of Police in the last week.

Table 4.25: Most recent offence in Corrections records by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=119) (Police data)

Most recent offence	All		Sex			
			Females		Males	
	n	%	n	%	n	%
Less than 6 months prior to death	47	39.5	14	33.3	33	42.9
6 months–1 year prior to death	18	15.1	4	9.5	14	18.2
>1 year before death	22	18.5	8	19.0	14	18.2
Missing or invalid data	32	26.9	16	38.1	16	20.8
Total	119	100.0	42	100.0	77	100.0

Corrections

The Department of Corrections only holds data for those aged 17 years and older because people under the age of 17 at the time of the offence are dealt with through the youth justice system. Once those aged 15 or 16 years were removed from the Mortality Collection population of 167 rangatahi Māori, the denominator population was determined as 134.

Corrections records existed for 54 (40.2%) of the 134 rangatahi aged 17–24 years; that is, the rangatahi had been charged with an offence between the time they were aged 17 and their deaths (Table 4.26). The 16 female rangatahi with Corrections records accounted for almost one-quarter (23.2%) of the total female rangatahi population (n=69), whilst the 38 male rangatahi with Corrections records accounted for almost one-third (30.4%) of the total male rangatahi population (n=125).

[73] The category '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.

Table 4.26: Prevalence of rangatahi in Corrections records by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=54) (Corrections data)

Age of death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
17–19 years	13	24.1	4	25.0	9	23.7
20–24 years	41	75.9	12	75.0	29	76.3
Total	54	100.0	16	100.0	38	100.0

Over a quarter (26.1%) of these 54 rangatahi with Corrections records had been charged with a criminal offence in the past, but had served their sentence and were no longer actively under sentence (Table 4.27). 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.

Table 4.27: Sentences of rangatahi aged 17–24 years in rangatahi Māori who died by suicide who were in Corrections records, 2007–11 (n=134) (Corrections data)

Known to Corrections	Both sexes	
	n	%
Yes but not active at time of death	35	26.1
Yes, on community sentence	14	10.4
Yes, on prison sentence	5	3.7
Total	54	40.3

Housing

Eighteen (9.28%) of the 194 rangatahi were known to Housing New Zealand (ie, they had their name included on a tenancy agreement with Housing New Zealand at some point). Over three-quarters of these rangatahi were aged under 20 years (Table 4.28). Of the 18 rangatahi, six (33.3%) had rented more than one property in their lifetime (in two cases, four properties).

Table 4.28: Housing New Zealand tenancy agreement status by age group and sex of rangatahi Māori who died by suicide, 2007–11 (n=18) (Housing New Zealand data)

Age at death	All		Sex			
			Females		Males	
	n	%	n	%	n	%
15–19 years	14	77.8	8	80.0	6	75.0
20–24 years	4	22.2	2	20.0	2	25.0
Total	18	100.0	10	100.0	8	100.0

Accident Compensation Corporation

ACC data provided information regarding accidents for which treatment was sought for 161 of the rangatahi Māori.

A quarter (26.7%) of the rangatahi had fewer than five ACC claims in their lives and a further 38.5% had 5–9 claims, while 34.7% had 10 or more ACC claims (Table 4.29). For some, this number would have included their last, and fatal, claim. Changes in policy during the 2007–11 time period meant that at various times people were covered by ACC for 'wilful self-injury' (including suicide) and at other times they were not.

Table 4.29: Prevalence of ACC claims and the number of claims made by age group and sex for rangatahi Māori who died by suicide, 2007–11 (n=161) (ACC data)

Number of claims	All		Sex			
			Females		Males	
	n	%	n	%	n	%
1–4	43	26.7	22	34.9	21	21.4
5–9	62	38.5	27	42.9	35	35.7
10–14	38	23.6	11	17.5	27	27.6
15–19	11	6.8	2	3.2	9	9.2
20–29	6	3.7	1	1.6	5	5.1
30–39	1	0.6	0	0	1	1.0
Total	161	100.0	63	100.0	98	100.0

The majority (68.5%) of the 1332 accident claims for the 161 rangatahi were made for males. Sporting injuries accounted for 132 (9.9%) of the total claims (11.3% of male claims and 6.9% of female claims). A breakdown of the main causes of accidents claimed for (inclusive of those involving sport) shows that most (58.4%) either did not have a cause identified or it was unclear what the cause was. The most common causes of identified accidents claims for the rangatahi were due to loss of balance or personal control (13.9%), being struck by a person or animal (9.2%) or a collision with, or being knocked over by, an object (5.0%).

The majority (81.3%) of the 1332 accident claims made for the 161 rangatahi were dealt with under the 'Non-Earners Account', which covers claims for injuries to people who are not in the paid workforce, such as students, beneficiaries, retired people and tamariki.

4.2.3 Tier 4 – 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 begin with the arrival of the rangatahi as a baby, and then proceed to describe their teenage years and their lives leading up to their suicide. Whānau also talked about immediately after the suicide, and how things had been for their whānau since then. These last two parts of the narrative have not been included here, so as to match the pre-suicide information obtained from the databases.

The beginning of the story

Whānau began their stories by describing the birth and childhood of their rangatahi. A fast birth was recalled with laughter, while another mother did not remember much about the birth at all. The whānau described their pēpi and tamariki as variously awesome, beautiful, a joy, precious, a poppet, and really kind. 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 a lot about these early years was included in the whānau suicide stories about the female rangatahi.

The story

In their teenage years the difficulties experienced by the rangatahi seemed to escalate. 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.

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. The exception was one of the rangatahi whose whānau found out only after his death that he had been confiding with someone outside the whānau about the difficulties he was facing. Two of the whānau were not complimentary about the services and agencies they had approached for help.

The end of the story

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.

Each whānau told a story of the calmness and happiness that seemed to settle over their rangatahi immediately before their death. 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. Rangatahi were described by their whānau as settled and peaceful. Within the next 24-hour period all of the rangatahi had ended their own lives.

Lessons

A lesson to come from the whānau suicide stories is the absolute need for whānau to be listened to prior to suicides occurring when they may try in vain to be heard by agencies and professionals. There also needs to be greater acknowledgement of how seriously rangatahi and their whānau take agency involvement in their lives, and how much better these agencies need to do when interacting with rangatahi and their whānau.

When the rangatahi made up their minds to end their lives they became very settled and put their lives in some semblance of order, mending relationships and tidying up personal spaces. A second learning was that whānau talked about not knowing that this was a sign that their rangatahi was at high risk of taking their own life.

Comparison with database information and narratives

Comparisons between the agency data held for the rangatahi Māori and the information in the whānau suicide stories could only be made for two of the rangatahi, as the other two fell outside the age group 15–24 years.

The narrative data in the CYMRC database for one of these rangatahi includes information that was not provided by the whānau. This information related to family violence and CYF notifications. At the same time, some of the information in the whānau suicide story about this rangatahi provides data missing from the CYMRC narrative. For example, the CYMRC narrative states that ‘it is not known if [this rangatahi]’s father was present in the early years of life or if [this rangatahi] had any regular, ongoing contact with him’. The whānau suicide story suggests this rangatahi lived with both of his parents until primary school age and refers to various levels of paternal involvement throughout the rangatahi’s life.

For the second rangatahi there are a number of differences in the data provided through the demographic databases and that shared in the whānau suicide story. These include different accounts of what happened on the day of the rangatahi’s death and during the rangatahi’s life. Interactions with agencies are described very differently by each source.

A large amount of narrative information about the whānau is included in the CYMRC database that was not included in the suicide stories shared by the whānau, and vice versa. These two examples, especially the second example, demonstrated that placing both sources of data alongside each other produced a much fuller understanding of what was happening for the rangatahi prior to their death.

4.3 Discussion

Although the absolute numbers of rangatahi who die by suicide are low, each rangatahi who is lost to suicide is the loss of a precious life and the loss of the continuation of their whakapapa. The disparity between Māori and non-Māori rates of suicide deaths also represents a significant health inequality warranting further attention. Improving the health status of Māori is a priority objective for the Government. The goals of the rangatahi Māori subgroup study were to describe the characteristics of rangatahi who had died by suicide and to examine the possibility and utility of collecting whānau stories of the lives and deaths of their rangatahi. In this discussion the demographic information is discussed first, followed by the whānau suicide stories.

4.3.1 Demographic information

Clarke et al (2011) identify a number of risk factors that play a significant role in suicidal ideation among rangatahi, including high rates of significant depressive symptoms, anxiety symptoms, family violence, child abuse, sexual abuse, exposure to a friend or family member who has died by suicide, and a sense of discomfort in dominant cultural environments (ie, New Zealand European). The overall impression from the discussion of risk factors for rangatahi suicide is that often the lives of these young people are violent and chaotic, leaving them vulnerable. Many of these same risk factors were present in the lives of the rangatahi who died by suicide between 2007 and 2011. Although an analysis of the accumulation of these risk factors for individual rangatahi has not been undertaken in this study, there are clear signs of this accumulation in the whānau suicide stories.

Male rangatahi died by suicide at twice the rate of female rangatahi, and female rangatahi were almost twice as likely to be under 20 years of age. Nearly half of the older (20–24 years) male rangatahi were parents, as were nearly a third of the older female rangatahi. There was, however, no difference between male and female rangatahi in method of suicide or most common location of death. Durie (2009) and others have called for postvention support for whānau following the loss of one of their own to suicide. Such support is a way for whānau to engage in cultural rituals, find meaning in the death, deal with stigma and potential isolation, and ensure the safety of other whānau members (Beautrais 2004; Ihimaera and MacDonald 2009).

Rangatahi were more likely than Māori generally to live in the areas that are described as the most deprived by NZDep2006. Research comparing the impact of the economic recessions of the late 1980s and early 1990s on youth suicide in Aotearoa New Zealand and Finland found that young people in Finland were buffered from the full impacts of these recessions by government policies (Howden-Chapman et al 2005). The continuing vulnerability of Māori to economic recessions was noted in a Te Puni Kōkiri (2009) report following the 2008 global economic recession, with an accompanying call for policy responses. Given the resulting high levels of unemployment for rangatahi Māori and their educational underachievement – characteristics also noted in the rangatahi Māori subgroup – there is an ongoing need for policy solutions that assist whānau to move out of poverty. Such policies underpin cultural development and Māori community development (Hui Taumata Steering Committee 2004), and are recommended as cornerstones of Māori suicide prevention (Associate Minister of Health 2006; Ihimaera and MacDonald 2009).

The majority of the rangatahi were enrolled with a PHO. Around half had also had some contact with mental health services, with this contact being in the 12 months prior to their suicide for around a third of the rangatahi. Female rangatahi in the rangatahi Māori subgroup were more likely than males to have this contact in the year prior to their death. In the present research the majority of rangatahi ended their lives by hanging, strangulation or suffocation, with these methods most commonly used by young people who die by suicide (Ministry of Health 2015).

There was CYF involvement with over 40% of the rangatahi (but no legal status taken). This is high given that the vast majority of New Zealand children and young people have no CYF involvement. This involvement was more serious for 12% of the rangatahi. CYF cases were open for 12 rangatahi when they died. Young people in CYF care are 10 times more likely to die by suicide than those not in CYF care (Ministry of Health 2010a). Objective 3 of the *New Zealand Suicide Prevention Action Plan 2013–2016* (Associate Minister of Health 2006) is the improvement of support for those in receipt of government services, recognising that children and young people coming into contact with CYF have multiple risk factors and fewer protective factors against suicide. The CYF response of staff training in suicide prevention and intervention needs to recognise both the over-representation of Māori children and young people within CYF and the longstanding calls for CYF to provide culturally responsive services to Māori whānau (Cram, Gulliver et al 2015).

Another finding from the data is that an intimate relationship disagreement or break-up preceded their suicide for half of the rangatahi. This was more prevalent for those in the older age group (20–24 years). This is not to say that relationship disagreement or break-up causes suicide. Rather, it may be 'the straw that breaks the camel's back'.

Over 60% of the rangatahi have a Police record for alleged offending and 40% were in Corrections records. This may speak to the marginalisation of young people, or represent what Durie (2001, p 104) describes as 'a modern state of anomie[74] for Māori youth'. He includes drug, and presumably alcohol, misuse in this. Over a third of the rangatahi had more than trace amounts of alcohol in their system at the time of their death, with this being more common for female rangatahi than males. There was, however, a large proportion of missing data making it difficult to come to any conclusions and also indicating that indications of alcohol are not usually tested when rangatahi Māori die by suicide.

Many youth offenders in Aotearoa New Zealand have spent earlier periods of their lives being managed by social service agencies. A common characteristic and risk factor of those who go on to become serious young offenders is previous involvement with CYF (McLaren 2011; Office of the Children's Commissioner 2015). A study by Corrections and the Centre for Social Research and Evaluation which examined the 'flow rates' from CYF to Corrections identified that within two birth cohort samples (from 1985 and 1989), those who had CYF records 'were heavily over-represented among Corrections' clients' (Kilgour 2013, p 28). In fact, almost 60% of Corrections' clients in the research sample had a prior CYF record: 69% for incarcerated adults and 83% for teenage prisoners (Ministry of Social Development 2010). Given young people with CYF records account for over 80% of those who are

[74] A feeling of disorientation and alienation from society caused by the perceived absence of a supporting social or moral framework

imprisoned by age 20 (Centre for Social Research and Evaluation 2011), and the disproportionate rates of imprisonment and/or CYF contact with rangatahi Māori, it is recommended that further investigation into these rates specific to those who have died by suicide be undertaken to determine any correlation.

Speculation about the potentially protective influence of cultural identity and connectedness could not be tested during the rangatahi Māori subgroup study. Iwi information has not been consistently collected by CYMRC, and although information about where the rangatahi died was collected this could not be linked to the places where rangatahi had whakapapa links. Even if this had been possible it is a stretch to infer strong cultural identity if a rangatahi dies within their rohe pōtae. Even cultural connectedness measured through educational choices that rangatahi made (eg, doing tertiary courses about culture or language) may not provide insight as the decisions made by rangatahi or their whānau may have been about aspirations for cultural connectedness rather than expressions of cultural identity.

4.3.2 Whānau suicide stories

Collecting the whānau suicide stories

'Every suicide … is an indication of profound emotional distress' (Ministry of Health 2015, p 1) that may leave close whānau and friends – those bereaved by suicide – traumatised and seeking answers about how and why they have lost a loved one. Sitting with the four whānau who decided they could tell the story about the suicide of one of their rangatahi was therefore a great privilege. The mothers in two of these whānau were active in public forums and postvention work for whānau who had experienced a suicide of a young person. In one sense they were telling a well-rehearsed story. In another sense, it remained a deeply felt and authentic story that was further brought to life by the contributions made by members of the whānau who 'dropped in' to the storytelling time. The other two whānau were more reticent and had not spoken publicly, so telling their story within the context of this research was an especially courageous decision for them. One kuia, in particular, had kept her story of the suicide of her mokopuna confidential to a very small number of people.

Their stories unfolded over the time the researcher spent with them.

The researcher's task was then to write a narrative of their whānau suicide story. Each of the four narratives was built around and included the words spoken by the whānau. These stories could not be told in full in this report because of legal restrictions. These same restrictions also meant that the whānau could not be named, even though at least two whānau were adamant that they should be identified as they were already speaking in public about their experiences. This has meant that some dissection of their narratives was necessary for their whakaaro[75] to be able to be included in this report, and care has been taken to try and ensure that the mana of their rangatahi has been maintained even if readers are not able to see the full context of whānau experience.

Section 71(2) of the Coroners Act 2006 states:

[75] Thought/s, opinion/s, understanding/s, idea/s

> If a coroner has found a death to be self-inflicted, no person may, without a coroner's authority or permission under section 72, make public a particular of the death other than—
>
> (a) the name, address, and occupation of the person concerned; and
>
> (b) the fact that the coroner has found the death to be self-inflicted.

Recently the Law Commission (2014) argued that mainstream media were the main target of this restriction and that social media has made such restrictions inappropriate. At least one whānau member involved in the collection of whānau suicide stories was very active on social media, and possibly in breach of the Act (although this was not examined in this research). The Law Commission spoke to people bereaved by family suicide and found they were concerned about inaccurate or oversimplified reporting of the circumstances behind the suicide. However,

> People bereaved by suicide sometimes wish to share their stories with the intent of helping other people in similar situations or of exposing poor practice in public institutions. Some felt that the current legislative prohibitions prevented them from speaking openly about their own experience of suicide. (Law Commission 2014, p 17)

Sharing stories of suicide may break a taboo and open up pathways for people bereaved by suicide to get support. It has been argued in the media that the suppression of these stories, largely because of contagion theory, has not helped to prevent suicides in this country.

Especially in relation to mental illness as a causative factor in suicide, the media has argued that 'if we can start to investigate this, to better understand mental illness, to recognise signs and start conversations about it, then maybe lives can be saved' (Quill 2014).

The Law Commission also described potential concerns about the reporting of uncorroborated family member accounts, along with an analysis that suggested the provisions in the Coroners Act were most likely to be breached when a family sought out or was targeted for media coverage, or when public institutions were being accused of failing a duty of care for the deceased. This last reason is particularly relevant in the whānau suicide stories collected here. Without evidence being weighed carefully by a coroner, whānau allegations of failures by CYF and Police as causative in the suicide of their rangatahi remain only allegations, with few opportunities for leveraging system change. On the other hand, the collection of a whānau suicide story for the purpose of a fuller review of a suicide death has the potential to lead to changes in system/agency responsiveness. This may also be helpful for whānau.

The whānau suicide stories that whānau told also dealt with the aftermath of the suicide of their rangatahi – the services and people who arrived at their house, how they were spoken to and treated by them, and what they remember about their own reactions and often their inability to take everything in and process what was going on. They also spoke about how things had been for them as a whānau since the loss of their rangatahi. In at least one case this part of the whānau suicide story added further hours to the journey the researcher took with whānau. While any investigation into the suicide of a rangatahi, or any person, might only focus on and need to hear a whānau suicide story up to the point of death or shortly

after, it was important within the context of at least this trialling of the whānau suicide stories method for the researcher to be fully present for the story that a whānau wanted to tell. A whānau consenting process might circumvent this post-suicide storytelling by signalling clearly to whānau that the interest of the person visiting with them is only in the time leading up to the suicide of their whānau member. However, when that story is complete and the recording facility has been shut down, does the interviewer then pack up their bags and leave? It is far more likely that they will sit, have another cup of tea, and ask after how the whānau is doing since their loss. So even if it is not part of an investigation, or being recorded, the time it takes to hear the full whānau suicide story that whānau want to tell needs to be taken into account. To cut whānau off because 'relevant' information has been acquired is at odds with the practices that guided the current work, particularly aroha ki te tangata.[76]

Each whānau was invited to provide feedback on the narrative that was developed from their stories. Time constraints meant that this process was more rushed than was ideal, and did not allow the researcher the opportunity to sit again with the whānau to take full cognisance of their additions, amendments and deletions. Given the fullness of the stories told by the whānau it would not have been surprising if they had then 'sanitised' the narratives they received, as this has occurred in other research (Hjelmeland et al 2012). They remained, however, steadfast in their resolve to give voice to the fullness of their story. The conclusion made here is that whānau will engage with researchers who come to them in a culturally responsive way to hear their whānau suicide story, especially when the kaupapa of the research is to try and make a difference for other whānau so that they might not experience the suicide of one of their rangatahi. It remains to be seen whether this method will work with whānau when a whānau member under the age of 14 or over the age of 24 years has died by suicide, or whether it will also be an appropriate method for gathering suicide stories from non-Māori families.

A limitation of the whānau suicide story collection methodology was the recruitment method used. While the 'snowball' method worked well in opening initial doors to whānau, and those whānau then opening doors to other whānau, it may limit the potential generalisability of any larger whānau suicide story study. A different approach might be needed if future SuMRC work involved the collection of a whānau suicide story as part of its review of a suicide. The collection of a whānau suicide story would be important, for example, in instances where the whānau have not been fully involved in a coroner's hearing and this creates a gap in the information available for review.

The recruitment used here may also compromise the confidentiality of whānau (as the referring whānau will know who the next whānau to be involved in the study is). This second point can, however, be dealt with in the participant information provided to whānau so that they know how the researcher 'found' them and that the referrer will know that they are potentially study participants. This will only be an issue in a research project involving whānau suicide stories and not if whānau suicide stories are included as part of the gathering of information for review purposes.

[76] 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.

Learning from the whānau suicide stories

Following all deaths by suicide in Aotearoa New Zealand, coroners undertake an investigation to determine intent. It is a way of gathering information about the circumstances leading to a sudden death with a view to determining whether the death was a suicide and what led the deceased to the desire to die. While the whānau of a rangatahi may provide evidence to a coroner's court, their involvement is variable as it depends upon the individual coroner. The Coroners Act states that the coroner must give the immediate family of a deceased person notice of significant events (section 23), with this giving immediate family the right to 'personally, or by counsel, attend an inquest and cross-examine witnesses' (section 89, 1(a)). The Act does not, however, give immediate family the right to give evidence at inquest. The data held in the CYMRC database about the whānau version of events may therefore be inconsistent.

The Coroners Act also charges coroners with the narrow task of finding the causes and circumstances leading to death, not the broader task of also unravelling the social factors contributing to suicide and measures required to prevent further suicides. From a whānau-centred perspective, this method can be limited because it can disregard whānau knowledge. Those bereaved by suicide express a very clear message that they want the stories of their deceased loved ones to be heard. They want them told by those who knew their loved ones, not retold by the professionals in agencies and services who dealt only with their social or health issues, and they want their own stories of bereavement heard.

Whānau suicide stories allow the focus to shift to those risk factors that often lie much deeper. It allows a much broader perspective than the one currently available to coroners. The lived experiences of whānau interaction with mental health services, Police, CYF, schools, emergency departments and general practitioners are all part of the stories that resulted in suicide. Their intimate knowledge of the life histories of those who died by suicide provide pieces of a puzzle not otherwise seen by professionals – sometimes despite the attempts of whānau to bring these stories to light. Whānau may in fact be the holders of 'the master key' and whānau suicide stories could be the mechanism to unlocking the doors and opening the minds behind them. The comparison of two of the whānau suicide stories with information in the CYMRC database during this research highlighted the absence of whānau information in the CYMRC database and also the absence of CYMRC database information in the whānau suicide story. Thus the two sources of information both confirmed and added information to one another.

Simply by hearing the stories of those who loved the person who chose to end their life, whānau suicide stories have the potential to be a truly reflective exercise into discovering the multifaceted causes and circumstances behind the deceased's perception that there was no other choice. 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 much greater consideration beyond the limitations of the SuMRC feasibility study.

Kaupapa Māori research methodology in mortality review

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 mortality review committees. Two key aspects of this study run counter to Kaupapa Māori.

First, mortality review committees legally own any data that they collect. This undermines the centrality of the whānau; it is difficult to reconcile how to have a mortality review committee 'owning' a story that is so central to a whānau's experience. In practice, the SuMRC considered that the stories were jointly owned. Whānau desires to disseminate their stories are therefore being considered, as part of the joint ownership thinking, but this process remains unfinished at the time of this report.

One of the key problems associated with the whānau suicide stories method, and a key issue here, is that it is was not possible, either ethically or legally, to report and publish the narrative stories in full as they contained potentially identifiable information about the rangatahi who had died. While the question of anonymity was not an issue for a number of consenting participants (on the contrary, some wanted the story to be made public), it remains an issue from a legal perspective. Individually identifiable data collected for mortality review committees under the NZPHDA cannot be released to the public.

Second, the tight timeframe of this feasibility study did not allow for appropriate discussion at various points throughout the study. There is a need for a realistic timeframe, cognisant of culturally safe process, to afford whānau Māori bereaved by suicide the opportunity of more than just 'participation'.

Overall, the experience of the whānau suicide stories is that mortality review in its current form does not easily support a Kaupapa Māori framework, and that further scoping work should be undertaken with the oversight of the Commission's Māori Caucus before a kaupapa approach is repeated. At the time of this report, the whānau suicide stories process has not been closed off. The SuMRC is prevented by legislation from publishing the full whānau stories that were gathered, but equally recognises its obligation to those whānau to use their stories according to the whānau's intentions. The SuMRC is continuing to work with whānau, the researchers and the Ministry of Health to explore ways to complete the storytelling process.

Chapter 5 Mental health service users

5.1 Overview

This chapter presents the findings for the mental health service users who died by suicide during the five-year period 2007–11. The first part of this chapter focuses on their demographic characteristics, use of government services, contact with government agencies, and the circumstances surrounding their deaths. The second part of this chapter focuses on a qualitative review of DHB and coronial inquiry records for a small subset of these mental health service users.

In organising this chapter, key tables have been presented alongside text. Additional tables, which are not key observations, are included in Appendix 6. For the purposes of this chapter, where the term 'mental health service user' is used on its own, it should be read to mean 'people under the age of 65 who had face-to-face contact with mental health services within the year before their death'.

5.1.1 Key observations from Tier 1 and Tier 2 data

- Numbers: 829 mental health service users died in the five-year period 2007–11.
- Employment status: A high proportion (40%) of these were unemployed at the time of death (for Māori 53%).
- Suicide methods: The three most common methods of suicide were hanging, strangulation and suffocation; use of other gases and vapours (including carbon monoxide poisoning); and overdose of medication (with opioids as the most common class of drug used).
- Location of fatal act: For two-thirds of mental health service users, the location of the fatal act was in the home.
- Alcohol: Alcohol was involved in almost a quarter of deaths, but this may be a conservative figure due to under-reporting.
- Police data: 416 (50%) had offences against the law; 14% within three months of death.
- Corrections data: One-third (31%) of mental health service users had files held by Corrections with 9% of these still actively serving (community-based or prison) sentences at the time of death. Fourteen died while in prison. Twenty-seven died less than three months after their last sentence started, and 21 died within three months of their last sentence ending.
- Mental health service contacts: The median number of mental health service contacts for the 90 days before death was 9 (mean = 17); 48% had contact with mental health services in the seven days before their death and 4% were new to services in the week before they died.

5.1.2 Key observations from the review of DHB and coronial inquiry records

The paper-based systems review focused on service use for a small number of people – those who died by hanging in a sample of DHBs. The demographic data shows that hanging

is a common method of suicide among both men and women. For the small sample used, the service use data shows that about half of people used few services in the 90 days before they died. This means for these people there may have been little room for mental health service intervention. However, about half used services intensely, providing more opportunity for intervention.

It is important to note that, as with most mortality review findings, the issues raised are about the system and policy, not about the performance of individuals.

From the review it was observed that for those most intense service users, the services appeared to offer more and more service contacts, with little perceived benefit.

Increased input from mental health services may indicate a service becoming distracted with other issues due to the complexity of the service user's needs (eg, alcohol or drugs, or physical health issues). This may lead to helplessness on the part of the service, losing sight of recovery and focusing narrowly on one type of treatment (applied in various ways) or employing a scattergun approach. When a service reacts to a person in a way that may be detrimental – for example, categorising them as non-compliant, 'badly behaved', well-known – a person may live up to that label. This is not conducive to a recovery approach.

Each service contact usually involves a risk assessment of some sort. For people who had little contact with services before they died, there may not have been adequate assessment of risk. People who used services intensely would have many assessments, however, and it is hard to see how repeated assessments would have benefited the person. If a person is being assessed frequently, then a service needs to ask the questions: Is the person's situation changing so frequently that this needs to happen, or does the service not know what else to do?

Most of the service users in the small sample had been using services for at least 90 days. They were known to mental health services. This means there should have been long-term care plans for each of them. This was not evident. There was still a sense of 'fire-fighting' – providing ad hoc care rather than being proactive. 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.

These observations have led to two recommendations in the report relating to:

- services being able to swiftly and accurately identify when care is not progressing to plan, and act in a timely way with the aim of assisting a person to recovery
- ensuring that processes for long-term care planning include examining how service users, their families and relevant other supports are engaged when suicide risk is judged to be increased.

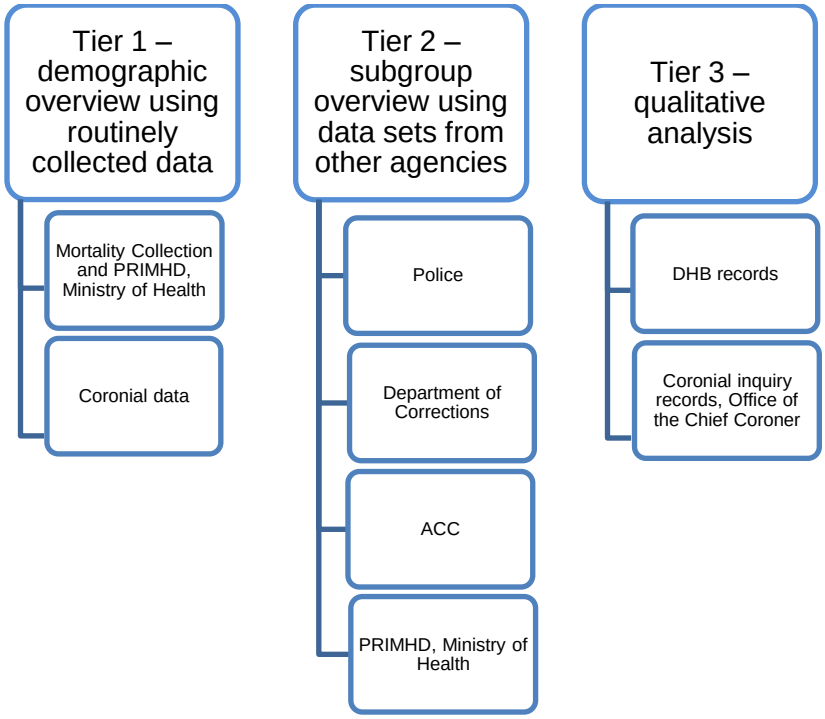
5.2 Methods

Three tiers of analysis were used for this group. Tier 1 consisted of a high-level demographic overview using routinely collected data. Tier 2 was a more specific subgroup overview using data sets from other government agencies. The third tier was a qualitative analysis of DHB and coronial inquiry records obtained for this part of the study.

For Tier 1 and Tier 2, identifiable data on the 829 mental health service users was requested from each agency and matched by unique identifiers. Tier 1 data is from the Ministry of Health's Mortality Collection, the Ministry of Health's PRIMHD data set and Coronial Services. The amount of data retrieved from the two sources varies, primarily because Coronial Services only provided information on closed cases. For the Mortality Collection, we received data on 829 mental health services users, whilst we only received data on 712 mental health service users from Coronial Services. For this reason, the source of data is clarified as needed when reported here.

The data used in Tier 2 is from the PRIMHD data set, Corrections, Police and ACC. For Tier 3, the qualitative system review, data on a small subset of the mental health service users was sourced from DHB and Office of the Chief Coroner records. The records selected for review were chosen because they had enough information to be deemed useable in order to trial the framework. The main criterion for this sample was to ensure a mix of DHB areas. No more than four records were chosen at random from any one DHB whose records were received. A total of 20 was chosen as this was deemed to be the number manageable given the tight time period.

Figure 5.1: Data sources for mental health service users analyses



Key tables and a brief interpretation are given in the body of this chapter, while additional data is provided in Appendix 6.

In places where small numbers made the identification of individuals possible, information has not been broken down by sex and ethnicity or other variables.

Note that '.' in all the tables in this chapter refers to zero observations in that category (not missing data).

5.2.1 Defining the subgroup

Mental health service users were defined as people under age 65 who had face-to face contact with mental health services within the year before their death. This excluded those who had used mental health services at some point, but not within a year of their death. There was some overlap between the mental health service users group and the other groups (see Table A6.1 in Appendix 6).

See Section 5.3.3 for more information on the case selection, data collection, and method of analysis used for the Tier 3 qualitative review.

5.3 Findings

5.3.1 Tier 1 – Demographic overview and details of the death event

There were 829 mental health service users who died by suicide between 1 January 2007 and 31 December 2011: 264 females (31.8%) and 565 males (68.2%). Of these, 163 (19.7%) were Māori, 666 (80.3%) were non-Māori, 2.7% were Pacific peoples and 3.6% were Asian (see Table 5.1).

Table 5.1: Prioritised ethnicity by sex for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	N	%	n	%	n	%
Prioritised ethnicity on Ministry of Health data										
European NFD*	20	7.6	43	7.6	.	.	63	9.5	**63**	7.6
NZ European/Pākehā	170	64.4	376	66.5	.	.	546	82.0	**546**	65.9
Māori	57	21.6	106	18.8	163	100.0	.	.	**163**	19.7
Pacific Island NFD	6	2.3	16	2.8	.	.	22	3.3	**22**	2.7
Asian NFD	11	4.2	19	3.4	.	.	30	4.5	**30**	3.6
Other ethnicity	.	.	5	0.9	.	.	5	0.8	**5**	0.6
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

* NFD = not further defined

Age group

The peak ages for death by suicide were 20–49 years, but not for Māori, who tended to die at the younger ages of 15–34 years. The number of deaths was greater for males than females for all but the age group 10–14 years (see Table 5.2).

Table 5.2: Age at death (five-year age groups) by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

Age at death	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
10–19 years*	29	10.9	45	8.0	31	19.1	43	6.5	**74**	8.9
20–24 years	24	9.1	74	13.1	25	15.3	73	11.0	**98**	11.8
25–29 years	31	11.7	72	12.7	32	19.6	71	10.7	**103**	12.4
30–34 years	21	8.0	73	12.9	21	12.9	73	11.0	**94**	11.3
35–39 years	31	11.7	57	10.1	16	9.8	72	10.8	**88**	10.6
40–44 years	35	13.3	66	11.7	14	8.6	87	13.1	**101**	12.2
45–49 years	39	14.8	72	12.7	9	5.5	102	15.3	**111**	13.4
50–54 years	23	8.7	45	8.0	9	5.5	59	8.9	**68**	8.2
55–59 years	17	6.4	36	6.4	3	1.8	50	7.5	**53**	6.4
60–64 years	14	5.3	25	4.4	3	1.8	36	5.4	**39**	4.7
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

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

Table A6.2 in Appendix 6 shows year of death by sex and ethnicity, and Table A6.3 shows month of death by sex and ethnicity.

Employment status

Coronial Services provided data for 712 of the mental health service users who died by suicide. Of those 712, 40.2% were unemployed, and a third (32.7%) were employed. Only 20% of the 141 who were Māori were employed, with 53% unemployed (see Table 5.3).

Table 5.3: Employment status by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=712) (coronial data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Employment status										
Employed	49	22.3	184	37.4	28	19.9	205	35.9	**233**	32.7
Home duties	18	8.2	.	.	5	3.5	13	2.3	**18**	2.5
Other	18	8.2	26	5.3	3	2.1	41	7.2	**44**	6.2
Prisoner	.	.	14	2.8	4	2.8	10	1.8	**14**	2.0

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Retired/pensioner	6	2.7	9	1.8	.	.	15	2.6	**15**	2.1
Still enquiring	1	0.5	4	0.8	1	0.7	4	0.7	**5**	0.7
Student	24	10.9	20	4.1	14	9.9	30	5.3	**44**	6.2
Unemployed	83	37.7	203	41.3	75	53.2	211	37.0	**286**	40.2
Unlikely to be known	21	9.5	32	6.5	11	7.8	42	7.4	**53**	7.4
Total	**220**	100.0	**492**	100.0	**141**	100.0	**571**	100.0	**712**	100.0

Method of suicide

The most common method of suicide was hanging, strangulation and suffocation (47.7% of females, 61.6% of males, 75.5% of Māori and 52.7% of non-Māori). The next most common method was the use of other gases and vapours, including carbon monoxide poisoning (12.5%), though less common for females (9.1%) and Māori (4.3%) (see Table 5.4, and see Table A6.4 in Appendix 6).

When deaths attributed to overdoses of medication (usually over-the-counter or prescription) were grouped by types of medication (eg, non-opioid analgesics, antipyretics and anti-rheumatics), there was little difference in the overall number who died by overdose of medication (n=110) and those by who died by non-medication poisoning, which included the use of other gases and vapours (n=114). Non-medication poisoning was the second most common method for males and non-Māori. For females and Māori, however, overdose of medication was the second most common method. Non-Māori men were the group most likely to die using firearms, comprising 28 out of 30 (93%) firearm deaths.

Table 5.4: Method of suicide (grouped) by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Method of suicide										
Overdose of medication	62	23.5	48	8.5	19	11.7	91	13.7	**110**	13.3
Non-medication 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

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Sharp object	3	1.1	6	1.1	.	.	9	1.4	**9**	1.1
Firearm discharge	2	0.8	28	5.0	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**	1.0
Other specified means	3	1.1	2	0.4	.	.	5	0.8	**5**	0.6
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

In 78 of the 110 cases where the method was an overdose of medication, the coroners' reports specified the drug or drugs used (as contributing to death). The data collected on specific combinations of overdosed medications is not included in this report.

Circumstances of death

The most common location of the fatal act was in the home, with the garage the most common site within the home. It is difficult to be precise about the number of people who died as patients in mental health wards because of the way this data is coded. 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' (see Table 5.5, and see Table A6.5 in Appendix 6). On other occasions the location has been coded 'residential institution'.

Table 5.5: Location of fatal act (grouped) by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Location of fatal act										
Home	176	66.7	376	66.5	114	69.9	438	65.8	**552**	66.6
Residential institution	6	2.3	19	3.4	6	3.7	19	2.9	**25**	3.0
School, other institution and public administrative area	13	4.9	12	2.1	6	3.7	19	2.9	**25**	3.0
Sports and athletics area	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Street and highway	8	3.0	24	4.2	4	2.5	28	4.2	**32**	3.9
Trade and service area	5	1.9	12	2.1	2	1.2	15	2.3	**17**	2.1
Industrial and construction area	1	0.4	6	1.1	1	0.6	6	0.9	**7**	0.8

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Farm	1	0.4	9	1.6	2	1.2	8	1.2	**10**	1.2
Other specified place of occurrence	35	13.3	72	12.7	17	10.4	90	13.5	**107**	12.9
Unspecified place of occurrence	14	5.3	31	5.5	10	6.1	35	5.3	**45**	5.4
Code missing	5	1.9	3	0.5	1	0.6	7	1.1	**8**	1.0
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.6 in Appendix 6 shows DHB on mortality file by sex and ethnicity.

Alcohol and other drugs

Information on alcohol and/or drug involvement is from the Ministry of Health's Mortality Collection. Limited testing makes it difficult to draw any conclusions about the roles of alcohol and other drugs in deaths by suicide.

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).

Information on cannabis and prescription drugs involvement is coded as 'Yes' or 'No'. If the value is 'Yes' it means that '[i] the death was referred to the coroner and the coroner, Police, post-mortem report or toxicology report indicate that the deceased had taken/used cannabis before their death; or [ii] the Police/coroner's report details evidence of cannabis use or poisoning prior to death' (Ministry of Health 2009, p 40).

About 23% of mental health service user deaths involved alcohol, and about 14% involved a trace of alcohol. Alcohol was not involved with 26% of deaths (see Table 5.6). We cannot be sure of the involvement of alcohol for more than 37% of deaths due to this information being unknown or not stated.

Table 5.6: Involvement of alcohol in the death by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Alcohol involved										
No	67	25.4	145	25.7	43	26.4	169	25.4	**212**	25.6

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Not available	8	3.0	12	2.1	8	4.9	12	1.8	**20**	2.4
Not stated	88	33.3	195	34.5	54	33.1	229	34.4	**283**	34.1
Not tested	3	1.1	9	1.6	1	0.6	11	1.7	**12**	1.4
Trace	35	13.3	79	14.0	23	14.1	91	13.7	**114**	13.8
Yes	63	23.9	125	22.1	34	20.9	154	23.1	**188**	22.7
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Cannabis was detected in about 5% of all deaths, and about 11% for all Māori deaths (see Table 5.7). We cannot be sure of the involvement of cannabis for more than 72% of deaths due to this information being unknown.

Table 5.7: Involvement of cannabis in the death by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Cannabis involved										
No	52	19.7	133	23.5	34	20.9	151	22.7	**185**	22.3
Unknown	199	75.4	403	71.3	111	68.1	491	73.7	**602**	72.6
Yes	13	4.9	29	5.1	18	11.0	24	3.6	**42**	5.1
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Prescription and/or pharmacy drugs were involved in 10% of deaths, and this was higher for females (15.9%) than males (7.6%) (see Table 5.8). We cannot be sure of the involvement of prescription and/or pharmacy drugs for 73% of deaths due to this information being unknown.

These numbers on the involvement of prescription and/or pharmacy drugs (in 10% of deaths) appear low in relation to the number of people who died from a medication overdose (n=110; see Table 5.4). This discrepancy may be explained by the lack of testing for alcohol and other drug use and limitations in the Ministry of Health data set.

Table 5.8: Involvement of prescription/pharmacy drugs in the death by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Prescription/pharmacy drugs involved										
No	30	11.4	107	18.9	36	22.1	101	15.2	**137**	16.5
Unknown	192	72.7	415	73.5	112	68.7	495	74.3	**607**	73.2
Yes	42	15.9	43	7.6	15	9.2	70	10.5	**85**	10.3
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

See Table A6.7, Table A6.8 and Table A6.9 in Appendix 6 for information on illicit drugs, volatile substance and other drugs.

5.3.2 Tier 2 – Agency interaction profile of mental health service users who have died by suicide

Police data[77]

Data was received for four types of contact with Police: subject of incident, witness/bystander, victim or offender. Only data on offences was used. The earliest dates in the Police data are from 1959, although here we are only reporting offences within the last 10 years of a person's life. Half (n=416/829, 50%) of mental health service users were recorded as having an offence.[78]

Police advise that the offences data under-records actual offences, and other data provided by Police would be worth investigating further. This is especially the case for National Intelligence Application Occurrences data, which provides information on the role in offence (ie, victim, perpetrator or witness/bystander).

Most recent offence

In the mental health service user subgroup, 14.1% (n=117/829) had an offence less than three months before they died – 17 people (n=17/829, 2%) in the last week before death (see Table 5.9). For about 33% of the mental health service users, their most recent offence occurred more than one year prior to their death.

[77] All references to 'offenders' and 'offences' are 'alleged offenders' and 'alleged offences'.

[78] The SuMRC sought to gather some comparison data on how many members of the general public might have Police records or be recorded as having an offence. Data is available in the Statistics New Zealand IDI that could be used to calculate this in future.

Table 5.9: Most recent offences by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=416) (Police data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n=	%	n=	%
Most recent offence										
≤1 week	2	2.0	15	4.7	7	6.3	10	3.3	**17**	4.1
>1 ≤2 weeks	2	2.0	10	3.2	3	2.7	9	3.0	**12**	2.9
>2 ≤4 weeks	5	5.0	19	6.0	4	3.6	20	6.6	**24**	5.8
>4 ≤13 weeks	20	20.0	44	13.9	22	19.8	42	13.8	**64**	15.4
>13 ≤26 weeks	5	5.0	43	13.6	9	8.1	39	12.8	**48**	11.5
6 months – 1 year	21	21.0	45	14.2	11	9.9	55	18.0	**66**	15.9
>1 ≤10 years	29	29.0	109	34.5	39	35.1	99	32.5	**138**	33.2
Missing date	16	16.0	28	8.9	16	14.4	28	9.2	**44**	10.6
Invalid date	.	.	3	0.9	.	.	3	1.0	**3**	0.7
Total	**100**	100.0	**316**	100.0	**111**	100.0	**305**	100.0	**416**	100.0

Those with the greatest mean number of offences were males, Māori, and young people aged 15–24 and 25–34 (see Table 5.10 and Table 5.11).

Table 5.10: Sex and ethnicity by offences for mental health service users who died by suicide, 2007–11 (n=416 people with 3371 offences) (Police data)

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Sex			
Females	100	641	6.4
Males	316	2730	8.6
Ethnicity			
Māori	111	1116	10.1
Non-Māori	305	2255	7.4

Note: The number of offences was not evenly distributed among the individual offenders (ie, consistent with other offence-based analysis, some had a greater number of offences than others). For males, the mean was 8.6 and the median was 4. For Māori, the mean was 10.1 and the median was 5.

Table 5.11: Age at death by offences for mental health service users who died by suicide, 2007–11 (n=416 people with 3371 offences) (Police data)

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Age at death			
10–14 years	2	6	3.0
15–24 years	118	1234	10.5
25–34 years	128	1194	9.3
35–44 years	83	604	7.3
45–54 years	60	254	4.2
55–64 years	25	79	3.2

Note: The number of offences was not evenly distributed among the individual offenders (ie, some had a greater number of offences than others). For 15–24 years, the mean was 10.5 and the median was 6. For 25–34 years, the mean was 9.3 and the median was 5.

Type of offences

For these 416 mental health service users, 216 had offences that would be placed in the 'violence' category (see Table 5.12), which includes the specific offence types of homicide, kidnapping/abduction, robbery, grievous assaults, serious assaults, minor assaults, intimidation/threats, and group assemblies.

Across specific offence types, serious assaults (n=123), disorder (n=122), theft (n=110), property damage (n=106) and intimidation/threats (n=100) were the most common types of offences (see Table A6.10 in Appendix 6 for more information on the specific offence types that are found in each general offence category).

Table 5.12: General offence category by offences for mental health service users who died by suicide, 2007–11 (n=416 people with 3371 offences) (Police data)

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
General offence category			
Violence	216	745	3.4
Sexual	25	92	3.7
Drugs/antisocial	188	514	2.7
Dishonesty	162	790	4.9
Property damage	115	259	2.3

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Misc/admin/unknown	288	971	3.4

Department of Corrections data

Data on sentences was sourced from Corrections and covered two types of sentences.[79] The first type is a community-based sentence, which includes offenders who are on probation who are able to serve their sentences and/or carry out the orders imposed on them while remaining in the community. There are a range of community-based sentences and orders that can be imposed, such as community work, community detention, home detention and supervision. Each sentence/order has its own specific conditions. The second type of sentence is a prison sentence. The earliest sentence start date in the Corrections data is 1968, but most are from 1974 onwards. The latest sentence start date in the Corrections data is 2011.

In this chapter we discuss three groups who have files held by Corrections:

- those not serving a sentence at the time of death (ie, 'not active')
- those serving a community-based sentence at the time of death (ie, 'active')
- those serving a prison sentence at the time of death (ie, 'active').

Number with files held by Corrections

Of the 829 mental health service users, a third (n=259/829, 31.2%) had files on them held by Corrections.

Start and end of sentences

Of the 259 that were known to Corrections, 49 did not have start and end of sentence details recorded. This left 210 mental health service users with recorded sentence information.

Seventy-six (n=76/829, 9.2%) were still on sentence when they died.

Twenty-seven (12.9%) of the 210 sentenced died within three months (ie, 13 weeks) of their last sentence starting. This percentage was lower for females (7.3%) and Māori (8.8%) (see Table 5.13).

[79] Two different data sets were supplied by Corrections. There are discrepancies in this data. For example, 62 people had active Corrections data, but 76 people were still on sentence. Corrections data needs further cleaning and analysis before conclusions can be drawn.

Table 5.13: Time of death in relation to start of last sentence by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=210) (Corrections data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Time of death in relation to start of last sentence										
≤1 week	.	.	3	1.8	.	.	3	2.0	**3**	1.4
>1 ≤2 weeks	.	.	1	0.6	1	1.8	.	.	**1**	0.5
>2 ≤4 weeks	1	2.4	5	3.0	.	.	6	3.9	**6**	2.9
>4 ≤13 weeks	2	4.9	15	8.9	4	7.0	13	8.5	**17**	8.1
>13 ≤26 weeks	2	4.9	23	13.6	8	14.0	17	11.1	**25**	11.9
6 months – 1 year	9	22.0	27	16.0	11	19.3	25	16.3	**36**	17.1
>1 year	26	63.4	95	56.2	33	57.9	88	57.5	**121**	57.6
Invalid date	1	2.4	.	.	.	.	1	0.7	**1**	0.5
Total	**41**	100.0	**169**	100.0	**57**	100.0	**153**	100.0	**210**	100.0

Note: Some offenders had more than one sentence, but we have only considered the latest sentence.

In considering time of death in relation to the end of the last sentence, 21 (10%) of the 210 died within 3 months (ie, 13 weeks) of their last sentence finishing. This was higher for females (17.1%) and non-Māori (12.4%) (see Table 5.14).

Table 5.14: Time of death in relation to end of last sentence by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=210) (Corrections data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Time of death in relation to end of last sentence										
Still on sentence	12	29.3	64	37.9	24	42.1	52	34.0	**76***	36.2
≤1 week	3	7.3	2	1.2	1	1.8	4	2.6	**5**	2.4
>2 ≤4 weeks	2	4.9	2	1.2	.	.	4	2.6	**4**	1.9
>4 ≤13 weeks	2	4.9	10	5.9	1	1.8	11	7.2	**12**	5.7
>13 ≤26 weeks	2	4.9	9	5.3	4	7.0	7	4.6	**11**	5.2
6 months – 1 year	3	7.3	15	8.9	7	12.3	11	7.2	**18**	8.6
>1 year	16	39.0	66	39.1	20	35.1	62	40.5	**82**	39.0

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Invalid date	1	2.4	1	0.6	.	.	2	1.3	**2**	1.0
Total	**41**	100.0	**169**	100.0	**57**	100.0	**153**	100.0	**210**	100.0

Note: Some offenders had more than one sentence, but we have only considered the latest sentence.

Category of offending

'Traffic and vehicle regulatory offences' was the main offence for this subgroup, followed by 'acts intended to cause injury' and 'offences against justice' (see Table 5.15). These three categories accounted for 106 persons.

Table 5.15: Category of offending for mental health service users who died by suicide, 2007–11 (n=259) (Corrections data)

	n	%
Category of offending		
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**	100.0

Number of sentences

Ninety-eight mental health service users had unique imprisonment sentences; the number of these unique imprisonment sentences ranged from one to 19 per person (see Table 5.16). Meanwhile, 196 mental health service users had unique community-based sentences; the number of these unique community-based sentences ranged from one to 29 per person (see Table 5.17).

Table 5.16: Number of unique imprisonment sentences for mental health service users who died by suicide, 2007–11 (n=259) (Corrections data)

	n	%
Number of sentences for mental health service users		
Missing	51	19.7
0	110	42.5
1–4	84	32.4
5–9	9	3.5
10–14	4	1.5
15–19	1	0.4
Total	**259**	100.0

Note: The 110 offenders with zero unique imprisonment sentences are included in the data because they would have had unique community-based sentences rather than unique imprisonment sentences.

Table 5.17: Number of unique community-based sentences for mental health service users who died by suicide, 2007–11 (n=259) (Corrections data)

	n	%
Number of sentences		
Missing	51	19.7
0	12	4.6
1–4	113	43.6
5–9	49	18.9
10–14	21	8.1
15–19	7	2.7
20–29	6	2.3
Total	**259**	100.0

Note: The 12 offenders with zero unique community-based sentences are included in the data because they would have had unique imprisonment sentences rather than unique community-based sentences.

ACC data

Eight hundred and seventeen mental health service users had ACC claims. Most had less than 10 ACC claims in the time period covered by ACC (since 1 April 1974) (see Table 5.18).

ACC data is hard to interpret due to ACC policy changes during the period 2007–11. At various times people were covered by ACC for 'wilful self-injury' (including suicide) and at other times were not. This means that some of the fatal claims of people who died by suicide are covered in the statistics and some are not.

Table 5.18: Number of ACC claims by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=817) (ACC data)

	Sex				**Ethnicity**					
	Females		Males		Māori		Non-Māori		**Total**	
	n	%	n	%	n	%	n	%	n	%
Number of claims										
1–4	71	27.5	122	21.8	39	24.2	154	23.5	**193**	23.6
5–9	84	32.6	179	32.0	54	33.5	209	31.9	**263**	32.2
10–14	52	20.2	122	21.8	39	24.2	135	20.6	**174**	21.3
15–19	23	8.9	57	10.2	18	11.2	62	9.5	**80**	9.8
20–29	21	8.1	54	9.7	8	5.0	67	10.2	**75**	9.2
30–39	4	1.6	17	3.0	1	0.6	20	3.0	**21**	2.6
40+	3	1.2	8	1.4	2	1.2	9	1.4	**11**	1.3
Total	**258**	100.0	**559**	100.0	**161**	100.0	**656**	100.0	**817**	100.0

Mental health service user data

Contacts with mental health services

The PRIMHD database records mental health service contacts going back to July 2008 according to 'activity settings', which include everything from phone calls to inpatient stays.[80]

The median number of service contacts within 90 days of death for mental health service users was 9.0 (mean 16.9, minimum 1, maximum 236), meaning a service contact about once every 10 days. There was a median of 4.0 telephone contacts, 4.0 onsite community

[80] The quality of the PRIMHD service use data is patchy, some data is missing, and some is incorrect (eg, there are negative values). For some inpatient stays, when a person comes out of seclusion, it is regarded as a new inpatient stay, making the data hard to interpret. The service use graphs illustrate some of these problems. When comparing the data against the qualitative information available on the individual's service use, several service contacts were missing – usually emergency department visits or telephone contacts. The deficiencies with this data mean that there are issues with one graph (Person 15 in Figure 5.2) where the dates of service contact may be incorrect.

mental health team appointments, and 3.0 community mental health team home visits (ie, domiciliary) (see Table 5.19).

Table 5.19: Contact with mental health services within 90 days before death by activity setting code for mental health service users who died by suicide, 2007–11 (PRIMHD data)

	Number of records				
	n	Min	Mean	Median	Max
Activity setting*					
AV: Audio visual	4	1	4.5	3.5	10
CM: Community	114	1	5.3	2.0	49
CO: Non-Māori cultural setting	1	1	1.0	1.0	1
CR: Community residential	24	1	5.6	3.0	50
CT: Court	31	1	2.5	1.0	15
DM: Domiciliary	239	1	5.5	3.0	83
DP: Day consumer setting	18	1	5.1	2.0	41
ED: Emergency department	76	1	1.8	1.0	7
IP: Inpatient	161	1	4.6	3.0	26
MC: Māori cultural setting	9	1	6.6	1.0	27
NP: Non-psychiatric	56	1	3.2	2.0	45
OL: Other location	47	1	6.1	3.0	77
OS: Onsite	535	1	7.1	4.0	79
PH: Telephone†	413	1	7.3	4.0	126
PR: Prison	57	1	1.9	1.0	8
RE: Residential	62	1	3.7	2.0	30
RU: Rural	6	1	4.3	2.5	13
SM: SMS text messaging	8	1	3.6	2.0	17
WR: Written correspondence	50	1	2.5	2.0	10
Missing/Unknown	13	1	2.0	1.0	7

* Definitions of activity settings include:

- AV: Audio visual = services provided over a television or video-conference link
- CM: Community = services provided to a consumer in a non-hospital setting which is not specifically covered by any of the other definitions
- CR: Community residential = services provided in mental health residential settings that are deemed to be community not domiciliary
- DM: Domiciliary = services provided to a consumer in their own home or place of residence
- DP: Day consumer setting = services provided to day consumers at a day hospital on a hospital site
- IP: Inpatient = services provided in a hospital setting while the consumer is an inpatient
- MC: Māori cultural setting = services provided in a setting working under Kaupapa Māori

- NP: Non-psychiatric = services provided in other parts of hospital
- OS: Onsite = services provided in a mental health or alcohol and drug service that is the clinician's place of work, not specifically covered by any of the other definitions
- PR: Prison = services provided in a Prison, including police cells
- RE: Residential = services provided in a community-based residential rehabilitative mental health or alcohol and drug service
- RU: Rural = services provided in a community-based rural rehabilitative mental health or alcohol and drug service
- WR: Written correspondence = services proved via letter, fax or email.

† Telephone, SMS text messaging and written correspondence are for significant contacts, not including sending out appointment times, etc.

In the seven days before death, 48% (n=398/829) of 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).

Contacts with mental health services for a sample of service users

Service use data (sourced from PRIMHD) for 90 days before death was visually summarised for the 20 members of the sample group identified in section 5.3.3.

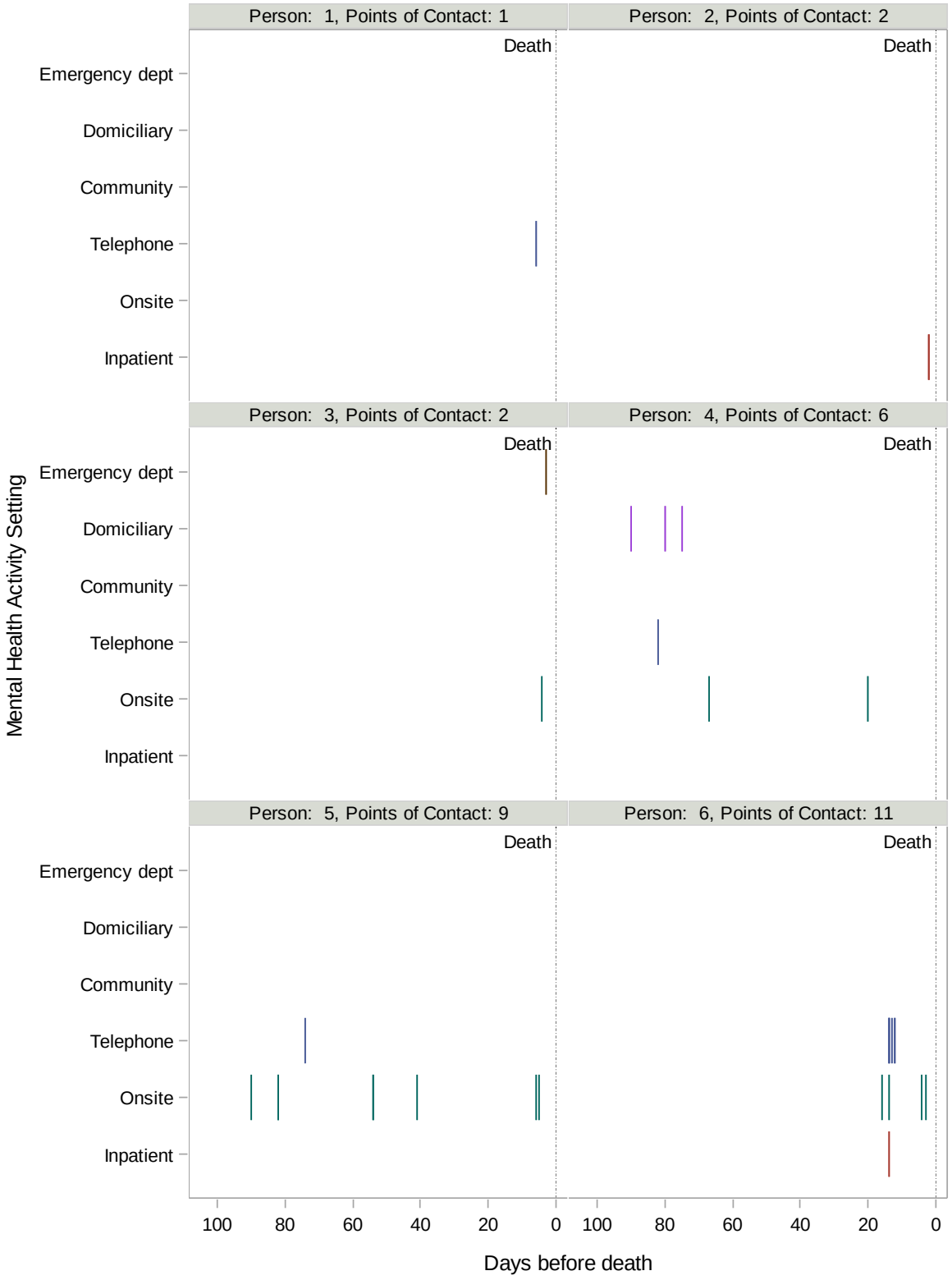
The summaries presented in Figure 5.2 show the variation in density of service use for six types of mental health services, from little activity to very high levels of activity within the 90 days before death. Nine people accessed 'few' mental health services (having 13 or less discrete points of contact with mental health services), while the other 11 accessed 'many' services (having 32 or more discrete points of contact with mental health services).

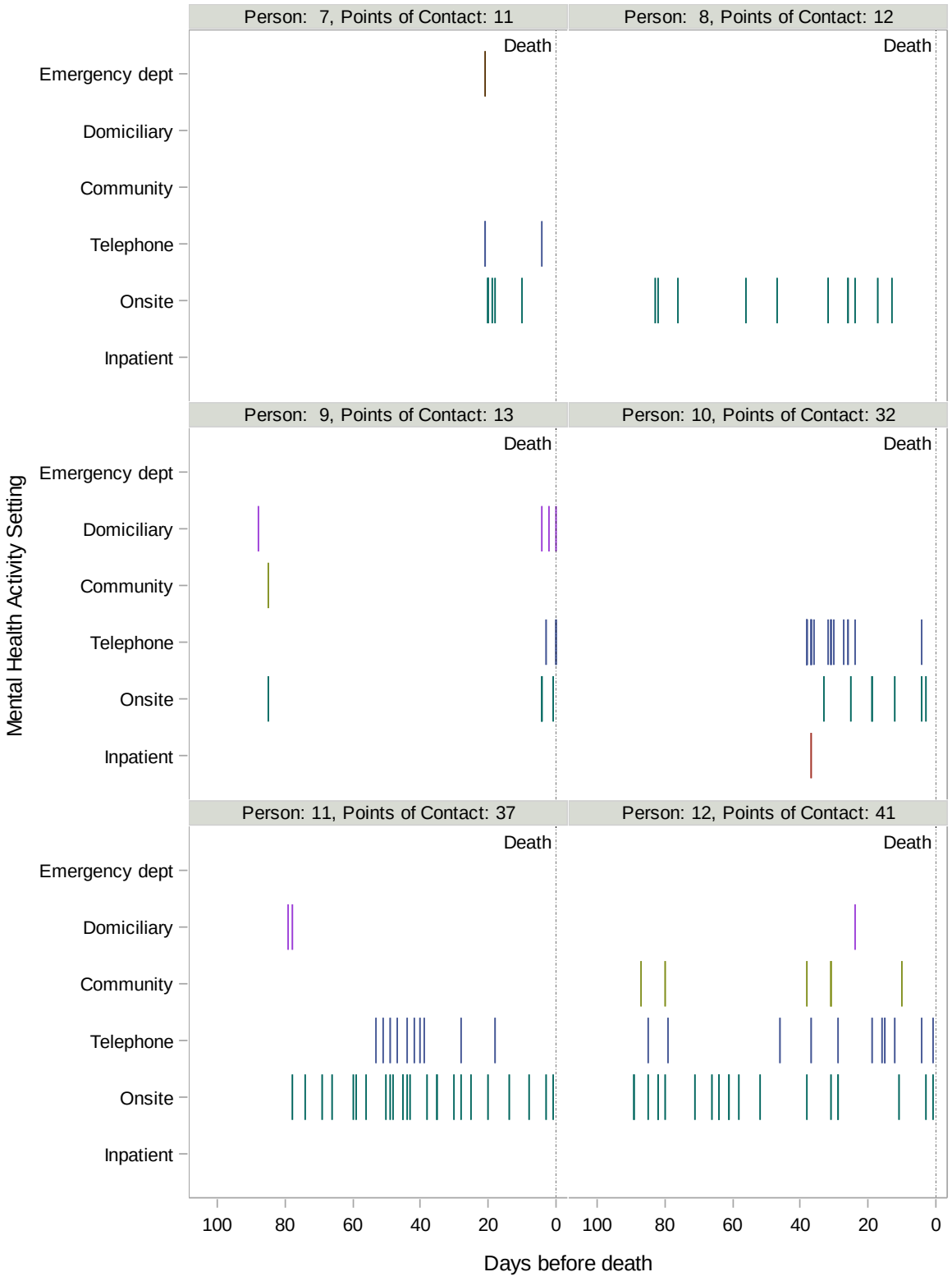
Notes for the summaries:

- There are two summaries across each page, six in total for each page.
- Each summary has a heading: 'Person: X' (to confirm who the summary relates to) and 'Days of Service Use: Y' (to summarise the number of discrete points of contact of service use the person has had in the 90 days before death).
- On the far right of each summary is a dotted line marking the date of death. This may overlap a service use line when the person has died on the same day as using a service.
- Six types of service were selected to be summarised. These are listed on the *y*-axis.
  - Emergency department = services provided in a hospital-based emergency department
  - Domiciliary = services provided to a consumer in their own home or place of residence
  - Community = services provided to a consumer in a non-hospital setting which is not specifically covered by any of the other activity setting definitions
  - Telephone = services provided where the contact with the service user is a clinically significant telephone call (at least 5 minutes)

  - Onsite = services provided in a mental health or alcohol and drug service that is the clinician's place of work, and not specifically covered by any of the other definitions
  - Inpatient = services provided in a hospital setting while the consumer is an inpatient.
- The scale on the *x*-axis runs from 100 days before death to zero days before death. The data used for this summary starts at 90 days before death.
- The 'points of service use' will add up to the number of lines visible on the summary plus the number of days covered by an inpatient stay (which appears as a block as it generally covers more than one day). At times, some bars may be overlaid if they are only one day apart and for the same service contract.
- There are obvious problems with the summary for Person 15, as there appears to be blocks of service use where these should not exist (eg, onsite community mental health team visits). When comparing this person's service use history with that stated in their DHB inquiry report there were several discrepancies. This graph was left in to illustrate some of the problems with the PRIMHD data.
- There were some errors in other summaries. When the PRIMHD data was compared to service use history in DHB inquiry records, there was, in many cases, an under-estimate in the PRIMHD service use data. The most common missing contacts were telephone calls and mental health related emergency department visits.

Figure 5.2: Summary of mental health service contacts for 20 mental health service users who died by suicide, 2007–11

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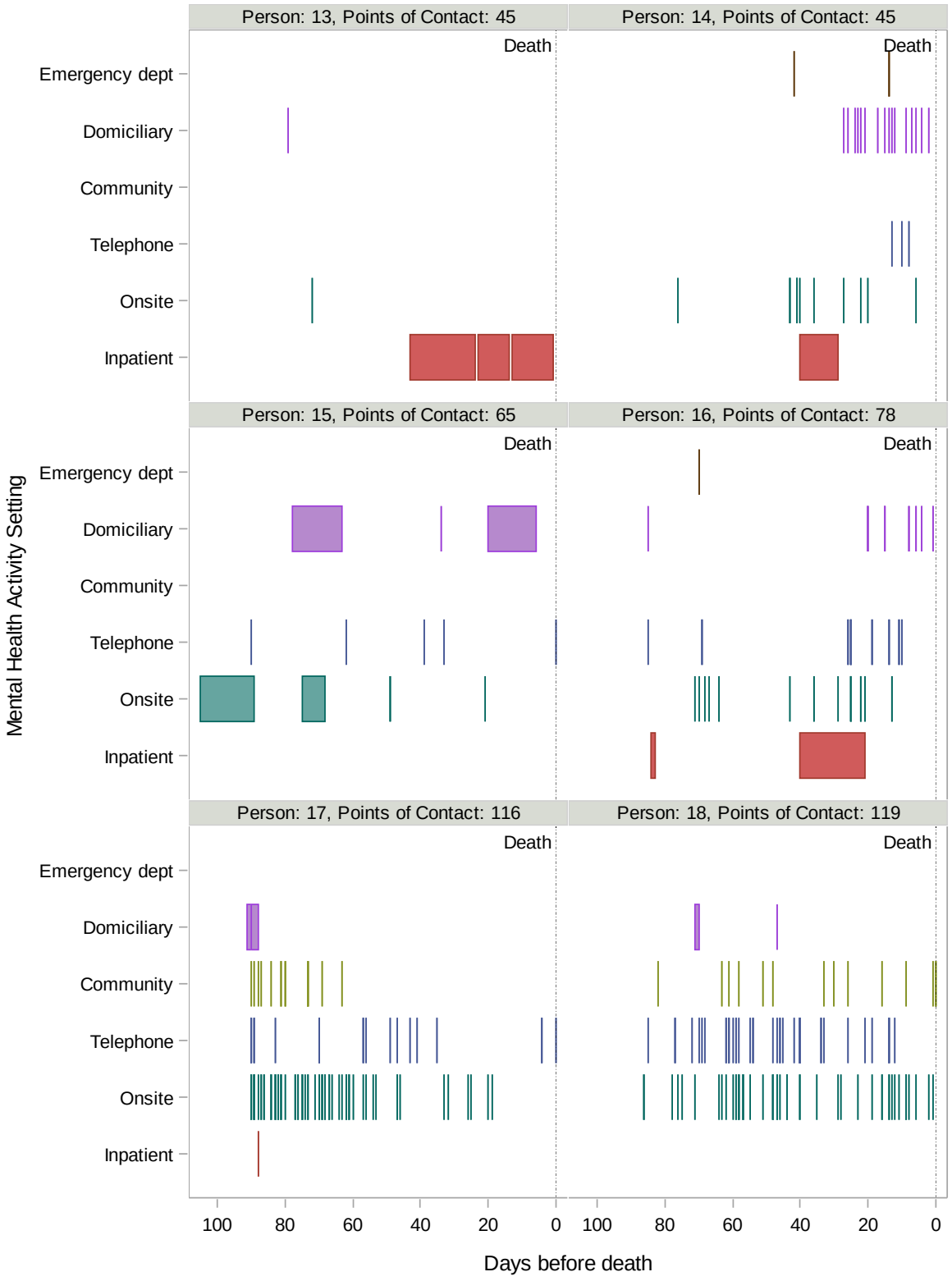
Person: 8, Points of Contact: 12
Person: 9, Points of Contact: 13
Person: 10, Points of Contact: 32
Person: 11, Points of Contact: 37
Person: 12, Points of Contact: 41
Death
Emergency dept
Domiciliary
Community
Telephone
Onsite
Inpatient
Mental Health Activity Setting
100
80
60
40
20
0
Days before death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Person: 14, Points of Contact: 45
Person: 15, Points of Contact: 65
Person: 16, Points of Contact: 78
Person: 17, Points of Contact: 116
Person: 18, Points of Contact: 119
Death
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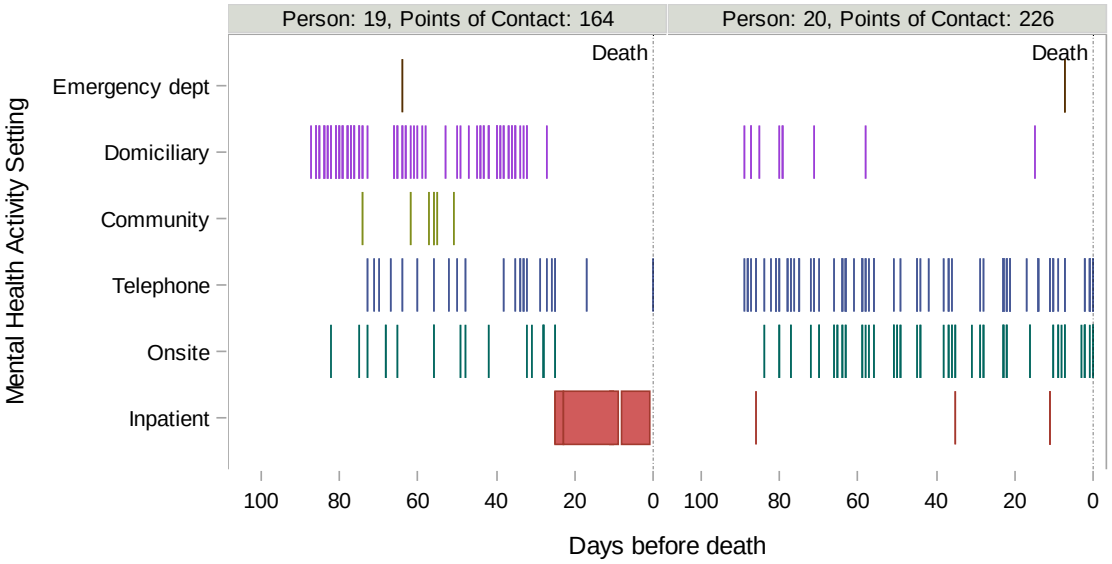
Domiciliary
Community
Telephone
Onsite
Inpatient
Mental Health Activity Setting
100
80
60
40
20
0
Days before death



5.3.3 Tier 3 – Qualitative review of DHB and coronial inquiry records

A key difference between the mental health service users and the other subgroups is that there are DHB and other inquiry records as possible sources of data. Therefore, the trial sought to assess whether a qualitative analysis of both coronial and DHB inquiries may provide additional information regarding factors contributing to suicides.

The aims of the qualitative 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)
- to evaluate the framework in terms of a) extracting useful data, and b) contributing to a paper-based systems review of suicides in this group.

Modes of inquiry for DHB and other agency reviews

Internal agency reviews (eg, DHB reviews) and coronial inquiry records have the potential to provide a wealth of information about the circumstances in which a service user has died by suicide. The information collected from the reviews is important to service providers for improving patient safety.

One of the first, widely-utilised patient safety models was James Reason's 'Swiss Cheese Model' (2000), which was developed from the needs of high-stake industries such as aviation. Its main premise is that in any human system, barriers are developed to prevent hazards, but these barriers can have unintended weaknesses (like holes in Swiss cheese). When by chance these weaknesses align, the hazard has an opportunity to cause harm (Perneger 2005).

Based on Reason's model, a form of root cause analysis (Iedema et al 2006; Nicolini et al 2011; Wu et al 2008) was adapted for health care use. Root cause analysis is a practical approach that seeks to answer three questions: 'what happened, why did it happen, and

what can be done to prevent it from happening again?' (Wu et al 2008, p 685). The methods that constitute this approach are not prescriptive, however, and may vary. Root cause analysis was used as a base for most DHB suicide inquiries up until 2012.

Since 2012, the London protocol (Taylor-Adams and Vincent nd) has been recommended as the basis for DHB suicide inquiries. This protocol is sometimes seen as a specific form of root cause analysis (Nicolini et al 2011), although the developers state their approach is a 'systems analysis' (Taylor-Adams and Vincent nd).

The key activities outlined in a London protocol investigation are identifying and deciding to investigate, selecting people for the investigation team, organising and gathering data, determining incident chronology, identifying care delivery problems, identifying contributing factors, making recommendations and developing an action plan (Taylor-Adams and Vincent nd). The specificity of the protocol is appealing in that it allows for consistency of reporting between people and organisations.

Case selection and data collection

The overall mental health subgroup sample was 829 individual service users who died by suicide, but for this qualitative review of DHB and coronial records, the research focus narrowed to the 474 who died by hanging. People who died by hanging were chosen because it was the most common cause of death in the 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.

Homogenous sampling, as opposed to random sampling, is a means of focusing in depth on part of a wider sample (Patton 2002). By focusing on people who had died by hanging, the researchers expected to find out more than if they were scattering efforts on a random sample of people who used mental health services who had died by any means of suicide, and who may have had little in common.

There were three groups of records that the researchers aimed to sample for this part of the study – coronial records, DHB internal inquiry records, and Ministry of Health reportable events records. These were chosen due to their being accessible within the short timeframe and the depth of information they contained.

Coronial records

Coroners also review suicide deaths and as part of this, DHBs may be asked to review their services to the individual who has died for the purpose of giving evidence at coronial hearings. Section 57 of the Coroners Act 2006 sets out the first purpose of a coroner's inquiry. This is to establish 'a) that a person has died; b) the person's identity; c) when and where the person died; d) the causes of the death; and e) the circumstances of the death'. Coroners also make recommendations to reduce the chances of the occurrence of other deaths.

The researchers focused on coronial findings that included recommendations, as this meant the coroner considered there were issues to be addressed concerning the person's death. Most of these recommendations were in regard to mental health services so the reports could tell us more about the nature of the 'system' being examined.

In the period 2007–11 the coroner made recommendations for 58 of the 829 deaths that they reported on for the service users who were part of this study. These reports were requested, and 55 were obtained. Three reports were unable to be supplied by the Office of the Chief Coroner. Thirty-eight of the reports were for deaths by hanging, suffocating or drowning. The aim was to analyse all 55 of these reports to compare reports where people had died by hanging and those who had not.

DHB internal inquiry records

In New Zealand, the Ministry of Health regards the suicide of a mental health service user as a serious adverse event. When such a suicide occurs, inquiries are made as to the circumstances surrounding the death with a view to preventing future events.

The Ministry of Health requires DHBs to review a death if a service user has died by suicide having had contact with the DHB's mental health services within a fixed period of time. Since 2012, the period under scrutiny has been less than 28 days; prior to this it was seven days.

As noted above, the prime reason for DHB reviews is one of improving patient safety, and these are undertaken from this perspective. Such quality improvement methods begin with a description of what happens when an incident occurs in a health service, and provide a framework for understanding what has gone wrong (if anything) and how future incidents can be prevented.

The researchers wrote to each DHB to ask them for copies of any internal investigations they had undertaken in regard to suicide deaths by hanging by people who had died within a month of using their services between 2007 and 2011. They chose a month as there is now a requirement for deaths within a month of service use to be reported on by DHBs, although this was not the case during the time period on which they were focusing. There were 320 potential reports from 20 DHBs and 102 reports were received from 10 DHBs. Seventeen of these reports from four DHBs could not be included in the sample as they did not arrive in time to be analysed.

From the 85 reports that were received in time for the analysis, 30 were considered to not be useable as they did not contain enough detail about the person or contained only recommendations. Some contained only a short summary and a list of action points. This left 55 to work with.

Ministry of Health reportable events records

While not fully explored in this study, it is important to note that the Ministry of Health's Office of the Director of Mental Health maintains a database of 'reportable events'. These are distinct from the adverse event reports that DHBs are required to make to the Commission. The Ministry of Health noted in communication to the research team that:

> All serious incidents are recorded in our reportable event database. It is a statutory requirement for District Health Boards (DHBs) to notify our office if one of the following categories of incident 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 for different categories of incidents can vary. For deaths of patients subject to the Mental Health (Compulsory Assessment and Treatment) Act, DHBs are required to send us a completed Ministry of Health reportable event notification form within 14 days. Depending on the incident, the Director of Mental Health may decide to ask for 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 coroner's report (received from the coroner's office).

The subsample of service users that could be accessed from this database was 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 possibly those who died by suicide who gained media attention. Missing would be people who accessed services who were not under the Mental Health (Compulsory Assessment and Treatment) Act and were not inpatients.

Information from this database was requested on several occasions but the information was not provided before the data inclusion deadline.

This database would be another source of DHB and coronial data, which may yield different records to those supplied by the DHBs.

Developing a framework for a systems analysis

The formats of, and the information contained within, the DHB inquiry reports for the period 1 January 2007 to 31 December 2011 (the period of study) were not consistent, primarily due to the non-prescriptive nature of root cause analysis. While many reports were based on root cause analysis, there were others that had no particular format. This is expected to be addressed by the adoption of the London protocol; for this study, however, the method used to study the reports needed to be flexible enough to take these inconsistencies into account.

A systems analysis was deemed to be ideal due to its flexibility, combination of different viewpoints and a need for a holistic overview.

The system

The definition of system for this small qualitative review included two elements at its core: the people who had died (and their families), and the mental health service. It did not include engagement with other agencies due to the limited timeframe of the study, but it is expected that engagement with other agencies would be included if a permanent SuMRC was established and chose to continue with such analyses.

The framework development

The investigator for this component of the study was an experienced researcher whose work has included suicide research with people with experience of mental illness. She brought to the research her background as a service user and not a clinician, having experienced suicidality herself and having used mental health services over many years. This insider perspective brought an added dimension to information gained from the traditional approach to examining suicide within mental health services: clinicians reviewing the work of other clinicians in a medical framework; and of the coroners, who take a legal perspective.

At the heart of the systems analysis was the development of a framework to analyse the inquiry data. The approach to developing the framework was to look at the issue (how to analyse the inquiry records in a way that would give us new, useful, information) from different perspectives. There was recognition that legal and clinical perspectives would be inherent, as it was through these lenses that the information had been gathered, but there had to be a way of cutting through these views to see if there was other information that could be accessed.

A consumer perspective was applied and what a service user would consider to be important attributes of a mental health service were described – the people, their needs, what was required 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 developed within a framework that approached the overall research question – 'What are the possible intervention points or policy/practice levers than can be used to prevent suicide in mental health service users?' – from the perspective of a service user.

The purpose-built framework was designed to extract key data from the DHB and coronial inquiry records with a 'consumer' lens, for use in the systems review. The flexible framework allowed incorporation of inconsistent and incomplete information and allowed us to gather and analyse the information in a way that had not been done before in order to uncover novel but robust findings and recommendations.

Services and service users are the two elements that make up the system, and the attributes (people, needs, requirements/processes, resilience and explanations) are defined for each element, as shown in Figure 5.3.

Figure 5.3: The framework for the qualitative review

	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**?

Analysis

The records that the researchers received were scanned, if necessary, then uploaded into NVivo qualitative analysis software (Version 10). All records were read. At first, close coding was attempted using fields that closely mimicked the fields in each report (eg, location of death, time of death, method used, services used). This analysis was initially undertaken alongside the use of the developed framework, but was abandoned as it was offering no extra useful information.

A 'memo' was created in NVivo to sit alongside each sample report. Headings were created in each memo, following the framework developed by the researcher, and each report was read several times as the memo was filled in. By the time the memo was fully populated, it was felt the essence of each report had been accounted for. At this point, the information under each heading in the memos was collated, and by reading within and across the memos, with reference to the original documents, a thematic analysis was performed.

Evaluation of the framework and initial findings

For the sample of 20 records of people who had died by hanging that were chosen to trial the framework, there was a mix of DHBs, types of reports (DHB, coroner or both), inpatients and outpatients, age, and gender. In terms of representativeness of the subgroup population who died by hanging, females were over-sampled and Māori were under-sampled (see Table 5.20).

Table 5.20: Characteristics of the qualitative sample

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

There was no standard format to the reports. The coroners' reports mainly drew on the DHB reports, usually without so much detail in terms of clinical contacts. As this was a requirement of the sample, all the coroners' reports that were studied for this exercise included recommendations. Most of the DHB reports had elements of the following:

- a description of the person undertaking the inquiry, and a record of who was interviewed or present at the inquiry meeting (if one was held)
- a summary of the clinical details of the person who died
- an outline of the contacts the person had with the service including names of personnel, their position and organisation, summary of clinical notes and any management plans, in date order for the time period leading up to their death
- a summary of the person's care and a discussion as to what improvements could have been made
- conclusions, and recommendations (if any).

After reviewing the patient records, it was clear that some parts of the framework developed for this trial were more useful than others.

1. Descriptions of the service user

The characteristics of the mental health service user, including the clinical details related to their health and care, were considered in order to better understand each service user. This category provided an opportunity to place the person who died into a wider context. As well as providing an outline of what happened to that person, their clinical diagnosis and service use were included.

Usefulness and utility of this category

The descriptions and summary category was extremely useful in that it enabled us to appreciate the person as a whole person in as much as the information was available from the report. It also provided a chance to take a step back from the list of their service contacts to gain an overview of their care, which then fed in to the later categories of help-seeking, appropriateness, flexibility and role.

Examples of potentially important findings

Their suicidality was complicated by other issues for almost all the people (19) identified in this study. These included repeated self-harm, anger, relationship breakups, pain, alcohol and/or drug use, being a hospital inpatient, behavioural issues, physical health issues, and grief.

The number of DHB contacts a person had in the time period covered by the report varied. Although the contacts reported could be a single person or an organisation and the time periods were not necessarily the same, they gave us a picture of the intensity of service use in the time before the person died. Some of the reports did not provide details of which individuals in the organisations were the point of contact. The number of contacts ranged from 5 to 38, with a mean of 11 and median of 10.5. The report on the person with 38 contacts had these summarised in one list and in the body of the report the contact people were referred to by number. The information from this qualitative analysis is consistent with the PRIMHD service contact data presented earlier in this chapter.

2. Values of the service provider towards the service users

One of the questions posed in the initial framework was: What values does the mental health service bring to its treatment of service users?

Usefulness and utility of this category

This category was not as useful for the reports that were reviewed – the tone of these was always one of respect. However, this was different to the tone of the reports that were not able to be included in the review due to too little data. They seemed to treat the person with little respect. The instances where a coroner criticised the DHB's care of a person, for example, were picked up in other categories. The national policy emphasis on a recovery focus for mental health services was not evident within most of the DHB reports.

3. Conclusions made by the service provider about the death

This category was used to record the overall findings the reports made as to the cause of death, what may have helped prevent the death, or what the DHB could have done differently.

Usefulness and utility of this category

This category was extremely useful as the DHB's and the coroner's perspectives on the person's death at times varied. If records could be reviewed as pairs it would be possible to see if the views of the coroners differed significantly from that of the DHBs. This was not possible due to time constraints.

The other reason why 'conclusions' was a potentially useful category was that it enabled us to see where conclusions were not made or were inconsistent with the body of the report – for example, a conclusion that no further action was needed from a DHB, alongside text in the body of the report indicating actions the service may have taken to improve the outcome. Comparing conclusions between DHB and coroner's reports could also be useful in this regard.

Examples of potentially important findings

Nearly all the sample reports studied (19) reached some conclusion about whether there were factors contributing to the person's death and/or about the care the person had received from the mental health services.

A majority of the reports (13) reached a conclusion that there were no identifiable direct mental health service contributing factors leading to the person's suicide. These deaths were seen as 'not preventable', a 'tragic outcome', or solely as a result of the person's mental illness. Deaths were viewed as occurring despite the quality of care provided by the mental health service.

Where factors were identified by DHBs or coroners as contributing in some way towards a death, these were mainly administrative and management issues. They included issues with documentation, communication, management plans, risk assessments, inpatient observations and complaint processes.

4. Resources

This category was used to identify any resource issues DHBs or other services identified in the reports as contributing to a person's death.

Usefulness and utility of this category

This category was included to allow researchers to test the commonly held belief that suicides occur due to lack of mental health services or an inability to access these services. None of the sample records stated any direct resource issues, suggesting that this field was not useful. However, when reading the body of the report, resource issues, including configuration of resources, become evident.

Examples of potentially important findings

Indirect examples of resource and service configuration issues 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, waiting for months for a place on that programme.

5. Policy

This category was used to record identified policy issues which the DHB concerned needed to address as a result of the inquiry into the person's death. These were issues raised by the DHB and/or the coroner during their investigations.

Usefulness and utility of this category

The policy issues identified in the sample related to internal workings of the DHB concerned. They tended to support the findings and recommendations identified in the 'Conclusions' category, but they also identified 'lower level' issues that the DHB could implement to improve their day-to-day workings.

Examples of potentially important findings

Policy relating to managing people for whom existing care did not seem to be working was mentioned, as was a need for better coordination of services, particularly where more than one service was involved. The use of crisis services to manage a person's care for an extended period instead of by a community mental health team was recorded as a concern.

Where people had died in inpatient care, DHBs noted policy changes related to observations, leave policies, risk management and documentation.

6. Communication

This category was used to identify communication issues within DHB mental health services, wider mental health services, and between mental health services, the person concerned and their family. While this category was not in the initial framework, it became clear during the process of review that it was important.

Usefulness and utility of this category

Communication within and between mental health services, and between those services and the person who died and/or their family, was noted by the researcher as an issue in most of the reports examined.

Examples of potentially important findings

Communication between services seems to be an issue in some reports, even if there were only two services involved. However, at the other extreme, even when there were several services involved in a person's care, there appeared to be no communication issues.

Communication difficulties occurred when most of the contact between the service and the person concerned was by telephone.

The reports suggested that poor communication between mental health services and family may be a common issue.

7. Help-seeking and appropriateness of care

'Help-seeking' and 'appropriateness of care' were initially two categories, intended to identify the discrepancies between the help the person and their family required or asked for, and the services they received, and the appropriateness of this help.

Usefulness and utility of this category

It became clear that help-seeking and appropriateness of care were not mutually exclusive. Because it was difficult to distinguish between a help-seeking issue and an issue related to appropriateness of care, the categories were combined. The researchers found the combined category and the following 'flexibility' and 'role' categories were the most important in the framework as they reflect the person's experience of treatment. Although this reflection is from the perspective of the DHB or coroner, it is the closest thing available to understanding what was happening for the person concerned.

Examples of potentially important findings

It appeared that complexity of other issues could, at times, distract attention from mental health care and this may result in people's suicidality not being adequately noticed or addressed appropriately.

Treatment for some people appeared to be reactive rather than pro-active, and resulted in instances where a person seemed overwhelmed by a large number of service contacts. There was little perceived added benefit, and an overview of the person's care was lacking, suggesting a need for long-term planning of care as well as for treatment provided on an ad hoc basis.

In some instances other issues distracted from service provision. These included being 'well-known' to the service (implying management of current mental health issues would be similar to past management); being ' non-compliant' with medication (even if the person had reported that the medication had intolerable side effects); being seen as malingering (or otherwise 'bad' behaviour); a person's physical health problem (even though the specialist nurse for that issue had informed the mental health service that the physical health was not

so much of an issue); and appeasing the family (instead of paying attention to what the person needed).

8. Flexibility

This category was used to discover how flexible the mental health services were at meeting the needs of the person who died by suicide.

Usefulness and utility of this category

Inflexible policies may result in people being unable 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.

Examples of potentially important findings

The issues mentioned in the reports focused more on the characteristics of the services, rather than access to those services. It appears that the treatment of some people may have become narrowly focused on one treatment or service for the person concerned, such as repeated changes of medication or repeated inpatient stays, even if other treatments were available. At the other extreme, the mental health service appeared to have tried many different approaches, often within a short timeframe (illustrated by repeated assessments and revised management plans).

Such findings could lead to a conclusion that the approaches taken did not appear to be working and the mental health service was not flexible enough to be able to step back and take a long-term view or form an overview of the person's care. These approaches seemed to have led to frustration on the part of families, mental health staff and the person themselves, leading to an impression of helplessness on the part of the mental health service.

9. Role

This category's aim was to understand how the person, their family and the mental health service were managing the person's suicidality before they died, and whether this was appropriate.

Usefulness and utility of this category

This category allowed us to understand the relationship between the person, the service and their family, and the extent to which the person was involved in their own care. It also helped us understand some of the interactions between the different parties before the person died.

Examples of potentially important findings

There seems to be tension between how much a suicidal person is expected to be able to manage their mental health and how much a mental health service should take control. At one end, where a person is an inpatient, the mental health service has full control; at the other, when a person has fleeting contact with a service, there is little ability for that service to help a person manage their suicidality. The misjudgement of this tension seemed to be a feature of the reports examined.

Mental health services appeared to either put too much responsibility to ask for help on the person who died or tried to take too much control over the person and they resisted, becoming 'non-compliant'. Families were sometimes asked to intervene, which could be seen as shifting some of the responsibility to them from mental health services. There were no examples where the person, their family and the mental health services worked together as equals to help the person through their suicidality in the sample examined.

5.4 Discussion

The intention of the systems review was to take the findings of the different tiers (the demographic profile, service use history and the qualitative review) and evaluate them in an overarching way that would answer the question: What are possible intervention points or policy/practice levers that can be used to prevent suicide in mental health service users?

A combination of the processes of 'working forward' and 'working backward' was used to undertake a mini systems review, due to the limited data. Working forward meant starting with the Tier 1 and Tier 2 data, selecting cases based on a sampling frame, linking these cases with a more specific service use profile and combining these with the qualitative review for each case. Working backward meant starting with cases from the qualitative review, applying the framework, and linking this data to the demographic and service use profile.

Working forward, 'method of suicide' data was used to identify a sample of service users who died by hanging. This sample was then used to narrow down the numbers that would be selected for the qualitative review. Working backward, a number of possible issues were identified for the service users focused on in the qualitative review. The researchers took one of these issues – use of services – and expanded their focus by examining their quantitative service use data. This quantitative information is shown in Figure 5.2. For this report, this information could not be matched to their demographic characteristics due to privacy concerns due to using such a small sample. This could be achieved with more records.

Below is a discussion of a number of issues that have become apparent due to the application of this framework. As with most mortality review findings, the issues raised are about the system and policy, not about the performance of individuals.

5.4.1 How are suicide deaths investigated within DHBs?

At the time (2007–11), DHBs were generally using a root cause analysis approach to their internal inquiries. As there is no one way of undertaking a root cause analysis, this has resulted in extreme variability in content and quality of the subsequent reports.

Since 2012, DHBs have been encouraged to use the London protocol as the basis for their inquiries. The stages in an inquiry using the London protocol are quite prescriptive so it is expected that future DHB investigations and reports will become more consistent and of higher quality over time.

However, although the authors of the London protocol stress that their approach is a systems approach (Taylor-Adams and Vincent nd), there is a major flaw in service inquiries

based on this approach and other root cause analyses, and that is that the other element of the mental health system is usually missing – the perspective of the service user.

5.4.2 Complexity of people's situations

With only one exception, the DHB reports indicated the people who died had complex issues that challenged conventional mental health treatment. However, such situations (eg, grief, or alcohol and drug use) are not uncommon, posing the question: How might the mental health system improve strategies to meet the needs of people who have more than one need?

5.4.3 The number of contacts

One way the mental health services seemed to deal with complexity was by both increasing the number of people involved in someone's care and increasing the amount of contact the person had with services. A danger of this approach is that it increased the risk of developing 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 are an excessive number of service contacts, a service may need to reassess the situation. If someone is assigned to take a step back and oversee a person's care, they can then start anew, with fresh eyes.

5.4.4 The conclusion that nothing could be done

There was little evidence that services had been hopeful that their clients would recover. This may be because the reports were written in hindsight. However, statements were made that the person died as a result of their mental illness, which sounded as if that person's death was inevitable. Such a conclusion may reflect that the service may have:

- considered that nothing could be done to prevent the death
- not known how to prevent the death
- written the report with consideration to liability.

5.4.5 The place of administration and administrative processes

Adherence to administrative protocols, while it has its place, needs to allow time for staff to form relationships with the people they are caring for. Observations, without interaction and relationships, are unlikely to provide the care needed, especially if level of risk has been misjudged.

5.4.6 What to do if things do not seem to be working

In the reports, DHBs that recognised that their services weren't working appeared to respond by providing more of the same. This included more medication (though maybe 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.

5.4.7 The role of crisis services

When crisis services are used for an extended period to manage someone who is suicidal, the service is acting in a short-term capacity when what may be needed is a long-term approach. ‘Fire-fighting’ ends up being resource-intensive and does not allow for a person to receive continuity in their care.

5.4.8 DHBs differ in their communication success

Obvious differences in levels of communication within DHBs may be an indication of an area for improvement. 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 detail 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.

5.4.9 Letting other issues overshadow people’s mental health care

Most of the people in this sample had other issues as well as their mental health issues, such as alcohol/drug issues and grief/pain issues. In some cases they became the focus of the person’s care and their suicidality was overshadowed. While there is a case to be made for mental health care to embrace the whole person, the person’s mental health care should also be a priority.

5.4.10 Maintaining a level of suspicion

When someone who has been communicating that they are suicidal suddenly says they are no longer suicidal, there is a temptation to take them at their word without remaining suspicious. This appears to have happened in some of these deaths and may be a sign that the person is tiring of service involvement.

5.4.11 Fixation on compliance, behaviour, doing what you’ve always done

There is a temptation for mental health services to be distracted when a person does not ‘comply’ with medication, or is seen as badly behaved, and to focus only on these behaviours. This may mean they lose sight of the main point, which is improving the person’s mental health and reducing their risk of suicide. When a person is ‘well-known’ to a service this may also be a distraction. There is an expectation that their past behaviour will predict their future behaviour, so management of their care is not revised and updated.

5.4.12 Risk assessment

‘Risk assessment’, it seems, is a discrete activity done by mental health staff, as opposed to assessing risk, which is an ongoing process. The more times a person’s clinical picture is seen as changing, the more times they have a risk assessment. They have to repeat their story over and over again, usually to different people. Each risk assessment results in a plan, which may or may not be different to 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 an intervention to possibly prevent a suicide. This does not mean, however, that for each contact there needs to be a formal 'risk assessment'. Informally assessing risk as part of getting to know a person, and identifying their needs, should be part of any contact with services.

Services need to make judgments about risk, but there is a happy medium that balances over-assessing and not assessing people. Over-assessment means too much emphasis is placed in the validity of the assessment, leading to an over-reliance on the risk management plan, and losing sight of the person behind it. Too little and there may be no intervention to stop the person from dying.

From the reports, the discrete risk assessment in an inpatient setting sets the number of 'observations' required of the suicidal person. The person's behaviour is observed, without necessarily any meaningful interaction with the person. Getting to know the person may be a better way of assessing their risk of suicide.

5.4.13 Power struggles

There is a tension between mental health services and service users in how much involvement a person has in their treatment. When a person is suicidal it may be tempting for a service to try to take more control than usual as they perceive the 'risk' to the person (and therefore to the organisation) to be higher. This could lead to a power struggle, where the service tries to set stricter boundaries and the person responds by becoming more 'non-compliant' – for example, not attending appointments, or not taking medication.

In such instances, the service needs to take a step back and form an overview of the situation, starting from scratch in reviewing the person's care. There is a need to look at the issues from the perspective of the service user to determine why this tension is occurring. Giving a suicidal person the support in managing themselves with services working in partnership with the person to address their suicidality may help to develop resilience.

Chapter 6 Men of working age

6.1 Overview

This chapter presents findings for men of working age who died by suicide during the five-year period 2007–11. For the purposes of this study 'working age' is defined as individuals aged 25–64 years. It does not differentiate between those that are actually working and those that are unemployed. It focuses on demographic characteristics, use of government services and contact with government agencies, and the circumstances surrounding the deaths.

In organising the chapter, key tables have been presented alongside text. Additional tables are included in Appendix 7. For the purposes of this chapter, where the word 'men' is used on its own, it should be read to mean 'men aged 25–64 years who had died by suicide'.

6.1.1 Key observations from Tier 1 and Tier 2 data

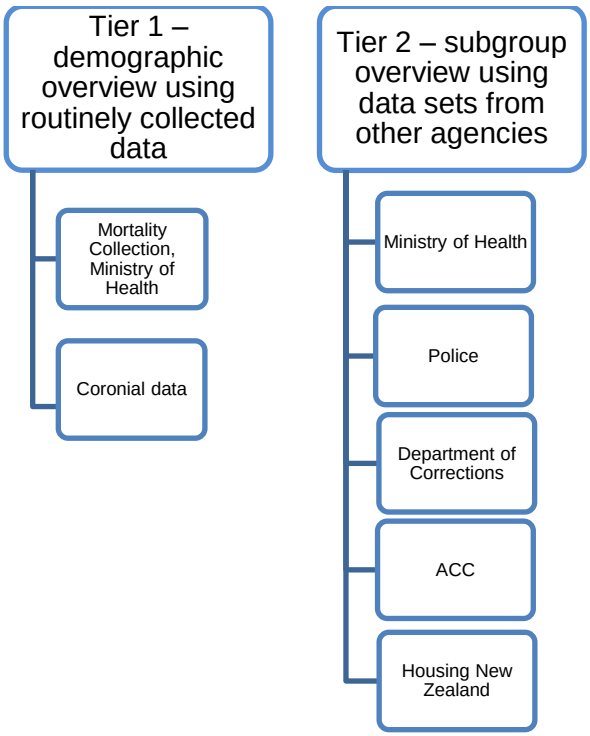
- Numbers: 1272 men of working age died by suicide.
- Rates: Māori had higher rates of suicide than non-Māori for all age groups under 49 years. The highest rate of death for the total male population was in the age group 30–34 years (29.3 per 100,000 population). The rate for Māori men in this age group was 54.3 per 100,000.
- Employment status: 29.6% of men who died were unemployed; 41.7% of Māori men were unemployed.
- Suicide method: Hanging, strangulation and suffocation were the most common methods of suicide for Māori and non-Māori men.
- Location of fatal act: Almost 68% of all suicides occurred in the home.
- Alcohol: Alcohol was recorded as 'Yes' in 25.2% of all men's suicide deaths (and similar for Māori and non-Māori men); however, this may be a conservative figure due to under-reporting/testing.
- Mental health service use: Almost half of all men who died by suicide had no record of publicly funded mental health service use (49.8%). The other half (50.2%) had used mental health services at some point since 1999. A third (35.1%) had used mental health services in the year before death.
- Primary care: 87% of men were enrolled with a primary health care provider at the time of death.
- Police data: 41% (527) of men were reported in the offence database. Of these, 49% had an offence in the year before they died. The greatest total number of offences was in the age group 25–34 years.
- Corrections data: 27% (337) of men had files held on them by Corrections. At the time of death, 14% were serving community-based and 4% were serving prison-based sentences.

6.2 Methods

We used two tiers of analysis for this group. Tier 1 consisted of a high-level demographic overview using routinely collected data. Tier 2 consisted of a more specific subgroup overview using data sets from other government agencies.

The sources of data for Tier 1 were the Ministry of Health's Mortality Collection and Coronial Services of New Zealand. Tier 2 data sources included the Ministry of Health, Corrections, Police, ACC and Housing New Zealand.

Figure 6.1: Data sources for men of working age who died by suicide



As discussed in chapter 2 (section 2.8 'Data analysis'), rates were not generally calculated. However, rates of death by suicide for this subgroup (males aged 25–64) were calculated stratified by age group (in five-year bands) and ethnicity (Māori, non-Māori). Numerator data was defined as number of suicide deaths, summed over the five years of study. The denominators for these rates were estimated person-years at risk in each age/ethnic group stratum over the five-year period 2007–11.[81] Rates are scaled for reporting as rates per 100,000 population per annum.

Note that '.' in all the tables in this chapter refers to zero observations in that category (not missing data).

[81] More specifically, the 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.

6.3 Results: Men who died by suicide

6.3.1 Tier 1 – Demographic profile of men who died by suicide

During the five-year period 2007–11, 1272 men died by suicide. Of these deaths, 202 were Māori (16%) and 1066 were non-Māori (84%). Table 6.1 shows numbers of suicide deaths and age-specific rates for five-year age groups by ethnicity using Ministry of Health data.

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. The highest rate for non-Māori was seen in the age group 45–49 years.

Table 6.1: Age at death (five-year age groups) and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	Rate*	n	Rate*	n	Rate*
Age at death						
25–29 years	43	50.0	118	22.8	161	26.7
30–34 years	46	54.3	140	25.4	186	29.3
35–39 years	33	38.6	142	23.9	175	25.8
40–44 years	30	34.6	142	21.7	174	23.5
45–49 years	23	29.6	172	26.9	195	27.2
50–54 years	16	24.3	145	24.2	162	24.4
55–59 years	5	9.9	125	22.7	130	21.7
60–64 years	6	16.3	82	17.8	89	17.9
Total†	202	35.2	1066	23.4	1272	24.8

* The rate shown is per 100,000 population.

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

Additional Table A7.1 in Appendix 7 shows numbers of suicide deaths and age-specific rates for five-year age groups across the five-year period by ethnicity for the subgroup, using coronial data. This table only includes the 1111 men who had died by suicide and were closed cases. The missing 161 cases remained open cases at the time of data acquisition. The patterns of age and ethnicity were the same for Ministry of Health and coronial data.

Ethnicity

Examining ethnicity in more detail using the Ministry of Health data (based on prioritised ethnicity) revealed that 10.1% of suicide deaths were recorded as European, 65.6% as New Zealand European/Pākehā, 15.9% as Māori, 3.7% as Pacific Island, 3.7% as Asian and 0.7% as Other. This information is presented in Table A7.2 in Appendix 7.

The 3.7% of deaths recorded as Pacific Island comprised 'Pacific Island not further defined' (0.2%), Samoan (1.3%), Cook Island Māori (0.8%), Tongan (0.6%), Niuean (0.3%) and Tokelauan (0.6%). The 1.6% of deaths recorded as Asian comprised Asian 'not further defined' (1.6%), Chinese (0.9%) and Indian (1.2%).

Employment status and occupation

Information on employment status or occupation was found in coronial, ACC and Ministry of Health data. However, a number of issues arose with this information as follows:

- Coronial data: This data included information on employment status which is presented by ethnicity in Table 6.2. The data set also included 'usual occupation' at time of death. This information was very detailed and had to be manually coded using the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to present it in a meaningful and unidentifiable way. This information is shown in Table 6.3.

- ACC data: The occupation information was very detailed and could not be presented here due to small numbers. This information could have been coded using ANZSCO; however, it still only provided information on those who had made ACC claims and only included occupation at the time of the claim rather than at time of death.

- Ministry of Health data: The NMDS included occupation code defined as 'the current occupation of a healthcare user, classified according to the Statistics New Zealand Standard Classification of Occupation (NZSCO90) at time of admission'. This, however, would not provide occupation data on those men who have never had an inpatient event in a public or private hospital.

Table 6.2 shows the breakdown of suicide deaths by employment status and ethnicity using the coronial data that was available for 1111 of men. At the time of death, 54.3% of men were employed and 29.6% were unemployed. A higher proportion of Māori were unemployed (41.7%) compared to non-Māori (27.6%).

Table 6.2: Employment status by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1111) for men (coronial data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Employment status								
Employed	75	44.6	525	55.9	3	100.0	603	54.3
Home duties	1	0.6	.	.	.	.	1	0.1
Other	5	3.0	40	4.3	.	.	45	4.1
Prisoner	4	2.4	13	1.4	.	.	17	1.5
Retired/pensioner	.	.	17	1.8	.	.	17	1.5
Still enquiring	1	0.6	6	0.6	.	.	7	0.6
Student	.	.	12	1.3	.	.	12	1.1

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Unemployed	70	41.7	259	27.6	.	.	329	29.6
Unlikely to be known	12	7.1	68	7.2	.	.	80	7.2
Total	168	100.0	940	100.0	3	100.0	1111	100.0

Table 6.3 shows the breakdown of suicide deaths by usual occupation using the coronial data. The highest percentage of suicides in men who were employed was in men working as construction and trade workers (builders, carpenters, construction workers, apprentices, plasters, plumbers, labourers, etc) and farm, forestry and garden workers (dairy farm workers, farm managers/workers, forestry contractors, orchard workers, etc). The percentages were 6.9% and 6.8% respectively.

Table 6.3: Usual occupation of men aged 25–64 who died by suicide, 2007–11 (n=1111) (coronial data)

	n	%
Usual occupation		
Chief executives, general managers and legislators	30	2.7
Farmers and farm managers	8	0.7
Specialist managers	11	1.0
Hospitality, retail and service managers	8	0.7
Arts and media professionals	7	0.6
Business, human resource and marketing professionals	12	1.1
Design, engineering, science and transport professionals	29	2.6
Education professionals	11	1.0
Health professionals	12	1.1
ICT professionals	10	0.9
Legal, social and welfare professionals	8	0.7
Engineering, ICT and science technicians	5	0.5
Automotive and engineering trades workers	36	3.2
Construction trades workers	77	6.9
Electrotechnology and telecommunications trades workers	17	1.5
Food trades workers	9	0.8
Skilled animal and horticultural workers	14	1.3
Other technicians and trades workers	22	2.0

	n	%
Health and welfare support workers, carers and aides	6	0.5
Hospitality workers	8	0.7
Protective service workers	13	1.2
Sports and personal service workers	9	0.8
Clerical and administrative workers	12	1.1
Sales representatives and agents	8	0.7
Sales assistants and salespersons	21	1.9
Machine and stationary plant operators	13	1.2
Mobile plant operators	8	0.7
Road and rail drivers	20	1.8
Store persons	7	0.6
Cleaners and laundry workers	10	0.9
Construction and mining labourers	4	0.4
Factory process workers	11	1.0
Farm, forestry and garden workers	75	6.8
Food preparation assistants	3	0.3
Other labourers	32	2.9
Unknown/on benefit/retired	525	47.3
Total	1111	100.0

Marital/relationship status

Marital status is available from the coronial data collection. Table 6.4 shows 38% of men who died by suicide were married or in a de facto relationship. Over 31% had never been married and 14.2% were separated.

No other source of data on marital or relationship status was found in the data to which we had access.

Table 6.4: Marital status by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1111) (coronial data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Marital status								
Never married	60	35.7	287	30.5	1	33.3	348	31.3
Married (including de facto)	59	35.1	367	39.0	1	33.3	427	38.4
Separated	26	15.5	131	13.9	1	33.3	158	14.2

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Divorced/dissolved	9	5.4	65	6.9	.	.	74	6.7
Widowed	2	1.2	11	1.2	.	.	13	1.2
Unknown	12	7.1	79	8.4	.	.	91	8.2
Total	168	100.0	940	100.0	3	100.0	1111	100.0

District health board region

Table 6.5 shows that the highest number of suicide deaths was in the Canterbury DHB. The DHB region with the lowest number of suicide deaths was the Wairarapa. For Māori men, the highest proportion of suicide deaths was in the Waikato DHB region (11.9%) and the Counties Manukau DHB region (10.4%). For non-Māori men the highest proportion of suicide deaths was in the Canterbury DHB region (13.5%) and the Waitematā DHB region (10.6%). (Note: These numbers have not been standardised to each DHB population.) As per discussion in section 2.8 we have not calculated rates; however, they would be useful for making comparisons here.

Table 6.5: Suicide deaths by DHB region and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
DHB region								
Northland	11	5.4	32	3.0	.	.	43	3.4
Waitematā	17	8.4	113	10.6	.	.	130	10.2
Auckland	12	5.9	95	8.9	.	.	107	8.4
Counties Manukau	21	10.4	80	7.5	1	25.0	102	8.0
Waikato	24	11.9	88	8.3	.	.	112	8.8
Lakes	14	6.9	33	3.1	.	.	47	3.7
Bay of Plenty	19	9.4	52	4.9	.	.	71	5.6
Tairāwhiti	10	5.0	10	0.9	.	.	20	1.6
Taranaki	11	5.4	35	3.3	1	25.0	47	3.7
Hawke's Bay	11	5.4	40	3.8	.	.	51	4.0
Whanganui	6	3.0	21	2.0	.	.	27	2.1
MidCentral	7	3.5	52	4.9	1	25.0	60	4.7
Hutt	5	2.5	31	2.9	.	.	36	2.8
Capital and Coast	4	2.0	55	5.2	.	.	59	4.6
Wairarapa	s	s	s	s	.	.	9	0.7

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Nelson Marlborough	4	2.0	37	3.5	.	.	41	3.2
West Coast	.	.	20	1.9	.	.	20	1.6
Canterbury	14	6.9	144	13.5	1	25.0	159	12.5
South Canterbury	3	1.5	22	2.1	.	.	25	2.0
Southern	7	3.5	92	8.6	.	.	99	7.8
Missing*	.	.	7	0.7	.	.	7	0.6
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Note: 's' indicates frequency and rate suppressed due to small numbers.

* These deaths occurred outside of a DHB region, most likely at sea.

Additional information on year and month of death can be found in Table A7.3 and Table A7.4 in Appendix 7.

Methods of suicide

Table 6.6 shows that hanging, strangulation and suffocation (collectively) was 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.

For Māori men, hanging, strangulation and suffocation 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 was the main method used (55.0%), followed by self-poisoning (16.8%) and firearms (11.2%).

Table 6.6: Methods of suicide used (grouped) by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Method of suicide								
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	50.0	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	50.0	135	10.6

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
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	100.0	1066	100.0	4	100.0	1272	100.0

* 'Overdose of medication' includes nonopioid 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.

Table A7.5 and Table A7.6 in Appendix 7 show method of suicide by ethnicity and age using more detailed groupings of methods. A higher proportion of Māori (71.8%) used hanging, strangulation and suffocation compared to non-Māori (55%). A higher proportion of non-Māori (15.9%) used other gases and vapours compared to Māori (7.9%). There are no discernible differences in methods used by age group.

Location of fatal act

Table 6.7 shows that two-thirds of suicide deaths occurred in the home (67.9%). A slightly higher proportion of Māori deaths (71.8%) occurred in the home compared to non-Māori (67.4%).

Table 6.7: Location of fatal act by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Location of fatal act								
Code missing	1	0.5	2	0.2	.	.	3	0.2
Home	145	71.8	718	67.4	1	25.0	864	67.9
Residential institution	6	3.0	17	1.6	.	.	23	1.8
School, other institution and public administrative area	5	2.5	8	0.8	.	.	13	1.0
Sports and athletics area	.	.	4	0.4	.	.	4	0.3
Street and highway	6	3.0	41	3.8	1	25.0	48	3.8
Trade and service area	1	0.5	33	3.1	.	.	34	2.7
Industrial and construction area	1	0.5	11	1.0	.	.	12	0.9
Farm	2	1.0	17	1.6	.	.	19	1.5
Other specified place of occurrence	20	9.9	157	14.7	2	50.0	179	14.1

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Unspecified place of occurrence	15	7.4	58	5.4	.	.	73	5.7
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table A7.7 and Table A7.8 in Appendix 7 show location of fatal act by ethnicity and 10-year age group using more detailed groupings of location.

The majority of suicides that occurred in the home occurred in garages (18.4%), bedrooms (5.8%) and outdoor areas (5.1%). A higher proportion of Māori suicides occurred in outdoor areas (7.9%) compared to non-Māori (4.6%).

For Māori, 2.5% of suicides occurred in prisons compared to 1.2% for non-Māori. Sixteen of the 18 (89%) deaths by suicide that occurred in prison were done by hanging, strangulation and suffocation; the remaining two were done by overdose of medication.

6.3.2 Tier 2 – Agency interaction profile of men who died by suicide

Secondary mental health service use

Data on mental health services contacts was sourced from the PRIMHD data. Table 6.8 shows the mental health service use in this subgroup. Almost half of all men who died by suicide had no record of publicly funded mental health service use (49.8%). About a third (35.1%) had used mental health services in the year before death.

Overall, a greater proportion of Māori men had used mental health services – 37.6% had used services in the year prior to death and 16.8% had used services more than a year before death. In comparison, 34.7% of non-Māori had used services in the year prior to death and 14.8% had used services more than a year before death. A greater proportion of non-Māori men (50.5% for non-Māori compared to 45.5 for Māori) had no service use.

Table 6.8: Mental health services used by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Mental health service use								
No service use	92	45.5	538	50.5	4	100.0	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	100.0	1066	100.0	4	100.0	1272	100.0

Primary care engagement

Primary health organisation (PHO) enrolment

Data on PHO enrolment was sourced from the Ministry of Health. The majority of men (87.3%) were currently enrolled with a PHO at the time of death (see Table 6.9). About 7% of men had no PHO enrolment, and 6.1% had been enrolled in a PHO at some point in the past but not at the time of death. There were no major differences by age group.

Table 6.9: PHO enrolment status by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
PHO enrolment status										
No PHO enrolment	31	8.9	25	7.2	16	4.5	12	5.5	84	6.6
PHO not current	32	9.2	22	6.3	20	5.6	4	1.8	78	6.1
PHO enrolment current	284	81.8	302	86.5	321	89.9	203	92.7	1110	87.3
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Engagement with general practitioners (GPs)

We had no data on actual use of primary care or engagement with 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.

Hospital events

Hospital data on inpatient events was sourced from the NMDS and contains information going back to 1988. This data set includes public and private hospital discharge information.

Hospital data on emergency department (ED) and outpatient activity was sourced from the NNPAC. This contains information going back to 2006 and includes information on the type of services provided and the health speciality involved.

Here we report on the three types of events: outpatient event, ED event or inpatient event (ie, admitted to hospital). However, further work could explore this data in more detail for those in this subgroup. For example, it would be useful to use the NNPAC data to look at ED and outpatient admissions in the year or two prior to death and what type of service/speciality was involved.

Table 6.10 shows 57.1% of men who died by suicide had an ED or outpatient event at some point since 1988. Māori had a higher proportion (60.4%) of ED or outpatient events compared to non-Māori (56.7%). Meanwhile, 76.7% had an inpatient event at some point since 1988.

Table 6.10: Use of ED or outpatients or admission to hospital since 1988 by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Used ED or outpatients								
No	80	39.6	462	43.3	4	100.0	546	42.9
Yes	122	60.4	604	56.7	.	.	726	57.1
Admitted to hospital								
No	32	15.8	260	24.4	4	100.0	296	23.3
Yes	170	84.2	806	75.6	.	.	976	76.7
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table 6.11 shows the highest proportion of ED or outpatient events was in the age group 55–64 years (64.4%), followed by the age group 25–34 years (60.5%). The highest proportion of inpatient events was in the age group 35–44 years (78.8%), followed by the age group 25–34 years (77.2%).

Table 6.11: Use of ED or outpatients or admission to hospital since 1988 by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Used ED or outpatients										
No	137	39.5	165	47.3	166	46.5	78	35.6	546	42.9
Yes	210	60.5	184	52.7	191	53.5	141	64.4	726	57.1
Admitted to hospital										
No	79	22.8	74	21.2	91	25.5	52	23.7	296	23.3
Yes	268	77.2	275	78.8	266	74.5	167	76.3	976	76.7
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.9 in Appendix 7 shows the breakdown of hospital events by 10-year age group and ethnicity. The highest proportion of ED or outpatients events was in Māori men aged 25–34 years (29.7%) compared to non-Māori men in the same age group (14.1%). Non-Māori men aged 55–64 years (12.6%) had a higher proportion of ED or outpatient events compared to non-Māori men of the same age (3.5%).

The highest proportion of inpatient events was in Māori aged 25–34 years (39.1%) compared to non-Māori in the same age group (17.7%). Māori men aged 35–44 years also had a higher proportion of inpatient events (25.2%) compared to non-Māori men (21.0%).

Non-Māori men aged 55–64 years (15.0%) had a higher proportion of inpatient events compared to non-Māori men of the same age (3.5%).

Pharmaceuticals

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

Forty-two percent (n=538/1272) of men who died by suicide had records for analgesic prescriptions and 50% (n=635/1272) had records for antidepressant prescriptions. Table 6.12 shows the breakdown of pharmaceutical prescriptions for analgesics and antidepressants by 10-year age groups. For example, the 124 suicide deaths in the age group 25–34 years had a total of 3575 records for analgesics prescriptions. The age group 45–54 years had the highest number of men who died by suicide and records for analgesics (156 deaths and 12,302 prescriptions) and antidepressants (201 deaths and 7861 prescriptions).

Table 6.12: Prescriptions dispensed for analgesics and antidepressants by age at death by men aged 25–64 who died by suicide, 2007–11 (n=1173 prescriptions) (pharmaceutical claims data, Ministry of Health)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	Sum	n	Sum	n	Sum	n	Sum	n	Sum
Analgesic prescriptions	124	3575	143	9024	156	12,302	115	2444	538	27,345
Antidepressant prescriptions	144	2747	164	3670	201	7861	126	3219	635	17,497

Note: *n* is the number of suicide deaths; *Sum* is the total number of scripts within this group from 2003. Men may have had more than one type of prescription.

Table 6.13 shows the breakdown of pharmaceutical prescriptions for analgesics and antidepressants by ethnicity and 10-year age group. For Māori the highest total number of records was for analgesics in the age group 45–54 years with a total of 4052 prescriptions. This equates to a mean of 176.2. For non-Māori the highest total number of records was for analgesics in the age group 35–44 years with a total of 8775 prescriptions. This equates to a mean of 75.65.

Table 6.13: Prescriptions dispensed for analgesics and antidepressants by age at death and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1171 prescriptions) (pharmaceutical claims data, Ministry of Health)

		Age at death								Total	
		25–34		35–44		45–54		55–64			
		n	Sum	n	Sum	n	Sum	n	Sum	n	Sum
Ethnicity											
Māori	Analgesic prescriptions	46	972	27	249	23	4052	5	61	101	5334
	Antidepressant prescriptions	30	640	22	411	21	1147	6	98	79	2296
Non-Māori	Analgesic prescriptions	78	2603	116	8775	133	8250	109	2382	436	22,010
	Antidepressant prescriptions	114	2107	141	3257	180	6714	120	3121	555	15,199

Note: *n* is the number of suicide deaths; *Sum* is the total number of prescriptions within this group from 2003. Men may have had more than one type of prescription. Two prescriptions have been excluded due to missing ethnicity (hence 1171 scripts, rather than 1173 as is shown in Table 6.12).

Alcohol and drugs

Data on alcohol and/or drug involvement was sourced from the Mortality Collection. Collection of this information was introduced for deaths from the year 2000.

Over 35% of all suicide deaths had ‘not available/not stated/not tested’ reported for alcohol involvement, whilst over 70% of all suicide deaths had ‘unknown’ reported for cannabis, other drugs, illicit drugs, prescription/pharmacy drugs and volatile substances involvement.

Due to the high rates of ‘unknown’ data, these results should be interpreted with caution.

Alcohol and/or drug involvement

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 6.14 shows the breakdown of alcohol involvement by ethnicity. Alcohol involvement was recorded as ‘Yes’ in 25.2% of all men’s suicide deaths and ‘No’ in 25.6% of all men’s suicide deaths. The percentage of deaths with a definite yes for alcohol involvement was similar for Māori and non-Māori men.

Table 6.14: Alcohol involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Alcohol involved								
No	43	21.3	282	26.5	1	25.0	326	25.6
Not available	9	4.5	24	2.3	.	.	33	2.6
Not stated	78	38.6	349	32.7	2	50.0	429	33.7
Not tested	.	.	8	0.8	.	.	8	0.6
Trace	22	10.9	133	12.5	.	.	155	12.2
Yes	50	24.8	270	25.3	1	25.0	321	25.2
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Information on the involvement of cannabis, other drugs, illicit drugs, prescription/pharmacy drugs or volatile substances is coded as 'Yes' or 'No'. If the value is 'Yes' it means that '[i] the death was referred to the coroner and the coroner, Police, post-mortem report or toxicology report indicate that the deceased had taken/used cannabis before their death; or [ii] the Police/coroner's report details evidence of cannabis use or poisoning prior to death' (Ministry of Health 2009, p 40).

Table 6.15 shows the breakdown of cannabis involvement by ethnicity. Cannabis involvement was recorded as 'Yes' in 4.3% of all suicide deaths and 'No' in 23.4% of all suicide deaths. For the remaining 72.2% of deaths it was reported as 'unknown'. A greater percentage of suicide deaths in Māori (6.9%) reported cannabis involvement compared to non-Māori (3.8%).

Table 6.15: Cannabis involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Cannabis involved								
No	34	16.8	263	24.7	1	25.0	298	23.4
Unknown	154	76.2	762	71.5	3	75.0	919	72.2
Yes	14	6.9	41	3.8	.	.	55	4.3
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table 6.16 shows the breakdown of other drug involvement by ethnicity. The definition of 'other drug' provided in the Mortality Collection Data Dictionary is 'whether a drug was used

prior to death' and does not stipulate what type or name of drug (Ministry of Health 2009, p 59).

Almost 93% of all suicide deaths had 'unknown' information on other drug involvement. Other drug involvement was recorded as 'Yes' in 0.2% of all suicide deaths and 'No' in 7.0% of all suicide deaths. There were only two deaths reported as 'Yes' so caution is advised due to small numbers. For Māori there were no suicide deaths with other drug involvement reported.

Table 6.16: Other drugs involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Other drugs involved								
No	14	6.9	74	6.9	1	25.0	89	7.0
Unknown	188	93.1	990	92.9	3	75.0	1181	92.8
Yes	.	.	2	0.2	.	.	2	0.2
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table 6.17 shows the breakdown of other illicit drug involvement by ethnicity. The definition of 'other illicit drug' provided in the Mortality Collection Data Dictionary is 'whether an illicit drug was used prior to death' and does not stipulate which drugs (Ministry of Health 2009, p 60).

Other illicit drug involvement was recorded as 'Yes' in 1.7% of all suicide deaths and 'No' in 27.3% of all suicide deaths. For the remaining 71.1% of deaths it was reported as 'unknown'. A greater proportion of non-Māori deaths reported 'Yes' to involvement of illicit drugs (1.9% for non-Māori compared to 0.5% for Māori).

Table 6.17: Other illicit drugs involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Illicit drugs involved								
No	49	24.3	297	27.9	1	25.0	347	27.3
Unknown	152	75.2	749	70.3	3	75.0	904	71.1
Yes	1	0.5	20	1.9	.	.	21	1.7
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table 6.18 shows the breakdown of prescription/pharmacy drug involvement by ethnicity. The definition of 'prescription/pharmacy drug' provided in the Mortality Collection Data Dictionary is 'whether a prescription or drug obtained from a Pharmacy was used prior to death' and does not stipulate what specific type or name of drugs (Ministry of Health 2009, p 63).

Prescription/pharmacy drug involvement was recorded as 'Yes' in 5.9% of all suicide deaths and 'No' in 19.9% of all suicide deaths. A slightly higher percentage of non-Māori deaths reported 'Yes' to involvement of prescription/pharmacy drugs (6.7% for non-Māori compared to 2.0% for Māori).

Table 6.18: Prescription/pharmacy drugs involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Prescription/pharmacy drugs involved								
No	41	20.3	211	19.8	1	25.0	253	19.9
Unknown	157	77.7	784	73.5	3	75.0	944	74.2
Yes	4	2.0	71	6.7	.	.	75	5.9
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table 6.19 shows the breakdown of volatile substance involvement by ethnicity. The definition of 'volatile substances' provided in the Mortality Collection Data Dictionary is 'whether a substance was used prior to death' and does not stipulate which substances (Ministry of Health 2009, p 67).

Volatile substances involvement was recorded as 'Yes' in 1.0% of all suicide deaths and 'No' in 7.9% of all suicide deaths. For the remaining 91.1% of deaths it was reported as 'unknown'. A slightly higher proportion of non-Māori deaths reported 'Yes' to involvement of volatile substances (1.1% for non-Māori compared to 0.5% for Māori).

Table 6.19: Volatile substances involvement by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Volatile substance involved								
No	14	6.9	85	8.0	1	25.0	100	7.9
Unknown	187	92.6	969	90.9	3	75.0	1159	91.1
Yes	1	0.5	12	1.1	.	.	13	1.0
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Tables A7.10 to A7.15 in Appendix 7 show a similar breakdown to the tables above but by 10-year age groups. Of the 321 suicide deaths with alcohol involvement reported as 'Yes', the greatest proportion was in the age group 35–44 years (32.1%). Of the 55 suicide deaths with cannabis involvement reported as 'Yes', the greatest proportion was in the age group 25–34 years (6.6%). There were only two deaths with other drug involvement reported as 'Yes'. Of the 21 suicide deaths with other illicit drug involvement reported as 'Yes', the greatest proportion was in the age group 25–34 years (2.9%). Of the 75 suicide deaths with prescription/pharmacy drugs involvement reported as 'Yes', the greatest proportion was in the age group 55–64 years (7.3%). Of the 13 suicide deaths with volatile substances involvement reported as 'Yes', the greatest proportion was in the age group 45–54 years (1.7%).

Alcohol and drug involvement by cause of death

Tables A7.16 to A7.21 in Appendix 7 show the involvement of alcohol and other drugs by method of suicide. Of the 321 deaths that involved alcohol, 58% (n=187/321) were by hanging, strangulation and suffocation; 20% (n=63/321) were by self-poisoning; 8% (n=27/321) by firearms; and 7% (n=23/321) by overdose. Of the 55 deaths that involved cannabis, 69% (n=38/55) were by hanging, strangulation and suffocation. Of the two deaths that involved other drugs, one used self-poisoning and one was by firearm. Of the 21 deaths that involved illicit drugs, 67% (n=14/21) were by hanging, strangulation and suffocation. Of the 75 deaths that involved prescription/pharmacy drugs, 41% (n=31/75) were by overdose and 32% (n=24/75) were by hanging, strangulation and suffocation. Of the 13 deaths that involved a volatile substance, 69% (n=9/13) were by self-poisoning.

Other information on alcohol and drugs

The data received from the Ministry of Health did not include blood alcohol levels although, according to the Mortality Collection Data Dictionary, it was introduced for 2000 registration year data onwards. Blood alcohol levels are only recorded for deaths certified by a coroner and are sourced from the Institute of Environmental Science and Research (ESR) toxicology report or post-mortem report. Information on blood alcohol levels was not present in the coronial data set, although it was recorded in some of the narratives of the coroner's inquest findings.

Police data[82]

Data was received for four types of contact with Police: subject of incident, witness/bystander, victim or offender. Only data on alleged offences committed was analysed. The earliest dates in the Police data are from 1959, although here we are only reporting on offences committed within the last 10 years of a person's life.

Most recent offence

Table 6.20 shows that of the 527 men recorded in the offence database, 49.0% (n=258/527) had committed an offence in the year before they died; 5.3% in the last week. For Māori

[82] All references to 'offenders' and 'offences' are 'alleged offenders' and 'alleged offences'.

men, 7.1% committed an offence in the week before they died compared to 4.8% of non-Māori men.[83] Police note that, compared with the general population, these are disproportionately high rates of offending.

Table 6.20: Most recent offence by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=527) (Police data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Most recent offence								
≤1 week	9	7.1	19	4.8	.	.	28	5.3
>1 ≤2 weeks	2	1.6	14	3.5	.	.	16	3.0
>2 ≤4 weeks	10	7.9	20	5.0	.	.	30	5.7
>4 ≤13 weeks	18	14.3	41	10.3	.	.	59	11.2
>13 ≤26 weeks	14	11.1	41	10.3	1	100.0	56	10.6
6 months–1 year	15	11.1	54	13.5	.	.	69	13.1
>1 year	49	38.9	148	37.0	.	.	197	37.4
Missing date	9	7.1	57	14.3	.	.	66	12.5
Invalid date	.	.	6	1.5	.	.	6	1.1
Total	126	100.0	400	100.0	1	100.0	527	100.0

Table 6.21 shows 41% (527) of working-age men who died by suicide were in the Police offence database for an offence (within the last 10 years of life). The greatest number was in the age group 25–34 years where there were 1825 offences (mean number of offences was 8.9).

Table 6.21: Offences by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=527 people with 3306 offences) (Police data)

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Age at death			
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

[83] The SuMRC sought to gather some comparison data on how many members of the general public might have Police records or be recorded as having an offence. Data is available in the Statistics New Zealand IDI that could be used to calculate this in future.

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

Table 6.22 shows 76% of men with offences (n=400/527) were non-Māori with a total of 2269 offences. The mean number of offences for Māori men who died by suicide was 8.2, compared to 5.7 for non-Māori.

Table 6.22: Offences by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=527 people with 3306 offences) (Police data)

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Ethnicity			
Māori	126	1036	8.2
Non-Māori	400	2269	5.7
Missing	1	1	1.0

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

Type of offences

Table 6.23 shows the general offence categories. Of the specific offence categories, 338 men had offences for 'misc/admin/unknown', 256 men had offences for 'violence' and 188 for 'drugs and antisocial'.

Table 6.23: Offences by general offence category for men aged 25–64 who died by suicide, 2007–11 (n=527 people with 3306 offences) (Police data)

	Offences		
	No. of people*	Total no. of offences	Mean no. of offences
General offence category			
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

* 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.

Table A7.22 in Appendix 7 shows a breakdown of the general offence categories by 10-year age groups. Misc/admin/unknown was the largest category of offence across all age groups (in terms of the number of people); the number of these offences was highest in the age group 25–34 years (535 offences) and lowest in the age group 55–64 years (53 offences).

In the age group 25–34 years, dishonesty was the second largest category (456 offences) followed by violence (421 offences).

In the age group 35–64 years, violence was the second largest category. Of these, the number of violence offences was highest in the age group 35–44 years (191 offences) and lowest in the age group 55–64 years (21 offences).

The highest number of mean offences (ie, average per person) in the youngest age group was for dishonesty (6.4 for offences). This was also the case in the age group 35–44 years (3.4 for offences).

In the age group 45–54 years, the highest mean number of offences was for sexual offences (4.2 for offences). This was also the case in the age group 55–64 years (2.0 for offences).

Table A7.23 in Appendix 7 shows a breakdown of the general offence categories into more detailed categories.

As noted above, the largest category of offences is misc/admin/unknown. When this category is broken down to be more specific, the main offences are unknown (259), offences against justice (77) and trespass (70).

The second largest category of offences is violence. When this category is broken down to be more specific, the main offences are serious assault (157) and intimidation/threats (110).

The third largest category of offences is drugs/antisocial. When this category is broken down to be more specific, the main offences are disorder (109) and cannabis (61).

Corrections data

Data on sentences was sourced from Corrections and covered two types of sentences. The first is community-based sentences, which includes offenders who are on probation who are able to serve their sentences and/or carry out the orders imposed on them while remaining in the community. There are a range of community-based sentences and orders that can be imposed – for example, community work, community detention, home detention and supervision. Each sentence/order has its own specific conditions. The second group of sentences is prison sentences. The earliest sentence start date in the Corrections data is 1968, but most are from 1974 onwards. The latest sentence start date in the Corrections data is 2011.

In this chapter we discuss three groups who had files held by Corrections:

- those not serving a sentence at the time of death (ie, ‘not active’).
- those serving a community-based sentence at the time of death (ie, ‘active’).
- those serving a prison sentence at the time of death (ie, ‘active’).

Files held by corrections

Corrections had files on 27% of men who died by suicide (n=337). Of these, 82% (n=275/337) were not currently serving a sentence at time of death (ie, not active), 14% (n=47/337) were serving community-based sentences and 4% (n=15/337) were serving prison sentences. Twenty-eight percent of those with Corrections files were Māori and 72% were non-Māori (Table 6.24).

Table 6.24: Corrections files by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Corrections data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Corrections data								
Yes but not active	83	41.1	192	18.0	.	.	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	100.0	935	73.5
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Start and end of sentences

Of the 337 men that were known to Corrections, only 289 had data recorded on the start and end of their sentences.

Table 6.25 shows the start of the latest sentence before death by ethnicity. Of the 289 men that had data on the start of their sentence available, 68.9% (n=199) had started their sentence more than a year before death. This was slightly higher for Māori (71.1%) compared to non-Māori (67.8%). Of these 289 men, 1.7% had started their sentence a week or less before death. These particular deaths occurred in men aged 25–44 years (data not presented).

Table 6.25: Time of death in relation to start of last sentence by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=289) (Corrections data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
Latest start of sentence						
≤1 week	1	1.1	4	2.0	5	1.7
>1 ≤2 weeks	1	1.1	.	.	1	0.3
>2 ≤4 weeks	1	1.1	6	3.0	7	2.4
>4 ≤13 weeks	4	4.4	17	8.5	21	7.3
>13 ≤26 weeks	8	8.9	18	9.0	26	9.0

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
6 months–1 year	11	12.2	19	9.5	30	10.4
>1 year	64	71.1	135	67.8	199	68.9
Total	90	100.0	199	100.0	289	100.0

Table 6.26 shows the end of the last sentence before death by ethnicity. Fifty-four percent had ended their sentence more than one year before death. This was similar across Māori and non-Māori men. Twenty-seven percent died whilst still on sentence and this was slightly higher in non-Māori (27.1%) compared to Māori (25.6%). A greater proportion of these deaths occurred in men aged 25–34 years (data not presented). 'Invalid date' includes those who were on preventative sentence at the time of death.

Table 6.26: Time of death in relation to end of last sentence by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=289) (Corrections data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
End of last sentence						
Still on sentence	23	25.6	54	27.1	77	26.6
≤1 week	2	2.2	3	1.5	5	1.7
>1 ≤2 weeks	1	1.1	.	.	1	0.3
>2 ≤4 weeks	1	1.1	1	0.5	2	0.7
>4 ≤13 weeks	1	1.1	8	4.0	9	3.1
>13 ≤26 weeks	4	4.4	9	4.5	13	4.5
6 months–1 year	8	8.9	16	8.0	24	8.3
>1 year	50	55.6	106	53.3	156	54.0
Invalid date	.	.	2	1.0	2	0.7
Total	90	100.0	199	100.0	289	100.0

A further breakdown of the 337 suicides with Corrections files is presented in Table 6.27, which shows suicide deaths by five-year age group and ethnicity. Over 40% of those known to Corrections were in the age groups 25–29 years and 30–34 years. Māori had a higher proportion of men aged 25–29 years (26%) and 30–34 years (26%) with Corrections files than non-Māori. For men aged 45–64 years, more non-Māori men than Māori men had Corrections files.

Table 6.27: Corrections files by ethnicity and five-year age group for men aged 25–64 who died by suicide, 2007–11 (n=337) (Corrections data)

	Ethnicity					
	Māori		Non-Māori		Total	
	n	%	n	%	n	%
Age at death						
25–29 years	25	26.0	48	19.9	73	21.7
30–34 years	25	26.0	45	18.7	70	20.8
35–39 years	14	14.6	39	16.2	53	15.7
40–44 years	15	15.6	36	14.9	51	15.1
45–49 years	8	8.3	37	15.4	45	13.4
50–54 years	7	7.3	21	8.7	28	8.3
55–59 years	2	2.1	12	5.0	14	4.2
60–64 years	.	.	3	1.2	3	0.9
Total	96	100.0	241	100.0	337	100.0

Latest type of correction sentence given

Some men that were on active sentences were serving multiple sentences at the time they died. Therefore we used the latest sentence given by the courts rather than the actual sentence they were serving at the time of death. For example, if a man was serving a community sentence but breached conditions during this time period, the latest type of sentence counted would be the custodial sentence for breaching conditions.

Table A7.24 in Appendix 7 shows the breakdown of men with Corrections files by type of latest sentence given and ethnicity.

Of the 275 men who died by suicide with Corrections files but were not serving a sentence at the time of death, 30% (n=83/275) were Māori and 70% (n=192/275) were non-Māori. The most common type of sentence last given was community work (30.6%).

Of the 47 men who died by suicide who had Corrections files and were serving community-based sentences at the time of death, 26% (n=12/47) were Māori and 74% (n=35/47) were non-Māori. The most common type of sentence last given was also community work (6.8%). A greater proportion of non-Māori in this group (7.1%) had sentences for community work than Māori (6.3%).

Of the 15 men who died by suicide who had Corrections files and were serving prison sentences at the time of death, 7% (n=1/15) were Māori and 93% (n=14/15) were non-Māori. The most common type of sentence last given was ‘released on conditions’ (2.1%). This was higher for non-Māori (2.9%) than Māori (0.0%).

Category of offending

Table 6.28 shows the most common category of offending was traffic and vehicle regulatory offences (20.8%). Acts intended to cause injury accounted for 14.2%, while offences against justice procedures, government security and government operations accounted for 11.6%.

For Māori the two most common categories of offending were acts intended to cause injury (22.9%) and offences against justice procedures, government security and government operations (13.5%). For non-Māori the most common category of offending was traffic and vehicle regulatory offences (22%).

Table 6.28: Category of offending by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=337) (Corrections data)

	Ethnicity					
	Māori		Non-Māori		Total	
	n	%	n	%	n	%
Category of offending						
Unknown	6	6.3	46	19.1	52	15.4
Abduction, harassment and other offences against the person	6	6.3	8	3.3	14	4.2
Acts intended to cause injury	22	22.9	26	10.8	48	14.2
Dangerous or negligent acts endangering persons	.	.	11	4.6	11	3.3
Fraud, deception and related offences	2	2.1	9	3.7	11	3.3
Homicide and related offences	1	1.0	1	0.4	2	0.6
Illicit drug offences	6	6.3	10	4.1	16	4.7
Miscellaneous offences	.	.	1	0.4	1	0.3
Offences against justice procedures, government security and government operations	13	13.5	26	10.8	39	11.6
Prohibited and regulated weapons and explosives offences	.	.	11	4.6	11	3.3
Property damage and environmental pollution	3	3.1	4	1.7	7	2.1
Public order offences	2	2.1	4	1.7	6	1.8
Robbery, extortion and related offences	2	2.1	4	1.7	6	1.8
Sexual assault and related offences	2	2.1	6	2.5	8	2.4
Theft and related offences	9	9.4	12	5.0	21	6.2
Traffic and vehicle regulatory offences	17	17.7	53	22.0	70	20.8
Unlawful entry with intent/burglary, break and enter	5	5.2	9	3.7	14	4.2
Total	96	100.0	241	100.0	337	100.0

Number of sentences

Table 6.29 shows 36.5% of those with Corrections files had one to four unique prison sentences. The proportion of men who died by suicide with multiple sentences was generally greater for Māori than for non-Māori. For example, 42.7% of Māori had one to four sentences compared to 34% of non-Māori who had one to four sentences.

Table 6.29: Number of unique imprisonment sentences by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=337) (Corrections data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
Number of sentences						
Missing	6	6.3	42	17.4	48	14.2
0	35	36.5	105	43.6	140	41.5
1 to 4	41	42.7	82	34.0	123	36.5
5 to 9	12	12.5	9	3.7	21	6.2
10 to 14	2	2.1	2	0.8	4	1.2
15 to 19	.	.	1	0.4	1	0.3
Total	96	100.0	241	100.0	337	100.0

Note: The 140 offenders with zero unique imprisonment sentences are included in the data because they would have had unique community-based sentences rather than unique imprisonment sentences.

Table 6.30 shows 43.6% of those with Corrections files had one to four unique community-based sentences. The proportion of men who died by suicide with multiple sentences was generally greater for Māori than for non-Māori. The exception to this was for those with one to four sentences where non-Māori had 44% compared to 42.7% in Māori.

Table 6.30: Number of unique community-based sentences by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=337) (Corrections data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
Number of sentences						
missing	6	6.3	42	17.4	48	14.2
0	4	4.2	9	3.7	13	3.9
1–4	41	42.7	106	44.0	147	43.6
5–9	29	30.2	52	21.6	81	24.0
10–14	10	10.4	23	9.5	33	9.8
15–19	4	4.2	5	2.1	9	2.7
20–29	2	2.1	4	1.7	6	1.8
Total	96	100.0	241	100.0	337	100.0

Note: The 13 offenders with zero unique community-based sentences are included in the data because they would have had unique imprisonment sentences rather than unique community-based sentences.

Method of suicide

Table 6.31 shows the data that was available from Corrections on how 62 men died by suicide while serving a sentence. Seventy-nine percent of the 62 died by hanging, strangulation and suffocation. This method was used by both those on prison sentences (80%) and those on community-based sentences (78.7%). Those on community sentences also used other methods, including firearms and overdose of medication.

Table 6.31: Method of suicide of men on prison sentences and on community-based sentences aged 25–64 who died by suicide, 2007–11 (n=62) (Corrections data)

	Field held by Corrections					
	Yes, on community sentence		Yes, on prison sentence		Total	
	n	%	n	%	n	%
Method of suicide						
Nonopioid analgesics, antipyretics and antirheumatics	.	.	1	6.7	1	1.6
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	2	4.3	.	.	2	3.2
Other gases and vapours	5	10.6	1	6.7	6	9.7
Hanging, strangulation and suffocation	37	78.7	12	80.0	49	79.0
Other and unspecified firearm discharge	2	4.3	.	.	2	3.2
Sharp object	1	2.1	.	.	1	1.6
Crashing of motor vehicle	.	.	1	6.7	1	1.6
Total	47	100.0	15	100.0	62	100.0

ACC data

Data on ACC claims was sourced from ACC. The earliest ACC data is from April 1974. Table 6.32 shows most men had fewer than 15 ACC claims in the time period covered by ACC (since 1 April 1974). For some this will include their last, and fatal claim. Due to changes in ACC policy during the 2007–11 time period and inconsistencies with the reporting of wilful self-injury in the ACC data, it is not presented here.

Table 6.32: Number of ACC claims by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1229) (ACC data)

	Ethnicity							
	Māori		Non-Māori		Missing		Total	
	n	%	n	%	n	%	n	%
Number of claims								
1 to 4	35	17.9	242	23.5	2	50.0	279	22.7
5 to 9	60	30.8	323	31.4	1	25.0	384	31.2
10 to 14	36	18.5	215	20.9	.	.	251	20.4

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
15 to 19	39	20.0	123	11.9	.	.	162	13.2
20 to 29	18	9.2	89	8.6	1	25.0	108	8.8
30 to 39	3	1.5	30	2.9	.	.	33	2.7
40+	4	2.1	8	0.8	.	.	12	1.0
Total	195	100.0	1030	100.0	4	100.0	1229	100.0

Cause of accident

Table A7.25 in Appendix 7 shows the breakdown of causes of accidents by ethnicity for the ACC claims. For this in which a clear cause was identified, the following were the main causes: loss of balance/personal control (12.2%); lifting/carrying/strain (6.2%); struck by person/animal (4.9%); collision/knocked over by object (3.7%); slipping, skidding on foot (3.5%). The causes of 44.9% of all claims were reported as ‘none’ or ‘other or unclear cause’ (8.5%). Sport was involved in 6.4% of all claims (see Table A7.26 in Appendix 7).

ACC fund account

ACC has five accounts from which it covers claims. This gives an indication of whether accidents/injuries were work related, occurred outside of work, involved a motor vehicle or were connected with medical treatment.

1. The Work Account covers the claims for all work-related injuries.
2. The Earners’ Account covers claims for people in paid employment who are injured outside of work (eg, on the sports field or at home).
3. The Non-Earners’ Account covers claims for injuries to people who are not in the paid workforce, such as students, beneficiaries, retired people and children.
4. The Motor Vehicle Account covers claims for all injuries involving motor vehicles on public roads.
5. The Treatment Injury Account covers claims for treatment injuries (ie, injuries connected with the medical treatment being received).

Table 6.33 shows that within this subgroup, the majority of claims (33.9%) were for men in paid employment who were injured outside of work (earners account), followed by work-related injuries (31.1%), injuries for men not in the workforce (30.0%), and motor vehicles (5.0%).

Table 6.33: Type of fund account which covered ACC injury claim (ACC data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Name of fund account								
Earners account	651	28.0	3835	35.1	13	39.4	4499	33.9
Motor vehicle account	114	4.9	544	5.0	4	12.1	662	5.0
Non-earners account	913	39.3	3071	28.1	.	.	3984	30.0
Treatment injury account	1	0.0	5	0.0	.	.	6	0.0
Work account	642	27.7	3480	31.8	16	48.5	4138	31.1
Total	2321	100.0	10,935	100.0	33	100.0	13,289	100.0

Employment status

Table 6.34 shows 54.2% of men were employed at the time of their ACC claim and 26.2% were not earning. The proportion of non-earner was higher for Māori (36.3%) compared to non-Māori (24.1%). Of men who made claims, 1.3% were unemployed at the time of their ACC claim.

Table 6.34: Employment status at time of accident (ACC data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Was the person employed and how?								
Employed	1216	52.4	5957	54.5	28	84.8	7201	54.2
Non-earner	843	36.3	2640	24.1	.	.	3483	26.2
Other	3	0.1	312	2.9	.	.	315	2.4
Other + employed	1	0.0	4	0.0	.	.	5	0.0
Potential earners	27	1.2	215	2.0	.	.	242	1.8
Potential + other	1	0.0	.	.	.	.	1	0.0
Self-employed	59	2.5	1080	9.9	2	6.1	1141	8.6
Unemployed	29	1.2	144	1.3	.	.	173	1.3
Unknown earner status	142	6.1	583	5.3	3	9.1	728	5.5
Total	2321	100.0	10,935	100.0	33	100.0	13,289	100.0

Housing New Zealand

Data was requested for all men in this subgroup with files held by Housing New Zealand. Table 6.35 shows 3% (n=36/1272) of men in this subgroup were known to Housing New Zealand at the time of their death. Of this 3%, a higher proportion of Māori men aged 35–44

years (36.4%) and 45–54 years (36.4%) were known to Housing New Zealand compared to non-Māori men.

Table 6.35: Housing New Zealand files by age and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=36) (Housing New Zealand data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
Age at death						
25–34 years	3	27.3	7	28.0	10	27.8
35–44 years	4	36.4	6	24.0	10	27.8
45–54 years	4	36.4	7	28.0	11	30.6
55–64 years	.	.	5	20.0	5	13.9
Total	11	100.0	25	100.0	36	100.0

Of these 36 men, the majority had less than three housing moves during the time they were known to Housing New Zealand (Table 6.36).

Table 6.36: Housing New Zealand files by number of moves and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=36) (Housing New Zealand data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	%	n	%	n	%
Number of moves						
Missing	2	18.2	11	44.0	13	36.1
0	1	9.1	4	16.0	5	13.9
1	4	36.4	3	12.0	7	19.4
2	1	9.1	5	20.0	6	16.7
3	1	9.1	.	.	1	2.8
4	1	9.1	1	4.0	2	5.6
7	1	9.1	.	.	1	2.8
10	.	.	1	4.0	1	2.8
Total	11	100.0	25	100.0	36	100.0

6.4 Discussion

6.4.1 What's new?

In this chapter we have presented new information which has not been previously reported elsewhere for men who died by suicide in New Zealand. This includes information on the

location of fatal suicide acts, employment status, occupation, marital or relationship status, pharmaceutical use, hospital events, alcohol and drug involvement, PHO enrolment and information from Corrections, Police and ACC.

6.4.2 What other data sets could we use?

Ministry of Social Development data could allow more exploration of the financial issues that men have experienced in the years leading up to their death. For example, benefit receipt and type (eg, unemployment or sickness) from Work and Income and/or Inland Revenue data could provide information on financial hardship, debt write-off, outstanding tax returns, overdue student loan or child support payments, domestic maintenance payments, and audit activity. Ministry of Justice data could provide information on prosecutions, orders for drug and alcohol rehabilitation, fines, and orders relating to guardianship and care of children (including protection orders).

The new IDI system from Statistics New Zealand will offer an opportunity to explore linked longitudinal administrative data which will provide information on education, Police victim data and incident data, charges data, sentencing data, injury data, migration, tenancy, personal and business tax, income, labour force and business data. Access to this type of 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 in men who die by suicide. For this study, the IDI information was not considered useful for the analyses because it was not sufficiently detailed to be the sole data source for SuMRC use, and the data use requirements of the IDI data set do not permit IDI information to be linked to the existing SuMRC database (ie, it would have been supplied in aggregate form only).

6.4.3 What other information could be useful?

Data from primary care providers could provide information on the use of primary care mental health services, such as engagement with GPs and referrals to counselling. Information from large employer organisations that use Employee Assistance Programmes could potentially provide information about other sources of counselling or support that men access anonymously through their jobs.

In this first data-gathering exercise, there was limited time to carry out more in-depth investigations into a number of interesting findings. For example, there is potential to use the NNPAC data to look at ED and outpatient admissions in the year or two prior to death and what type of service/speciality was involved. There are also some areas where it would be useful to use comparisons with the general population.

There would also be potential value in a systems review approach for men using full coronial reports and other agency data. This could provide information relating to financial difficulty and relationship breakdown.

Data held by the New Zealand Insolvency and Trustee Service on bankruptcies could be explored. This is freely available online.[84] In this first data-gathering exercise, there was limited time to carry out a more in-depth investigation of this information.

6.4.4 Limitations of the data

There are a number of limitations to the data used in this chapter. Firstly, the lack of denominator data for creating rates limits comparison abilities. This is further discussed in Chapter 2. Secondly, the data collections used here have not been cleaned for consistency within data sources and the data has not been restricted to limited time periods. Therefore for most analyses, all data from particular sources has been used but the time period between data sources varies.

6.4.5 Possible intervention points for preventing suicide

Over 40% of men who had died by suicide had come to the attention of Police for an offence in the 10 years prior to death, 49.5% of these in the year before they died. The number of offences committed was highest among younger men. Furthermore, 27% of men who died by suicide had a Corrections-managed sentence. The SuMRC recommends that there is continued support for suicide awareness training that is being implemented in agencies including Police, Corrections and CYF.

The highest percentage of suicides was in men working in either the construction and trade industry or the farm and forestry industry. The Ministry of Health and Ministry for Primary Industries are already working with the Rural Health Alliance in making rural mental health a priority. The SuMRC recommends further exploration of opportunities for suicide prevention in the construction and trade industry. This could include looking at initiatives such as ‘MATES in Construction’ in Australia, which was established after a major report into the high suicides rates in the Australian construction industry.

[84] http://www.insolvency.govt.nz/cms

Chapter 7 Discussion and recommendations

7.1 Discussion

Table 7.1 shows how the aims and objectives of the SuMRC feasibility study, as agreed with the Ministry of Health in 2013, have been achieved. This is outlined in more detail in the remainder of this chapter.

Table 7.1: How the aims and objectives of the study have been met

Aims of the study	**Achieved**
Gather information on how a suicide mortality review might look and operate in New Zealand.	√
Increase knowledge of contributing factors and patterns of suicidal behaviour.	√
Identify key intervention points for suicide prevention.	√
Objectives of the study	
Develop and test processes for cross-agency data collection.	√
Identify potential foci for suicide-related data quality improvement and data set matching/integration.	√
Assess whether analysis of this data could provide new insights.	√
Provide, where possible, potential indicators, intervention points or policy/practice levers with clear potential to prevent suicide.	√
Design and test three different approaches to suicide mortality review and for each identify the key considerations for enhancement and implementation.	√
Explore the resource requirements of the approaches tested.[85]	√

7.1.1 Knowledge about patterns of, and factors contributing to, suicidal behaviour

The general findings of the subgroup analyses were consistent with what is already known about suicide in these groups. This agreement with previous research is important because it allows us to have confidence in suicide mortality review, should it develop over the longer term.

Some new insights arose due to our access to previously unexamined data sets, and the ability to match data across multiple data sets.

For all three subgroups, and especially rangatahi Māori and men, the nature and extent of engagement with Police and Corrections preceding and at the time of death suggests potential opportunities for suicide prevention. It would be useful to undertake a system analysis to examine these deaths in more depth, using the data and reports already

[85] The resource requirements are not included in this report, but have been provided separately to the Ministry of Health.

collected for the study and not yet analysed (and other additional data that may be available). For example, looking at a timeline of engagement with Police, Corrections and health services may reveal patterns of multi-agency contact with opportunities for intervention.

For rangatahi Māori, over 40% had come to the attention of CYF at some point. Only a small proportion had acquired literacy and numeracy qualifications, and over a quarter had been stood down from school at some point. More than half had accessed specialist mental health services, with more than one-fifth referred to alcohol or drug addiction services or counselling. 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. Twenty-two percent had been exposed to family violence and 14% had disclosed sexual abuse at some point (23% for female rangatahi).

For men, 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 there is a clear opportunity for suicide intervention based in these industries.

For some service users there appeared to be a pattern of increasing service activity in the period leading up to death. It appeared that although input had increased, it may not have been directed towards the changing needs of the consumer. Further investigation may reveal possibilities for suicide prevention in such cases.

The significance of alcohol consumption around the time of death is difficult to assess due to poor data collection. Good data about alcohol consumption has potential to provide useful insights into suicide, and opportunities to improve data collection should be pursued.

Tables 7.2 and 7.3 summarise the SuMRC findings that reinforce previous knowledge and those that reveal new or stronger findings.

Table 7.2: SuMRC findings that reinforce previous knowledge

	Rangatahi Māori 15–24 years (n=194)	**Mental health service users (n=829)**	**Men 25–64 years (n=1272)**
Demographics			
Male sex	125 (64%)	565 (68%)	1272 (100%)
Person living in a deprived area (most deprived deciles – ie, NZDep2006* deciles 9–10)	95 (49%)	Not analysed	Not analysed
Māori ethnicity	194 (100%)	163 (20%)	202 (16%)
Unemployment†			
Person was unemployed at the time of their death	Poor data	286/712 (40%)	329/1111 (30%)
Māori in subgroup who	Poor data	75/141 (53%)	70/168 (42%)

were unemployed at the time of their death			
Details of suicide			
Died by hanging, suffocation or strangulation	180 (93%)	474 (57%)	733 (58%)
Māori within subgroup who died by hanging, suffocation or strangulation	180 (93%)	123 (76%)	145 (72%)
Died at home	126 (65%)	552 (67%)	864 (68%)

* NZDep2006 = New Zealand Index of Deprivation 2006.

† For men of working age and mental health service users, unemployment data was only available for a portion of the group. For more information, see Chapter 5 and Chapter 6.

Table 7.3: SuMRC findings that reveal new or stronger findings

	Rangatahi Māori 15–24 years	**Mental health service users**	**Men 25–64 years**
Mental health service use	**(n=167)**	**(n=829)**	**(n=1272)**
Person had a file with a mental health service	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 that 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 placed under legal status by CYF	23/194 (12%)	Not analysed	Not analysed
Police file	**(n=194)**		
Person had a file with Police	119/194 (61%)	416 (50%)	527 (41%)
Person had an offence code in the year prior to death	65/194 (34%)	231 (28%)	258 (20%)
Person had an offence code within three months of death	34/194 (18%)	117 (14%)	133 (10%)

Corrections file	(n=134)*		
Person had a file with Corrections	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 education	95/162 (58.6%)	Not analysed	Not analysed
Completed a post-secondary qualification	21/162 (13.0%)	Not analysed	Not analysed

Note: the sample size for rangatahi Māori varies depending on data availability. See Chapter 4 for more information.

* Data is for rangatahi aged 17–24 years only because children under 17 do not come to Correction's attention.

7.1.2 Intervention points for suicide prevention

Training frontline staff

Most people who died by suicide were known to a number of government agencies.

The involvement of frontline services appears to be significant. This includes first responder agencies such as Police but also other social services and health agencies. The *Suicide Prevention Action Plan 2013–2016* includes actions to improve the resources available to frontline workers such as DHBs (action 2.2) and education providers (action 2.3), and to train social support services staff, police officers, Work and Income staff members, and district court staff to identify and support individuals at risk of suicide (actions 3.1–3.4) (Ministry of Health 2013). There are also separate actions for employees involved with children and young people in CYF care, and for Corrections staff members. It is important to continue such upskilling activities. Analysis from this study suggests that there is scope for agencies, particularly Police, Corrections and CYF, to continue to be prioritised in the Government's suicide prevention activities.

Unless engaging agency staff in suicide-specific training is an embedded, prioritised activity for an organisation, simply offering staff training, especially as a one-off, may not be a good use of resources. Frontline staff training (also known as 'gatekeeper training') is a well-established strategy in international suicide prevention efforts (WHO 2014). It works best when it is aligned with and embedded in organisational practices and policies that ensure

timely and skilled follow-through after a frontline staff member has ascertained that a person may be at risk. Some DHBs already support gatekeeper training and this is an area that could be further strengthened.

Just over 50% of the rangatahi Māori and men who died by suicide had accessed publicly funded secondary mental health services, and almost 90% were enrolled with a primary care provider at the time of death. This suggests that there may be scope to increase suicide prevention training in health agencies, alongside non-health agencies.

As above, it could be useful to undertake an in-depth analysis of these deaths, using the data and reports already collected for the study and new data from other agencies that have not yet provided data, or who provided data too late to be included in this study. An in-depth analysis has potential to identify more clearly targeted intervention points.

Managing and responding to multi-agency engagement

DHBs and other agencies could consider a different model for multi-agency service coordination. 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, a 'Whānau Ora' type response may be worth consideration. The strengths of Whānau Ora in whānau-centred engagement and in cross-agency work may be appropriate to draw on.

The DHB suicide prevention toolkit on the Ministry of Health website has some examples of local interagency suicide prevention networks which coordinate activities across agencies and provide an avenue for integrated and rapid response 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 such networks. DHBs are being encouraged to take the lead in this.

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 and links and make 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.

Approaches to therapeutic intervention in mental health services

The analysis showed that there are opportunities to encourage mental health services to better support people with complex or multiple needs. It could be useful to either use the data collected for the 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, especially where there is a pattern of increasing service activity. These DHBs could be used as exemplars of good practice.

The data indicated that mental health service users with more than 30 days or points of contact with a service in any three-month period may be a group 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.

The mental health service user data revealed a 'risk management' approach to mental illness as opposed to a recovery approach. Frequent risk assessments without long-term planning of care may be a sign of a service failing to respond to the needs of a service user. A recovery approach may allow service users to take an active role in their own care, reducing a sense of helplessness evident in the care of many of the service users we examined. The wider agency data showed that there are generally a number of social agencies involved in each service user's life, and again, work towards a coherent multi-agency management plan for those at risk would be valuable.

A risk management approach appears to have become the standard approach to therapeutic intervention in recent times. This is in comparison to a more traditional 'formulation' approach, where diagnoses were considered in the wider context of a service user's life. The SuMRC opinion is that there should be increased emphasis on problem formulation and management in mental health clinician training.

Targeting occupational groups

The Ministry of Health is already working with the Rural Health Alliance to prioritise rural mental health. The SuMRC recommends that the Ministry of Business, Innovation and Employment should consider undertaking suicide prevention activities with the construction industry (see for instance the 'MATES in Construction' initiative in Australia).

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

The opportunity to test the specific processes of mortality review for suicide was valuable. While the data analysis was limited by time, there were some preliminary insights to add to the evidence base and influence suicide prevention activities in New Zealand. However, one of the most important contributions of this feasibility study has been the lessons about how a suicide mortality review should function.

Mortality review reveals new information for suicide prevention

We consider that a formal national suicide mortality review, and in particular data linkage activity, is needed.

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.

Data collection and linkage requires substantial time investment

Data acquisition was a challenging aspect of the study and as such represents an 'upfront' investment that has now already been made. The process of obtaining data from the varied

agencies was much more time-consuming, and at times more complicated, than anticipated. The researchers initially cast a wide net and included health and non-health, and government and non-governmental, agencies in a data 'wish list'. As expected, government health-related data was the most easily obtainable, followed by non-health government data. Due to the short timeframe of the study, some desired government data was not obtained, and non-governmental data was not obtained.

The additional time required for data acquisition was primarily due to the process of establishing cross-agency relationships prior to data transfer. There had been an assumption that data would be obtained quickly from those non-health agencies that provide data to the FVDRC processes. However, this was not the case; there was no time-saving from previous contact through the FVDRC. Relationships had to be established from scratch, either because of staff changes, because data was obtained from different divisions of other agencies, or because the volume of data requested was significantly more than for the FVDRC process.

With more time, stronger interagency relationships would be established that would allow additional data to be obtained and stored as part of an expanded SuMRC data set. In addition to the Ministry of Justice and Inland Revenue data, data from Immigration New Zealand, PHOs, private health care providers (eg, private counsellors), the Companies Register and debt collection agencies are avenues for further exploration. As data-sharing becomes easier between agencies, with the IDI project and other initiatives, we expect that this process would become streamlined. Furthermore, data systematically gathered to focus on suicide deaths would accumulate, enabling analysis in subgroups where annual or even five-year numbers are small.

The experiences of this feasibility study in regard to the time required to establish relationships and gather cross-agency data reflects the experiences of other mortality review committees in their early days. The four permanent mortality review committees have each taken three to five years to establish strong interagency relationships that can be used to drive mortality reduction.

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 analysis of the data as part of the consultation process.

Importance of mortality review committee status

The fact that the research team was able to obtain any data from external agencies was due to their status as agents of a mortality review committee under the NZPHDA. The SuMRC agents explained and used this legislative mandate in all correspondence relating to information acquisition. The SuMRC agents believe it would be extremely difficult to carry out this work without the data collection (and protection) provisions in the NZPHDA, because it served to reassure other agencies about protection of their data as they prepared to release it to the SuMRC.

The data acquisition provisions under the NZPHDA are strong, but were not sufficient to obtain data from Inland Revenue in time for this study. The secrecy provisions of section 81 of the Tax Administration Act appeared to supersede the NZPHDA, and the SuMRC had to

apply to gather Inland Revenue data by exemption under section 81(4)(j) of the Tax Administration Act. Some initial Inland Revenue data was subsequently released to the SuMRC, although not in time to be included in this report.

Mortality review committee status gives credibility and stature to recommendations, as well as the ability to follow up and assess the uptake of recommendations. It also enhances the ability to work with other national agents, such as coroners.

Finally, a SuMRC that is tightly coupled to health yet also at arm's length from it would have the ability to shape the discourse and review the effectiveness of suicide prevention activities at a national level.

7.1.4 Lessons about how a mortality review function should operate

Suicide mortality review for Māori

This study allowed for the development and testing of a Kaupapa Māori approach, which we believe added significant value to the other approaches tested. However, there were concerns due to the legal platform around mortality review committees, and the different approaches to research ethics between 'Western' frameworks and Kaupapa Māori frameworks. It was clear from the feasibility study experience that more time, resource and advice would be required to resolve concerns.

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 mortality review committees. The structure of mortality review committees is defined by legislation that does not easily support a Kaupapa Māori framework. Many aspects of the process – including identifying potential participants, consent for 'participation', data collection and ownership, dissemination of the gathered stories, and consultation – required working through differences between Kaupapa Māori and mortality review methodologies. Further scoping work should be undertaken with the oversight of the Commission's Māori Caucus before a Kaupapa Māori approach is repeated.

Mental health consumer representation

Having mental health consumer representation on the SuMRC and the research team was invaluable and provided the opportunity for insights that might not have been gained otherwise. We recommend that a future SuMRC continues to have mental health consumer representation.

Working with coroners

Coroners have an important role in determining causes of death and in making recommendations to reduce deaths from specific causes where possible. In recent years the former Chief Coroner raised the profile of coronial processes in relation to suicide prevention. Working closely alongside the Chief Coroner and other coroners would add considerable value to a future SuMRC, and a SuMRC could also add value to the coronial process, especially in relation to data collection and formulation of effective recommendations.

Publication of data on methods

We have included data on hanging as it is the most common method of suicide used in New Zealand and this information is already in the public domain. However, we have not included data on specific combinations of overdosed medications.

7.1.5 Identification of a future work programme

Any ongoing SuMRC will need to develop a work plan that is based on an overarching framework and explicit prioritisation principles.

Some work plan ideas that were identified through the feasibility study and subsequent consultation process that could be considered for a future work programme include:

Using already collected data to undertake:

- an in-depth review across the three subgroups for those with a Police, Corrections or CYF file with the aim of identifying new prevention initiatives
- an in-depth review of the subgroup men aged 25–64 with the aim of identifying new prevention initiatives
- further work on children under 15.

Using already collected and new data to review:

- suicide in Pasifika communities
- primary care prescribing, contacts, use of analgesics, and alcohol and drug use
- choice of methods of suicide in New Zealand (which are significantly different to other countries)
- whether mental health service use data can identify specific time points where service users are at particular risk of suicide
- suicide in rural areas
- people over 65
- youth with mental health issues, particularly around transition from child and youth to adult services
- school drop-out, non-enrolment, alternative education, kura kaupapa Māori enrolment and other educational issues
- attempted suicide and admissions for self-harm – this could include the role of emergency departments and emergency/crisis mental health services for people who presented with suicidal behaviours/attempts and who subsequently died by suicide and/or comparative analysis of those who died by suicide compared to those who made suicide attempts
- use of social media.

Additional data sources:

- collect base rates
- investigate additional information from Statistics New Zealand's Integrated Data Infrastructure (IDI) project, Immigration New Zealand, primary health organisations,

prescriptions, private healthcare providers, the Companies Register, debt collection agencies, and social media organisations.

Standardising data collection including:

- developing a standard for DHB reviews and reporting of suicide and collectively reviewing these centrally
- developing with Police and Coroners a minimum set of data to be collected when suicide is suspected
- working with the Office of the Chief Coroner and Royal College of Pathologists of Australasia on standardised testing and data collection for all cases of suspected suicide.

Data dictionary:

- constructing a data dictionary and master data set (of thoroughly cleaned data) and/or a national suicide case register.

7.1.6 Limitations

A limitation of the study is that no denominator data, or comparative rates, were available within the timeframe of the contract. This limits the strength of some recommendations. For example, we do not know the number of working-age men in the general population who have had contact with Corrections and Police (and for what offences). This means that we do not know whether such contact is 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, would be an option for a future permanent SuMRC. We note that the issue of lack of denominator data for comparisons with the general population was also experienced by other mortality review committees in their early days.

Another limitation arises from the use of external data sets, some of which were incomplete or not functional for the full 2007–11 time period. Lack of access to other key data sets was a further issue. Specifically, these include data held by Inland Revenue and the Ministry of Justice, and more detailed data from the Ministry of Social Development. The SuMRC is of the view that further exploration of these data sets is warranted. Subsequent to the analysis for this report being completed, both Inland Revenue and the Ministry of Justice have agreed to provide data.

The limitations created by time and resource constraints have been highlighted throughout this report. However, the overall purpose of the study was to explore the feasibility of a suicide mortality review committee. These limitations are not material to the assessment of this key objective.

7.2 Recommendations

The 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 Commission

8. the Commission Board review their 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 Police, Corrections and CYF 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. DHB and NGO 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 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 Police and Coroners to develop a standardised minimum set of data to be collected when suicide is suspected
    b) the Commission, Ministry of Health and DHBs to develop and standardise a minimum set of data to be collected as part of serious adverse events reporting.

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 is 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.
Involved with	'Involved with' or 'have had involvement' with CYF is not well defined and is not a term officially used or defined by CYF. It has in the past been used to refer to involvement ranging from isolated phone calls to intensive interventions.
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 CYF. 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 CYF 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 CYF 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 CYF'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
ANZSCO	Australian and New Zealand Standard Classification of Occupations
CMS	Case Management System
CYF	Child, Youth and Family
CYMRC	Child and Youth Mortality Review Committee
DHB	District health board
ESR	Institute of Environmental Science and Research
FVDRC	Family Violence Death Review Committee
ICD	International Classification of Diseases
IDI	Integrated Data Infrastructure
MORT	Mortality Collection
NCEA	National Certificate of Educational Achievement
NEN	Non-Enrolment Notifications
NGO	Non-governmental organisation
NHI	National Health Index (a unique identifier used in health)
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
NZQA	New Zealand Qualifications Authority
NZSCO90	Statistics New Zealand Standard Classification of Occupation
PHO	Primary health organisation
PMMRC	Perinatal and Maternal Mortality Review Committee
POMRC	Perioperative Mortality Review Committee
PRIMHD	Programme for Integration of Mental Health Data (Ministry of Health database)
PRI-DM	PRIMHD-Data Mart
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
Atua	Ancestor with continuing influence over particular domains; normally invisible deity but possibly with visible representations (often translated as 'God' and used in reference to the Christian God – a misconception of the real meaning)
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
Hapū rohe	Subtribal area/s
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
Hine	Younger female/s, girl/s, daughter/s
Hōhonu	Deep, esoteric
Hui	Gathering/s, meeting/s
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
Kete	Basket/s, kit/s
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

Kuia	Elderly woman/women, grandmother/s, female elder/s
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
Mākutu	'Witchcraft', 'sorcery', 'spell/s'
Mana	Integrity, prestige, authority, power, influence, status
Mana tangata	Human rights, status
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
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
Marae	The open area in front of a wharenui, 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
Mātauranga Māori	Māori knowledge originating from the tīpuna; includes Māori worldviews and perspectives
Mate Māori	Māori psychosomatic illness or sickness attributed to transgressions of tapu or to mākutu
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
Mokopuna	Grandchild/grandchildren; child or grandchild of a son, daughter, nephew, niece, etc.
Noa	Unrestricted, free from tapu
Ohinga	Youth, childhood
Pākehā	New Zealand European
Pēpi	Baby/babies
Pūhou	Young, youthful
Pūrākau	Storytelling
Rāhui	Embargo, quarantine
Rangatahi Māori	Māori youth

Rangatira	Chief/s
Raranga	Weaving
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
Taiohi	Young, youthful
Taitama	Young man, youth
Taitamariki	Youth, teenagers, young people, adolescents
Takatāpui	Māori who identify as lesbian, gay, bi-sexual, transgender or intersex
Tama	Son/s, boy/s, nephew/s
Tamariki	Children
Tapu	Restricted, sacred, forbidden, confidential, prohibited
Te ao Māori	The Māori world
Te reo Māori	The Māori language
Tihei mauri ora	Sneeze of life. 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
Tikanga	Correct procedure, custom, lore, method, manner, practice, protocol
Tikanga Māori	Correct Māori procedures, custom, lore, methods, manner, practices and protocol
Tipuna/Tupuna	Ancestor
Tīpuna/Tūpuna	Ancestors
Titiro	To look, examine, observe
Tūpāpaku	Corpse/s, cadaver/s, body/bodies of deceased person/persons
Wāhine	Women
Wai	Water, used for spiritual cleansing
Wairua	Spirit/s, soul/s
Wānanga	Seminar/s, series of discussions
Whakaaro	Thought/s, opinion/s, understanding/s, idea/s
Whakanoa	To remove/free from tapu, make ordinary
Whakapapa	Genealogy, ancestry
Whakarongo	Listen
Whakataukī	Proverb/s
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
Whāngai	Foster child/children (this is a customary practice – often an eldest grandchild is brought up by grandparents, or a niece or nephew is adopted by one of the brothers or sisters of a parent, but almost always the foster child is a blood relation, usually a close relation)
Whare tupuna	Carved meeting house and the central building of a marae
Whare wānanga	University/universities
Wharenui	Meeting house/s
Whenua	Placenta/s

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Appendix 1 Summary of consultation feedback

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 Commission Board, Māori Caucus and CYMRC members. The SuMRC wishes to thank the following organisations and individuals for their useful responses.

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

Main points from the feedback are included below. Most have been incorporated into this final report.

Establishment of a permanent SuMRC

All but one respondent agreed with the recommendation that a permanent SuMRC be established for a period of 10 years. It was noted that a longer-term committee would be needed to make a real impact.

How a SuMRC should function

There was broad agreement with the recommendations on how a SuMRC should function. There were mixed views about the focus on subgroups, with most supporting it, but a few noting that it could restrict approaches for those outside these groups.

The need for systems and processes to follow tikanga for any Māori data or research methods involving deceased Māori files was identified. The need to use Māori methodologies was also identified. A view was expressed that nothing can be learned from the Māori data if non-Māori methodologies are consistently used to throw a lens on these.

There was a suggestion that Māori be selected onto the SuMRC in a kaupapa way; for example, through engagement with iwi stakeholders rather than a standard appointment process.

There was a strong recommendation from central agencies that a closer working relationship between SuMRC and CYF, Police and Corrections, particularly around data analysis, would greatly enhance future review work. This could involve the appointment of agency advisors to support and work with the SuMRC. This has been incorporated into the recommendations.

Some respondents who had been involved with the CYMRC suggested that a local case review process be implemented.

Possible future SuMRC work plan

There was broad agreement with the recommended work plan. Some, however, considered that a future work programme needed more in-depth analysis of the findings, and more of the ‘so what does this tell us?’ Suggestions for more in-depth analysis included:

- deeper analysis of primary care usage by people who died by suicide
- deeper understanding of rural suicide
- deeper understanding of the role of emergency departments and emergency/crisis mental health services for people who died by suicide
- more analysis/data collection in relation to school dropout, non-enrolment, enrolment in alternative education (risk factors) – and also enrolment in kura kaupapa Māori (which may be a protective factor).
- comparative analyses of those who died by suicide compared to those who made serious suicide attempts
- exploring the hypothesis that multi-agency timelines could be used in real time as a suicide prevention tool – that is, showing which agencies have had contact and when, with a hypothesis that increasing contact across agencies represents a pattern of increasing risk

- work on youth with mental health issues – especially when they transition (or don't) to adult services.

It was suggested that an overarching framework with prioritisation principles and/or sequencing be developed.

Other suggestions for the work of a continuing SuMRC included:

- a review of the process DHBs use to conduct and report reviews of suicide
- a systematic review of evidence for various health service based interventions including for people attending emergency departments, those coming to the attention of mental health services and those attending primary care.

It was suggested that the SuMRC work alongside the Ministry of Health in the refresh of the strategy and development of a new action plan in 2016 – using their expertise and findings to inform the work.

Recommendations for health agencies

There were divided views about the value of whānau stories. Some think the methodology has great potential, not just for Māori, but also for broader groupings. Others felt it was too early to reach any valid conclusions. Caution was recommended about including a recommendation about the use of whānau stories in the report as there are still issues to be resolved around the process. Some respondents noted that there are already programmes that include providing a safe forum for people to tell their story of their loved one's suicide.

There was general agreement about use of the 'MATES in Construction' programme. It was suggested that this be broadened so as not to limit programme options and to include farming.

There was general agreement that mental health services need to be improved urgently to reduce suicides and to encourage increased commitment to reducing the incidence of suicide among mental health services – but differing views on what needs to be done.

Recommendations for Corrections, Police, Work and Income and CYF

There was general support for a recommendation relating to training for Corrections, Police, Work and Income and CYF staff. The recommendation in the final report has been amended to acknowledge the training already being done by these agencies. There is also a recommendation about strengthening working relationships to ensure best possible understanding of wider agency data and policy and more consistent data gathering.

Improved data collection

Improved data collection was suggested in the following areas:

- universal standardisation of ethnicity reporting of Māori across all government departments
- improved alcohol and drug data (with some caveats about how associated costs would be met)
- employment status to be compulsory in data collected in cases of suicide.

Other feedback

In addition to feedback on the recommendations, some respondents commented on issues relating to data collection and analysis, methodology, ethics and other matters. Feedback included:

- the need for denominator data or rates to strengthen the findings and recommendations – the final report explains why this has not been possible for this first report and how this may be improved in future
- divided views about how much of the information generated in the review was new and how much confirmed previous research – some commented that the findings mainly supported existing knowledge, and others commended the interesting new insights and clear themes emerging
- confusion by some respondents about how the SuMRC fits into other suicide review work being carried out across government (including the coroner)
- two respondents questioned the research methodology, noting that it did not follow the usual format of developing key questions and hypotheses and using the data to examine these – the final report explains the difference between conventional research and mortality review methodology.

A number of respondents commented on the future make-up of the SuMRC. Most of the suggestions are already in place in terms of committee membership; for example, Māori, Pacific peoples and service user representation. The names and a short description of members of the SuMRC is now included in the report.

Correction of details and clarification

The government agencies from which data was collected provided very useful feedback on some of the detail relating to their data and clarification that should be included in the final report.

Appendix 2 Technical appendix on the calculation of rates

Proportions are provided for the three population subgroups

Within each of the population subgroups, proportions are provided for the variables of interest. Thus we know the proportion by age groups, of females, and of Māori within each subgroup. We have the denominator (total in each subgroup) and we have the numerator (number in the sample who meet the criteria).

Proportions for a specified time period are in fact rates. Rates are commonly presented following a standardisation process in order to allow some sort of comparison. For example, suicide rates may be compared between DHBs following standardisation by age, sex and ethnicity, as the composition of the populations of each DHB may vary by these factors.

In this feasibility study, we have not presented the data with comparable population rates for several reasons. Firstly, the population comparisons required determining which population to use, and this was not usually straightforward. Secondly, if a population comparison was agreed, it would have required obtaining additional data from other agencies. Thirdly, and in relation to these two reasons, there was insufficient resource available to do this within the context of a feasibility study. Finally, some of the variables had significant numbers of missing values which would have made population comparisons difficult.

The SuMRC notes that other mortality review committees shared these denominator problems in their early phases.

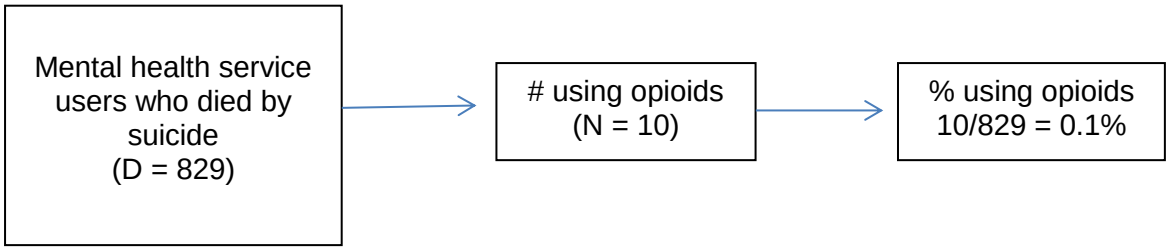
Determining a comparator population is not always straightforward

For analytical purposes, rates could be used to compare features of the suicide cohort with those who did not die by suicide. Due to the short timeframe and main purpose of the feasibility study, the SuMRC decided that data for comparison groups would not be explored. However, in recognition that a permanent SuMRC might wish to consider exploring comparison groups for analytical purposes, we outline here some of the technical issues that need to be considered to inform decisions about further analyses.

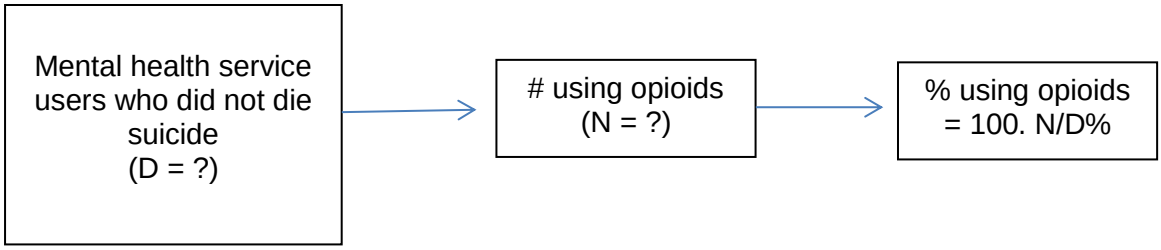
To give an illustrative example, if we wanted to know if opioid or other drug use increased the risk of suicide, we would need to compare the rate of opioid use in the suicide cohort with the rate of opioid use in a similar population subgroup that did not die by suicide. For mental health service users, for example, this could be mental health service users of the same age who did not die by suicide. We would then compare the rates among the two groups to see if there was any difference (Figure A2.1).

Figure A2.1: Calculating rates among suicide and non-suicide deaths

Rate among suicide deaths:



Rate among non-suicides:



N = numerator

D = denominator

However, it would need to be clarified whether the comparator population was mental health service users who died from other means, or mental health service users who were still alive.

A second issue arises with variables that can change over time. For example, with employment, the coronial data recorded the employment status of those who died by suicide at the point of their death. However, with comparison population, the employment status can change over time. A way around this might be to match 'cases' and 'controls', but this would be a significant undertaking because it would require firstly finding an appropriate match for each case, and secondly determining a point in time at which to measure the employment status of that matched control. The reason for needing to match the controls is to only count each control once within the 2007–11 time period (eg, taking that person's employment status at the point in time that their matched case died).

For each variable of interest, Table A2.1 and Table A2.2 outline the numerator and denominator required for calculating the comparison rates, the availability of this data and some of the limitations.

Table A2.1: Consideration of numerator and denominator data required for the men of working age subgroup

Variable	Rates among suicide cohort (men)	Rates among non-suicide cohort (men)	Data source	Data availability	Limitations

Age distribution/ ethnicity	Ministry of Health data (in report)
	N = # age/ethnicity
	D = 1272 men aged 25–64 died by suicide
		Proportions of men aged 25–64 for 2007–11
		N = # age/ethnicity
		D = # men aged 25–64 in population
			N = Census
			D = Census
				Available	Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.
					Ethnicity definitions would vary between the Census and Ministry of Health data sets.

Employment/ unemployment	Coronial data (in report)
	N = # unemployed etc.
	D = 1272 men aged 25–64 died by suicide
		Rate among men aged 25–64 for 2007–11 by employed, unemployed, student, prisoner etc.
		N = # unemployed etc.
		D = # men aged 25–64 in population
			N = Census
			D = Census
				Requires a special data request to get data for men aged 25–64 for 2007–11.
				There is some data on Statistics New Zealand's website, but only on unemployment and employment, not the other categories.
					Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Occupation*	Coronial data (in report) N = # 2-digit occupation group D = 1272 men aged 25–64 died by suicide	Rate among men aged 25–64 for 2007–11 broken down by 2-digit ANZSCO N = # 2-digit occupation group D = # men aged 25–64 in population	N = Census D = Census	Requires a special data request to get ANZSCO occupation at the 2-digit level for men for 2007–11.	Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Marital status	Coronial data (in report)
	N = # marital status group
	D = 1272 men aged
		Proportions among men aged 25–64 for 2007–11 by married, never married, separated, divorced	N = Census
			D = Census
				Requires a special data request to get data for men aged 25–64 for 2007–11.	Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Variable	Rates among suicide cohort (men)	Rates among non-suicide cohort (men)	Data source	Data availability	Limitations

	25–64 died by suicide	etc.
		N = # marital status group
		D = # men aged 25–64 in population			

Drug use	Ministry of Health data (in report)
	N = # drug use class/group
	D = 1272 men aged 25–64 died by suicide
		Rate among men aged 25–64 for 2007–11 by drug group
		N = # 2 drug use class/group
		D = # men aged 25–64 in population
			N = Pharmaceutical Collection (not PRIMHD as this will miss men not listed as mental health service users)
			D = Census
				Pharmaceutical Collection	Pharmaceutical Collection: time-consuming to obtain.
					See http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/collections/pharmaceutical-collection
					Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Alcohol involved	Ministry of Health data (in report)
	N = # alcohol involved or not
	D = 1272 men aged 25–64 died by suicide
		No comparable variable: alcohol use from Health Survey not comparable.
		N = # ?
		D = # men aged 25–64 in population
			N/A	N/A	N/A

Method used/ location of fatal act	Ministry of Health data (in report)
	N = # method
	D = 1272 men aged 25–64 died by suicide
		No method or location as no suicide	N/A	N/A	N/A

Police files (offences and	Police data (in report) N = # offences/types	Rate of offences among men aged 25–	N = Police offence data	We do not have the Police data on all men	Police data: Limitations outlined in report.

Variable	Rates among suicide cohort (men)	Rates among non-suicide cohort (men)	Data source	Data availability	Limitations

offence types)	D = 1272 men aged 25–64 died by suicide	64 for 2007–11 (by offence type)
		N = # offences among men aged 25–64
		D = # men aged 25–64 in population
			D = Census	aged 25–64, we only have data on suicides.
				There was no time to explore the availability of this data in the Statistics NZ IDI.
					Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Corrections files (sentence types)	Corrections data (in report)
	N = # sentences
	D = 1272 men aged 25–64 died by suicide
		Rate of sentences among men aged 25–64 for 2007–11 (by sentence type)
		N = # sentences among men aged 25–64
		D = # men aged 25–64 in population
			N = Corrections sentence data
			D = Census
				Not currently available. We do not have the Corrections data on all men aged 25–64; we only have data on suicides.
				There was no time to explore the availability of this data in the Corrections database.
					Corrections data: Limitations outlined in report.
					Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

* For Occupation it would be useful to know if there are higher rates of suicide among trade and construction workers and farmers or if these are occupations with a large proportion of men aged 25–64 years. Statistics New Zealand does not provide standard tables of occupation at the 2-digit level of the ANZSCO for men (or for men aged 25–64 years for the specified years). Statistics New Zealand has this data – it needs to be obtained by a special request. Even then a limitation of the Census data is that it will include those who have since died by suicide.

N = numerator

D = denominator

= number

ANZCO = Australian and New Zealand Standard Classification of Occupation

Corrections = Department of Corrections

Police = New Zealand Police

PRIMHD = Programme for Integration of Mental Health Data

Table A2.2: Consideration of numerator and denominator data required for the mental health service users subgroup

Variable	Rates among suicide cohort (mental health service users)	Rates among non-suicide cohort (mental health service users)	Data source	Data availability	Limitations

Age distribution/ ethnicity	Ministry of Health data (in report)
	N = # age/ethnicity
	D = 829 mental health service users died by suicide
		Rate among mental health service users for 2007–11
		N = # age/ethnicity
		D = # mental health service users who did not die by suicide
			N = Census
			D = PRIMHD
				Available	Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.
					PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.

Employment/ unemployment	Coronial data (in report)
	N = # unemployed etc.
	D = 829 mental health service users died by suicide
		Rate among mental health service users for 2007–11 by employed, unemployed, student, prisoner, etc.
		N = # unemployed etc. mental health service users who did not die by suicide
		D = # mental health service users who did not die by suicide
			N = Not available in PRIMHD (and no coronial data unless a sudden death, and Census will not distinguish who is a mental health service user)
			D = PRIMHD
				Not available	PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.

Occupation*	Coronial data (in report) N = # 2-digit occupation group D = 829 mental health service users died by suicide	Rate among mental health service users for 2007–11 broken down by 2-digit ANZSCO N = # 2-digit occupation group of mental health service users	N = Not available in PRIMHD (and no coronial data unless a sudden death, and Census will not distinguish who is a mental health service user)	Not available	Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Variable	Rates among suicide cohort (mental health service users)	Rates among non-suicide cohort (mental health service users)	Data source	Data availability	Limitations
		D = # mental health service users who did not die by suicide	D = PRIMHD		

Marital status	Coronial data (in report)
	N = # marital status group
	D = 829 mental health service users died by suicide
		Rate among mental health service users for 2007–11 by married, never married, separated, divorced etc.
		N = # marital status group
		D = # mental health service users who did not die by suicide
			N = Not available in Census for mental health service users specifically, not available in PRIMHD and coroners not relevant here
			D = PRIMHD
				Not available	PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.
					Census: Will require interpolating data between 2006 and 2013 Censuses. Census will include men who have since died by suicide.

Drug use	Ministry of Health data (in report)
	N = # drug use class/group
	D = 829 mental health service users died by suicide
		Rate among mental health service users for 2007–11 by drug group
		N = # 2 drug use class/group
		D = # mental health service users who did not die by suicide
			N = No coronial data for this group. Possibly Pharmaceutical Collection matched to PRIMHD data?
			D = PRIMHD
				Needs to be explored.	Pharmaceutical Collection: see
					http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/collections/pharmaceutical-collection
					PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.

Alcohol involved	Ministry of Health data (in report)
	N = # alcohol involved or not
	D = 829 mental health service users died by suicide
		N = # ? (How might this be determined – eg, would it be rate of alcohol involved in lifetime use?)
		D = # mental health service users who did not die by suicide
			N/A	N/A	N/A

Variable	Rates among suicide cohort (mental health service users)	Rates among non-suicide cohort (mental health service users)	Data source	Data availability	Limitations

Method used/ location of fatal act	Ministry of Health data (in report)
	N = # method
	D = 829 mental health service users died by suicide
		No method or location as no suicide	N/A	N/A	N/A

Police files (offences and offence types)	Police data (in report)
	N = # offences/types
	D = 829 mental health service users died by suicide
		Rate of offences among mental health service users who did not die by suicide (by offence type)
		N = # offences among mental health service users who did not die by suicide
		D = # mental health service users who did not die by suicide
			N = Police unlikely to be able to identify mental health service users
			D = PRIMHD
				Unlikely
				There was no time to explore availability of Police data for this.
					Police data: Limitations outlined in report.
					PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.

Corrections files (sentence types)	Corrections data (in report)
	N = # sentences
	D = 829 mental health service users died by suicide
		Rate of sentences among mental health service users who did not die by suicide (by sentence type)
		N = # sentences among mental health service users who did not die by suicide
		D = # mental health service users who did not die by suicide
			N = Corrections unlikely to be able to identify mental health service users
			D = PRIMHD
				Unlikely.
				There was no time to explore availability of Corrections data for this.
					Corrections data: Limitations outlined in report.
					PRIMHD: The quality of the service use data is patchy, some data is missing, and some is incorrect.

* For Occupation it would be useful to know if there are higher rates of suicide among trade and construction workers and farmers or if these are occupations with a large proportion of men aged 25–64 years. Statistics New Zealand does not provide standard tables of occupation at the 2-digit level of the ANZSCO for men (or for men aged 25–64 years for the specified years). Statistics New Zealand has this data – it needs to be obtained by a special request. Even then a limitation of the Census data is that it will include those who have since died by suicide.

N = numerator

D = denominator

= number

ANZCO = Australian and New Zealand Standard Classification of Occupation

Corrections = Department of Corrections

Police = New Zealand Police

PRIMHD = Programme for Integration of Mental Health Data

Appendix 3 Data request – Ministry of Health

24 July 2014

1. **Cohort identification**

We will extract all deaths registered from 2007 to 2011 with an underlying cause of death of intentional self-harm (ICD-10 codes X60–X84) who were:

- sex = male, and age between 25 and 64 years, or
- prioritised ethnicity = Māori, and age between 15 and 24 years, or
- had a face-to-face activity in the PRIMHD Activity days table within 12 months of the date of death.

Face-to-face activity is defined as Activity type code <> T06, T32, T33, T35, T37, *and* Activity setting code <> SM, PH, WR, OM.

For each person found we will provide the following fields from the NHI:

- master NHI number
- first given name
- second given name
- third given name
- family name
- first given name 2 (provide up to three aliases from the NHI)
- second given name 2
- third given name 2
- family name 2 etc.
- date of birth
- date of death
- sex
- prioritised ethnic group
- ethnicity 1
- ethnicity 2
- ethnicity 3
- domicile code
- DHB of domicile
- last updated date.

2. **Mortality data**

For the people found in part 1, extract death registrations from 2007 to 2011. The following fields will be provided:

- master NHI number
- registration year
- date of birth
- death type
- age at death

- sex
- prioritised ethnic group
- domicile code
- DHB of domicile
- death date
- underlying cause of death (diagnosis type ‘D’)
- other relevant diseases present (B1) (diagnosis type ‘F’)
- other contributing causes (B2) (eg, medical misadventure) (diagnosis type ‘G’)
- cancer as a non-contributing cause of death (diagnosis type ‘C’)
- location of injury (diagnosis type ‘L’)
- activity code (diagnosis type ‘S’)
- certifier of death
- postmortem indicator
- death information source
- maternal death indicator
- alcohol involved flag
- cannabis involved flag
- other drug involved flag
- other illicit drug involved flag
- prescription/pharmacy drug involved flag
- volatile substance involved flag.

Cancer registrations

For the people found in part 1, extract all cancer registrations from 1988 to 2011. The following fields will be provided:

- master NHI number
- year of diagnosis
- site code
- date of birth
- date of diagnosis
- sex
- prioritised ethnic group
- domicile code
- DHB of domicile
- morphology code
- basis of diagnosis
- extent of disease (from 1997 onwards).

3. **Public morbidity data**

For the people found in part 1, extract all publicly funded hospital discharges from 1988 to 2011. The following fields will be provided:

- master NHI number
- admission source
- admission type
- New Zealand resident status
- date of birth

- age at discharge
- sex
- prioritised ethnic group
- domicile code
- DHB of domicile
- event type
- event end type
- event start date
- event end date
- event local identifier
- event leave days
- length of stay
- diagnosis codes (first 20 reported, ICD-9-CMA-II)
- diagnosis codes (first 20 reported, ICD-10-AM-I, from July 1999)
- diagnosis codes (first 20 reported, ICD-10-AM-III, from July 2004)
- accident/ecodes (first 10 reported, ICD-9-CMA-II)
- accident/ecodes (first 10 reported, ICD-10-AM-I, from July 1999)
- accident/ecodes (first 10 reported, ICD-10-AM-III, from July 2004)
- accident date (first 10 reported)
- accident date flag (first 10 reported)
- operation codes (first 20 reported, ICD-9-CMA-II)
- operation codes (first 20 reported, ICD-10-AM-I, from July 1999)
- operation codes (first 20 reported, ICD-10-AM-III, from July 2004)
- operation dates (first 20 reported)
- agency code
- facility code
- facility type
- specialty code
- purchaser code
- AN-DRG 3.1
- AR-DRG current
- DRG grouper type
- DRG category code
- accident flag
- transfer facility to
- transfer facility from.

(Not all fields will be available for all years.)

4. **National Non-Admitted Patients Collection (NNPAC) data**

For the people found in part 1, extract all NNPAC events from July 2006 to December 2011 and provide the following fields:

- master NHI number
- accident flag
- attendance code
- event type
- health provider type

- service type
- age at time of visit
- agency code
- date of birth
- datetime of departure
- datetime of event end
- datetime of first contact
- datetime of presentation
- datetime of service
- domicile code
- DHB of domicile
- purchase unit
- prioritised ethnic group
- event end date submitted
- event end type code
- facility code
- sex
- health specialty code
- IDF DHB code
- IDF DHB source
- location
- purchaser code
- sent domicile code
- sent domicile rating
- triage level
- volume
- unit of measure.

(Not all fields will be available for all years.)

5. **Primary health organisation (PHO) enrolment data**

For the people found in part 1, extract all PHO enrolments from 2004 Q3 to 2011 Q4 and provide the following fields:

- master NHI number
- year and quarter
- domicile code
- prioritised ethnic group
- ethnicity 1
- ethnicity 2
- ethnicity 3
- sex
- PHO ID
- PHO name
- practice ID
- practice name
- last consultation date
- enrolment date.

6. **Pharmaceutical claims data**

For the people found in part 1, extract pharmaceutical claims dispensed from January 2003 to December 2011 and provide the following fields:

- master NHI number
- dispensing date
- chemical ID
- formulation ID
- TG level 1 ID
- TG level 1 name
- TG level 2 ID
- TG level 2 name
- TG level 3 ID
- TG level 3 name
- quantity
- frequency
- dose
- daily dose
- days' supply
- repeat sequence number
- order type.

7. **Laboratory claims data**

For the people found in part 1, extract laboratory claims by visit date from January 2000 to December 2011 and provide the following fields:

- master NHI number
- test code
- test type code
- visit date.

8. **Programme for Integration of Mental Health Data (PRIMHD) activity data**

For the people found in part 1, extract activity data from the PRI-DM (PRIMHD-Data Mart), and supply the following fields:

- master NHI number
- activity ID
- referral ID
- organisation ID
- submitting organisation ID
- organisation type
- referral start date
- referral end date
- team code
- referral end code
- team type code
- team setting code
- team service type code
- team target population code

- master HCU DOB
- master HCU domicile code
- master HCU domicile organisation ID
- master HCU domicile region
- master HCU priority ethnic code
- activity setting code
- activity type code
- activity status code
- activity unit type code
- activity unit count
- activity start date
- activity end date
- activity start date/time
- activity end date/time
- DSS source system code.

9. **PRIMHD diagnosis data**

For the people found in part 1, extract data from the PRI-DM, and supply the following fields:

- master NHI number
- referral ID
- organisation ID (= Service Org)
- classification code ID
- diagnosis type code
- classification start date
- classification end date
- clinical coding system ID
- clinical code
- clinical code type
- diagnosis grouping type.

The data will be provided as SAS data sets.

Appendix 4 Definition of rangatahi Māori

Within contemporary te ao Māori, use of the word 'rangatahi' to describe young people has gained currency, in some instances being attributed to the following whakataukī:[86]

> Ka pū te ruha, ka hao te rangatahi[87] (Mead 2003, p 181).

Historically, Te Rangi Hīroa[88] recalled the whakataukī's use during the formation of the Young Māori Party, suggesting the 'old people's' recitation of it showed that they supported the aspirations of the young while acknowledging that it was the role of the younger generation to take action (Russell et al 2013).

A more contemporary analysis of the term and its origins, which does not attribute its reference only to Māori youth, credits the whakataukī to Sir Āpirana Ngata,[89] asserting it is a biblical allusion to Jesus' disciples as 'fishers of men' (Keelan 2001). Its increasing popularity as a term for young people is hypothesised as being due to Hoani Waititi's renowned Māori language texts of the 1950s and 1960s, entitled *Rangatahi 1* and *Rangatahi 2*. As a theoretical framework to construct a model of human development, the whakataukī is often used to refer to the fact that older people will in time be replaced by younger people.

Other explanations, many of which are anecdotal, can be seen 'between the lines' of language. For example, the phrase rangatira,[90] literally meaning 'a weaver of people', can be translated to mean chief or leader, whilst the word rangatahi can also be connected to ideas about raranga;[91] rangatahi can refer to the first line used to cast on while weaving kete[92] (Walsh-Tapiata 2005). In this context, rangatahi may be visually conceptualised as the younger generation (Russell et al 2013).

Despite the increasingly popular usage of the word rangatahi within te reo Māori, there have been debates since the 1970s about just who rangatahi Māori are (Health Research Council of New Zealand 2004). One suggestion is that collectively the term was used to describe the younger generations, but in the singular was used to refer to those young people who showed leadership potential. In this context young usually meant those aged under about 30 years, 'but may be widened to include all those who are too young to be kaumātua' (Metge 1976, p 204). This basic opposition between 'old' and 'young' collectively categorises the

[86] Proverb/s

[87] Roughly translated to mean: The new net goes fishing. The older generation is replaced by a new one.

[88] Also known as Sir Peter Henry Buck, KCMG, DSO (ca. October 1877 to 1 December 1951). Te Rangi Hīroa was a prominent Ngāti Mutunga rangatira whose significant contribution to Māoridom was as a doctor, military leader, health administrator, politician, anthropologist and museum director.

[89] Sir Āpirana Turupa Ngata (3 July 1874 to 14 July 1950) was a prominent Ngāti Porou rangatira whose significant contribution to Māoridom was as a politician and lawyer. He has often been described as the foremost Māori politician to have ever served in Parliament, and is also known for his work in promoting and protecting te reo me tikanga Māori.

[90] Chief/s

[91] Weaving

[92] Basket/s, kit/s

'old' as kaumātua and the 'young' as tamariki and taitamariki[93]; taitamariki are those in their teens and early twenties 'who in Māori terms have not reached full social maturity' (Metge 1976, p 172). According to tikanga[94], however, a person remains a child until the person's parents or the siblings of the parents have died (Metge 1976, p 32). 'Rangatahi could be a secondary school student, a university graduate, or a person in their thirties' (Macfarlane 2004, p 290).

A further aspect adding to these perspectives is the now-accepted government definition of youth as those aged 12–25 years. This has direct implications for rangatahi Māori whose values and perspectives on age and maturity may not fit this strict definition (Smiler 2006).

Indeed, to define rangatahi Māori in terms of either a developmental stage or age is problematic, if not impossible (Macfarlane 2004), because the use of the term rangatahi is contextual; different settings require different skills and qualifications and the assumption of different roles (Russell et al 2013).

Regardless of the variation in language usage, whether the more traditional term taiohi[95] is preferred, or other terms such as hine,[96] tama,[97] taitama,[98] tamariki, taitamariki, ohinga[99] or pūhou[100] (Health Research Council of New Zealand 2004), a common theme remains: young people are seen in relation to the wider group to which they belong. This emphasis placed on roles and relationships within the collective reflects a traditional Māori perspective of developmental stages that is not necessarily age-specific (Russell et al 2013).

[93] Youth, teenagers, young people (of either sex), adolescents

[94] Correct procedures, custom, lore, methods, manner, practices and protocol

[95] Young, youthful

[96] Younger female/s, girl/s, daughter/s

[97] Son/s, boy/s, nephew/s

[98] Young man, youth

[99] Youth, childhood

[100] Young, youthful

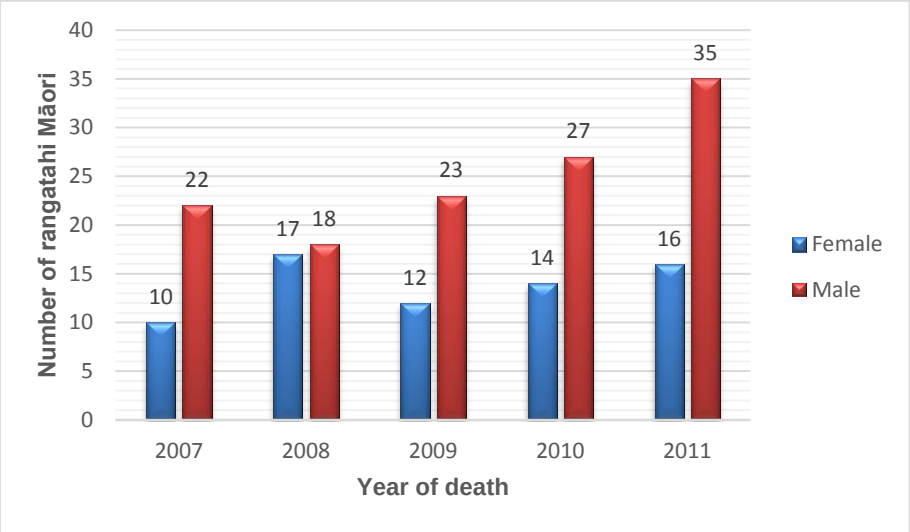
Appendix 5 Additional analysis for rangatahi Māori

When death by suicide occurred

In the five-year study period (2007–11), over a quarter of the deaths (n=51/194, 26.3%) occurred in 2011 (Figure A5.1). The number of rangatahi deaths by suicide in 2011 was a 60% increase on the number in 2007 (n=32). Ministry of Health (2015) data suggests, however, that the 2007 figure is a decline from the number of rangatahi suicides in 2005 and 2006.

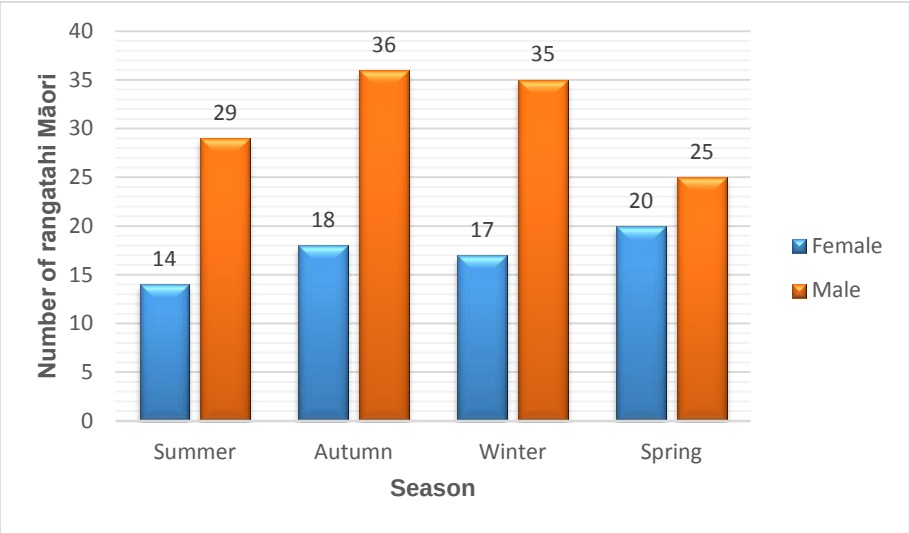
Across the years 2007 to 2010 there was an average of 22.5 deaths by suicide for male rangatahi, and 13.3 deaths by suicide for female rangatahi. In 2011 the increase in the number of male rangatahi suicides to 35 caused this yearly average to jump to 25.0, while the yearly average for female rangatahi suicides remained relatively stable at 13.8 when the number of suicides in 2011 (n=16) was added in.

Figure A5.1: Year of death for rangatahi Māori who died by suicide, by sex, 2007–11 (n=194) (CYMRC data)



Although the numbers are small, there was a slight trend for more suicides of male rangatahi to occur in autumn or winter (n=71, 56.8%) than in spring or summer (n=54, 43.2%) (Figure A5.2). There was no trend evident for female rangatahi because of low numbers.

Figure A5.2: Season of death for rangatahi Māori who died by suicide, 2007–11 (n=194) (CYMRC data), by sex



Appendix 6 Additional analysis for mental health service users

Note that '.' in all the tables in this appendix refers to zero observations in that category (not missing data).

Of the 829 mental health service users, 446 were men of working age (25–64 years) and 52 were rangatahi Māori (Table A6.1).

Table A6.1: Overlap between mental health service users who died by suicide, 2007–11, and the other two subgroups (n=829) (Ministry of Health data)

		n	%
1. Men of working age subgroup			
Mental health service users (n=829)	Female	264	31.8
	Men outside age band	119	14.4
	Men of working age (25–64 years old)	446	53.8
		829	**100.0**
2. Rangatahi Māori subgroup			
Mental health service users (n=829)	Not 15–24 years old	662	70.0
	15–24 years but not Māori	115	13.9
	15–24 years – Māori	52	6.3
		829	**100.0**

Note: Māori is defined by death certificate. For more information, see Chapter 4.

Table A6.2: Year of death by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				**Ethnicity**					
	Females		Males		Māori		Non-Māori		**Total**	
	n	%	n	%	n	%	n	%	n	%
Year of death										
2007	53	20.1	109	19.3	35	21.5	127	19.1	**162**	19.5
2008	60	22.7	90	15.9	27	16.6	123	18.5	**150**	18.1
2009	52	19.7	111	19.6	24	14.7	139	20.9	**163**	19.7
2010	58	22.0	111	19.6	30	18.4	139	20.9	**169**	20.4
2011	41	15.5	144	25.5	47	28.8	138	20.7	**185**	22.3

	Sex				Ethnicity					
	Females		Males		Māori		Non-Māori		**Total**	
	n	%	n	%	n	%	n	%	n	%
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.3: Month of death by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity					
	Females		Males		Māori		Non-Māori		**Total**	
	n	%	n	%	n	%	n	%	n	%
Month of death										
January	33	12.5	48	8.5	16	9.8	65	9.8	**81**	9.8
February	14	5.3	35	6.2	9	5.5	40	6.0	**49**	5.9
March	24	9.1	37	6.5	16	9.8	45	6.8	**61**	7.4
April	25	9.5	58	10.3	14	8.6	69	10.4	**83**	10.0
May	18	6.8	63	11.2	14	8.6	67	10.1	**81**	9.8
June	21	8.0	44	7.8	12	7.4	53	8.0	**65**	7.8
July	25	9.5	46	8.1	14	8.6	57	8.6	**71**	8.6
August	19	7.2	59	10.4	13	8.0	65	9.8	**78**	9.4
September	19	7.2	35	6.2	12	7.4	42	6.3	**54**	6.5
October	18	6.8	56	9.9	14	8.6	60	9.0	**74**	8.9
November	30	11.4	45	8.0	16	9.8	59	8.9	**75**	9.0
December	18	6.8	39	6.9	13	8.0	44	6.6	**57**	6.9
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.4: Method of suicide by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity					
	Females		Males		Māori		Non-Māori		**Total**	
	n	%	n	%	n	%	n	%	n	%
Method of suicide										
Nonopioid analgesics, antipyretics and antirheumatics	3	1.1	3	0.5	.	.	6	0.9	**6**	0.7

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	34	12.9	26	4.6	9	5.5	51	7.7	**60**	7.2
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	15	5.7	15	2.7	5	3.1	25	3.8	**30**	3.6
Other drugs acting on the autonomic nervous system	2	0.8	.	.	1	0.6	1	0.2	**2**	0.2
Other and unspecified drugs, medicaments and biological substances	8	3.0	4	0.7	4	2.5	8	1.2	**12**	1.4
Organic solvents and halogenated hydrocarbons and their vapours	2	0.8	2	0.4	1	0.6	3	0.5	**4**	0.5
Other gases and vapours	24	9.1	80	14.2	7	4.3	97	14.6	**104**	12.5
Pesticides	.	.	2	0.4	.	.	2	0.3	**2**	0.2
Other and unspecified chemicals and noxious substances	2	0.8	2	0.4	1	0.6	3	0.5	**4**	0.5
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
Handgun discharge	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Other and unspecified firearm discharge	2	0.8	27	4.8	2	1.2	27	4.1	**29**	3.5
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
Jumping from a high place	12	4.5	25	4.4	5	3.1	32	4.8	**37**	4.5
Jumping or lying before moving object	7	2.7	7	1.2	1	0.6	13	2.0	**14**	1.7
Crashing of motor vehicle	4	1.5	4	0.7	.	.	8	1.2	**8**	1.0
Other specified means	3	1.1	2	0.4	.	.	5	0.8	**5**	0.6
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	829	100.0

Note: Overdose of medication includes nonopioid 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 (n=110). Non-medication poisoning includes organic solvents and halogenated hydrocarbons and their vapours; other gases and vapours; pesticides; and other and unspecified chemicals and noxious substances (n=114).

Table A6.5: Location of suicide by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Location of injury										
Code missing	5	1.9	3	0.5	1	0.6	7	1.1	**8**	1.0
Home	34	12.9	75	13.3	21	12.9	88	13.2	**109**	13.1
Driveway to home	1	0.4	1	0.2	.	.	2	0.3	**2**	0.2
Home – Outdoors areas	16	6.1	35	6.2	14	8.6	37	5.6	**51**	6.2
Home – Garage	35	13.3	94	16.6	29	17.8	100	15.0	**129**	15.6
Home – Bathroom	8	3.0	6	1.1	2	1.2	12	1.8	**14**	1.7
Home – Kitchen	1	0.4	6	1.1	.	.	7	1.1	**7**	0.8
Home – Bedroom	22	8.3	45	8.0	19	11.7	48	7.2	**67**	8.1
Home – Laundry	.	.	3	0.5	1	0.6	2	0.3	**3**	0.4
Home – Indoor living areas, not elsewhere classified	13	4.9	16	2.8	5	3.1	24	3.6	**29**	3.5
Other and unspecified place in home	46	17.4	95	16.8	23	14.1	118	17.7	**141**	17.0
Residential institution	3	1.1	2	0.4	2	1.2	3	0.5	**5**	0.6
Residential institution, prison	.	.	14	2.5	4	2.5	10	1.5	**14**	1.7
Residential institution, aged care facilities	2	0.8	.	.	.	.	2	0.3	**2**	0.2
Other specified residential institution	1	0.4	3	0.5	.	.	4	0.6	**4**	0.5
School	1	0.4	3	0.5	.	.	4	0.6	**4**	0.5
Health service area	9	3.4	9	1.6	5	3.1	13	2.0	**18**	2.2
Other specified institution and public administrative area	3	1.1	.	.	1	0.6	2	0.3	**3**	0.4
Sports and athletics area, sporting hall (indoor)	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Street and highway	1	0.4	1	0.2	.	.	2	0.3	**2**	0.2
Street and highway, roadway	7	2.7	22	3.9	4	2.5	25	3.8	**29**	3.5
Other specified public highway, street or road	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Trade and service area	.	.	1	0.2	.	.	1	0.2	**1**	0.1

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Trade and service area, shop and store	.	.	2	0.4	.	.	2	0.3	**2**	0.2
Trade and service area, café, hotel and restaurant	5	1.9	6	1.1	2	1.2	9	1.4	**11**	1.3
Other specified trade and service area	.	.	3	0.5	.	.	3	0.5	**3**	0.4
Industrial and construction area, construction area	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Industrial and construction area, factory and plant	.	.	5	0.9	1	0.6	4	0.6	**5**	0.6
Industrial and construction area, power station	1	0.4	.	.	.	.	1	0.2	**1**	0.1
Farm	1	0.4	9	1.6	2	1.2	8	1.2	**10**	1.2
Other specified place of occurrence	21	8.0	48	8.5	12	7.4	57	8.6	**69**	8.3
Other specified place of occurrence, stream of water	2	0.8	1	0.2	.	.	3	0.5	**3**	0.4
Other specified place of occurrence, large area of water	4	1.5	3	0.5	1	0.6	6	0.9	**7**	0.8
Other specified place of occurrence, beach	2	0.8	7	1.2	1	0.6	8	1.2	**9**	1.1
Other specified place of occurrence, forest	3	1.1	9	1.6	3	1.8	9	1.4	**12**	1.4
Other specified place of occurrence, other specified countryside	2	0.8	2	0.4	.	.	4	0.6	**4**	0.5
Other specified place of occurrence, parking lot	1	0.4	2	0.4	.	.	3	0.5	**3**	0.4
Unspecified place of occurrence	14	5.3	31	5.5	10	6.1	35	5.3	**45**	5.4
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.6: DHB on mortality file by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
DHB region										
Northland	6	2.3	15	2.7	4	2.5	17	2.6	**21**	2.5
Waitematā	27	10.2	55	9.7	10	6.1	72	10.8	**82**	9.9
Auckland	32	12.1	59	10.4	15	9.2	76	11.4	**91**	11.0
Counties Manukau	23	8.7	48	8.5	16	9.8	55	8.3	**71**	8.6
Waikato	23	8.7	35	6.2	16	9.8	42	6.3	**58**	7.0
Lakes	5	1.9	14	2.5	7	4.3	12	1.8	**19**	2.3
Bay of Plenty	11	4.2	27	4.8	14	8.6	24	3.6	**38**	4.6
Tairāwhiti	3	1.1	9	1.6	s	s	s	s	**12**	1.4
Taranaki	s	s	s	s	3	1.8	13	2.0	**16**	1.9
Hawke's Bay	8	3.0	25	4.4	9	5.5	24	3.6	**33**	4.0
Whanganui	s	s	s	s	6	3.7	10	1.5	**16**	1.9
MidCentral	12	4.5	28	5.0	9	5.5	31	4.7	**40**	4.8
Hutt	8	3.0	10	1.8	s	s	s	s	**18**	2.2
Capital and Coast	20	7.6	33	5.8	9	5.5	44	6.6	**53**	6.4
Wairarapa	3	1.1	7	1.2	5	3.1	5	0.8	**10**	1.2
Nelson Marlborough	12	4.5	20	3.5	4	2.5	28	4.2	**32**	3.9
West Coast	s	s	s	s	.	.	10	1.5	**10**	1.2
Canterbury	37	14.0	68	12.0	12	7.4	93	14.0	**105**	12.7
South Canterbury	5	1.9	13	2.3	s	s	s	s	**18**	2.2
Southern	24	9.1	61	10.8	10	6.1	75	11.3	**85**	10.3
Missing	.	.	1	0.2	.	.	1	0.2	**1**	0.1
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Note: 's' indicates frequency and rate suppressed due to small numbers.

Table A6.7: Illicit drugs by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Illicit drugs involved										
No	64	24.2	162	28.7	51	31.3	175	26.3	**226**	27.3
Unknown	194	73.5	398	70.4	109	66.9	483	72.5	**592**	71.4
Yes	6	2.3	5	0.9	3	1.8	8	1.2	**11**	1.3
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.8: Volatile substance by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Volatile substance involved										
No	26	9.8	31	5.5	12	7.4	45	6.8	**57**	6.9
Unknown	237	89.8	522	92.4	150	92.0	609	91.4	**759**	91.6
Yes	1	0.4	12	2.1	1	0.6	12	1.8	**13**	1.6
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.9: Other drugs by sex and ethnicity for mental health service users who died by suicide, 2007–11 (n=829) (Ministry of Health data)

	Sex				Ethnicity				Total	
	Females		Males		Māori		Non-Māori			
	n	%	n	%	n	%	n	%	n	%
Other drugs involved										
No	21	8.0	36	6.4	11	6.7	46	6.9	**57**	6.9
Unknown	243	92.0	529	93.6	152	93.3	620	93.1	**772**	93.1
Total	**264**	100.0	**565**	100.0	**163**	100.0	**666**	100.0	**829**	100.0

Table A6.10: General offence category by offences for mental health service users who died by suicide, 2007–11 (n=416 people with 3371 offences) (Police data)

		Offences		
		No. of people	Total no. of offences	Mean no. of offences
General offence category	**Offence category**			
Violence	Homicide	3	3	1.0
	Kidnapping/abduction	2	3	1.5
	Robbery	16	27	1.7
	Grievous assaults	42	118	2.8
	Serious assaults	123	236	1.9
	Minor assaults	97	144	1.5
	Intimidation/threats	100	194	1.9
	Group assemblies	6	20	3.3
Sexual	Unknown codes	0	.	.
	Sexual affronts	5	5	1.0
	Sexual attacks	19	56	2.9
	Immoral behaviour	4	10	2.5
	Immoral behaviour/miscellaneous	1	21	21.0
Drugs/antisocial	Drugs (not cannabis)	18	30	1.7
	Drugs (cannabis only)	59	95	1.6
	Disorder	122	240	2.0
	Vagrancy offences	0	.	.
	Family offences	2	2	1.0
	Contravene orders	32	96	3.0
	Liquor offences	41	51	1.2
Dishonesty	Unknown codes	1	1	1.0
	Burglary	71	216	3.0
	Car conversion	48	146	3.0
	Theft	110	318	2.9
	Receiving	26	47	1.8
	Fraud	22	62	2.8
Property damage	Unknown codes	15	40	2.7
	Property damage	106	216	2.0

		Offences		
		No. of people	Total no. of offences	Mean no. of offences
Misc/admin/unknown	Endangering property	3	3	1.0
	Unknown codes	206	523	2.5
	Trespass	82	126	1.5
	Animals (neglect & cruelty)	1	2	2.0
	Postal/rail/fire service abuses	21	24	1.1
	Firearms offences	23	88	3.8
	Offences against justice	83	206	2.5
	Bylaw breaches	2	2	1.0

Appendix 7 Additional analysis men of working age

Note that '.' in all the tables in this appendix refers to zero observations in that category (not missing data).

Additional data on age and ethnicity

Table A7.1: Suicide deaths by five-year age group and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1111) (coronial data)

	Ethnicity				Total	
	Māori		Non-Māori			
	n	Rate*	n	Rate*	n	Rate*
Age at death						
25–29 years	39	45.4	98	19.0	137	22.7
30–34 years	36	42.5	121	22.0	157	24.7
35–39 years	26	30.4	123	20.7	149	21.9
40–44 years	26	30.0	127	19.4	154	20.8
45–49 years	18	23.1	153	23.9	171	23.8
50–54 years	14	21.3	127	21.2	142	21.4
55–59 years	5	9.9	115	20.9	120	20.0
60–64 years	4	10.9	76	16.5	81	16.3
Total†	168	29.3	940	20.6	1111	21.6

Note: The numerator is 1111 closed cases only.

* The rate shown is per 100,000 population.

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

Table A7.2: Suicide deaths by prioritised ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Prioritised ethnicity								
European NFD	.	.	129	12.1	.	.	129	10.1
New Zealand European/Pākehā	.	.	834	78.2	.	.	834	65.6
Māori	202	100.0	.	.	.	.	202	15.9
Pacific Island	.	.	47	4.4	.	.	47	3.7

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Asian	.	.	47	4.4	.	.	47	3.7
Other ethnicity	.	.	9	0.8	.	.	9	0.7
Missing	.	.	.	.	4	100.0	4	0.3
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

NFD = not further defined

Year and month of death

Table A7.3: Suicide deaths by year and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Year of death								
2007	47	23.3	210	19.7	3	75.0	260	20.4
2008	35	17.3	219	20.5	1	25.0	255	20.0
2009	32	15.8	221	20.7	.	.	253	19.9
2010	42	20.8	221	20.7	.	.	263	20.7
2011	46	22.8	195	18.3	.	.	241	18.9
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table A7.4: Month of death by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Month of death								
January	13	6.4	80	7.5	.	.	93	7.3
February	9	4.5	80	7.5	1	25.0	90	7.1
March	22	10.9	81	7.6	.	.	103	8.1
April	13	6.4	98	9.2	.	.	111	8.7
May	20	9.9	111	10.4	.	.	131	10.3
June	19	9.4	90	8.4	.	.	109	8.6

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
July	23	11.4	77	7.2	.	.	100	7.9
August	11	5.4	110	10.3	1	25.0	122	9.6
September	12	5.9	92	8.6	1	25.0	105	8.3
October	17	8.4	100	9.4	1	25.0	118	9.3
November	22	10.9	87	8.2	.	.	109	8.6
December	21	10.4	60	5.6	.	.	81	6.4
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Additional data on methods

Table A7.5: Methods of suicide by ethnicity for men aged 25–64 who died by suicide, 2007–11 – more detailed groupings (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Method of suicide								
Nonopioid analgesics, antipyretics and antirheumatics	.	.	3	0.3	.	.	3	0.2
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	6	3.0	38	3.6	.	.	44	3.5
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	3	1.5	24	2.3	.	.	27	2.1
Other and unspecified drugs, medicaments and biological substances	6	3.0	10	0.9	.	.	16	1.3
Organic solvents and halogenated hydrocarbons and their vapours	1	0.5	2	0.2	.	.	3	0.2
Other gases and vapours	16	7.9	169	15.9	.	.	185	14.5
Pesticides	.	.	2	0.2	.	.	2	0.2
Other and unspecified chemicals and noxious substances	.	.	6	0.6	.	.	6	0.5
Hanging, strangulation and suffocation	145	71.8	586	55.0	2	50.0	733	57.6
Drowning and submersion	1	0.5	14	1.3	.	.	15	1.2
Handgun discharge	.	.	5	0.5	.	.	5	0.4
Other and unspecified firearm discharge	14	6.9	114	10.7	2	50.0	130	10.2
Smoke, fire and flames	4	2.0	6	0.6	.	.	10	0.8
Sharp object	2	1.0	24	2.3	.	.	26	2.0

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Jumping from a high place	4	2.0	34	3.2	.	.	38	3.0
Jumping or lying before moving object	.	.	15	1.4	.	.	15	1.2
Crashing of motor vehicle	.	.	8	0.8	.	.	8	0.6
Other specified means	.	.	6	0.6	.	.	6	0.5
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table A7.6: Methods of suicide by 10-year age group for men aged 25–64 who died by suicide, 2007–11 – more detailed groupings (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Method of suicide										
Nonopioid analgesics, antipyretics and antirheumatics	.	.	1	0.3	1	0.3	1	0.5	3	0.2
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified	11	3.2	13	3.7	12	3.4	8	3.7	44	3.5
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	2	0.6	8	2.3	13	3.6	4	1.8	27	2.1
Other and unspecified drugs, medicaments and biological substances	4	1.2	1	0.3	8	2.2	3	1.4	16	1.3
Organic solvents and halogenated hydrocarbons and their vapours	2	0.6	.	.	1	0.3	.	.	3	0.2
Other gases and vapours	43	12.4	56	16.0	44	12.3	42	19.2	185	14.5
Pesticides	.	.	.	.	2	0.6	.	.	2	0.2
Other and unspecified chemicals and noxious substances	4	1.2	1	0.3	.	.	1	0.5	6	0.5
Hanging, strangulation and suffocation	236	68.0	208	59.6	196	54.9	93	42.5	733	57.6
Drowning and submersion	2	0.6	3	0.9	6	1.7	4	1.8	15	1.2
Handgun discharge	1	0.3	.	.	1	0.3	3	1.4	5	0.4
Other and unspecified firearm discharge	21	6.1	32	9.2	33	9.2	44	20.1	130	10.2
Smoke, fire and flames	1	0.3	3	0.9	2	0.6	4	1.8	10	0.8
Sharp object	4	1.2	6	1.7	12	3.4	4	1.8	26	2.0
Jumping from a high place	8	2.3	11	3.2	16	4.5	3	1.4	38	3.0

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Jumping or lying before moving object	5	1.4	2	0.6	6	1.7	2	0.9	15	1.2
Crashing of motor vehicle	3	0.9	3	0.9	2	0.6	.	.	8	0.6
Other specified means	.	.	1	0.3	2	0.6	3	1.4	6	0.5
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Additional data on location

Table A7.7: Location of suicide by ethnicity for men aged 25–64 who died by suicide, 2007–11 – more detailed groupings (n=1272) (Ministry of Health data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Location of injury								
Code missing	1	0.5	2	0.2	.	.	3	0.2
Home	33	16.3	149	14.0	1	25.0	183	14.4
Driveway to home	2	1.0	6	0.6	.	.	8	0.6
Home – Outdoors areas	16	7.9	49	4.6	.	.	65	5.1
Home – Garage	37	18.3	197	18.5	.	.	234	18.4
Home – Bathroom	1	0.5	6	0.6	.	.	7	0.6
Home – Kitchen	.	.	5	0.5	.	.	5	0.4
Home – Bedroom	11	5.4	63	5.9	.	.	74	5.8
Home – Laundry	.	.	5	0.5	.	.	5	0.4
Home – Indoor living areas, not elsewhere classified	8	4.0	30	2.8	.	.	38	3.0
Other and unspecified place in home	37	18.3	208	19.5	.	.	245	19.3
Residential institution	1	0.5	2	0.2	.	.	3	0.2
Residential institution, prison	5	2.5	13	1.2	.	.	18	1.4
Residential institution, aged care facilities	.	.	1	0.1	.	.	1	0.1
Other specified residential institution	.	.	1	0.1	.	.	1	0.1
School	.	.	1	0.1	.	.	1	0.1
Health service area	3	1.5	7	0.7	.	.	10	0.8
Other specified institution and public administrative area	2	1.0	.	.	.	.	2	0.2
Sports and athletics area, sporting grounds (outdoor)	.	.	2	0.2	.	.	2	0.2
Sports and athletics area, sporting hall (indoor)	.	.	1	0.1	.	.	1	0.1

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Sports and athletics area, unspecified	.	.	1	0.1	.	.	1	0.1
Street and highway	.	.	8	0.8	.	.	8	0.6
Street and highway, roadway	5	2.5	31	2.9	1	25.0	37	2.9
Other specified public highway, street or road	.	.	2	0.2	.	.	2	0.2
Unspecified public highway, street or road	1	0.5	.	.	.	.	1	0.1
Trade and service area	.	.	4	0.4	.	.	4	0.3
Trade and service area, shop and store	.	.	4	0.4	.	.	4	0.3
Trade and service area, office building	.	.	3	0.3	.	.	3	0.2
Trade and service area, café, hotel and restaurant	1	0.5	15	1.4	.	.	16	1.3
Other specified trade and service area	.	.	6	0.6	.	.	6	0.5
Unspecified trade and service area	.	.	1	0.1	.	.	1	0.1
Industrial and construction area	.	.	1	0.1	.	.	1	0.1
Industrial and construction area, construction area	.	.	1	0.1	.	.	1	0.1
Industrial and construction area, factory and plant	1	0.5	7	0.7	.	.	8	0.6
Industrial and construction area, mine and quarry	.	.	1	0.1	.	.	1	0.1
Unspecified industrial and construction area	.	.	1	0.1	.	.	1	0.1
Farm	2	1.0	17	1.6	.	.	19	1.5
Other specified place of occurrence	12	5.9	81	7.6	2	50.0	95	7.5
Other specified place of occurrence, stream of water/large area of water	.	.	11	1.1	.	.	11	0.9
Other specified place of occurrence, beach	3	1.5	20	1.9	.	.	23	1.8
Other specified place of occurrence, forest	5	2.5	21	2.0	.	.	26	2.0
Other specified place of occurrence, other specified countryside	.	.	7	0.7	.	.	7	0.6
Other specified place of occurrence, parking lot	.	.	16	1.5	.	.	16	1.3
Other specified place of occurrence, communal living area	.	.	1	0.1	.	.	1	0.1
Unspecified place of occurrence	15	7.4	58	5.4	.	.	73	5.7
Total	202	100.0	1066	100.0	4	100.0	1272	100.0

Table A7.8: Location of suicide by cause of death and 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
Location of injury	Method of suicide										
Code missing	Overdose of medication	.	.	1	0.3	1	0.3	.	.	2	0.2
	Self-poisoning	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	1	0.3	1	0.3	.	.	3	0.2
Home	Method of suicide										
	Overdose of medication	1	0.3	1	0.3	6	1.7	2	0.9	10	0.8
	Self-poisoning	9	2.6	10	2.9	2	0.6	8	3.7	29	2.3
	Hanging, strangulation and suffocation	43	12.4	36	10.3	27	7.6	11	5.0	117	9.2
	Drowning and submersion	.	.	.	.	1	0.3	.	.	1	0.1
	Smoke, fire and flames	1	0.3	.	.	.	.	1	0.5	2	0.2
	Sharp object	.	.	2	0.6	1	0.3	1	0.5	4	0.3
	Firearm discharge	4	1.2	6	1.7	6	1.7	2	0.9	18	1.4
	Jumping	.	.	1	0.3	.	.	.	.	1	0.1
	Other specified means	.	.	.	.	1	0.3	.	.	1	0.1
	Total	58	16.7	56	16.0	44	12.3	25	11.4	183	14.4
Driveway to home	Method of suicide										
	Overdose of medication	.	.	.	.	1	0.3	.	.	1	0.1
	Self-poisoning	2	0.6	.	.	.	.	2	0.9	4	0.3
	Hanging, strangulation and suffocation	1	0.3	.	.	1	0.3	.	.	2	0.2
	Firearm discharge	.	.	.	.	.	.	1	0.5	1	0.1
	Total	3	0.9	.	.	2	0.6	3	1.4	8	0.6
Home – Outdoors areas	Method of suicide	.	.	1	0.3	.	.	.	.	1	0.1

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Overdose of medication										
	Self-poisoning	.	.	.	.	1	0.3	1	0.5	2	0.2
	Hanging, strangulation and suffocation	11	3.2	14	4.0	13	3.6	5	2.3	43	3.4
	Smoke, fire and flames	.	.	.	.	1	0.3	1	0.5	2	0.2
	Firearm discharge	3	0.9	1	0.3	5	1.4	5	2.3	14	1.1
	Jumping	.	.	.	.	2	0.6	1	0.5	3	0.2
	Total	14	4.0	16	4.6	22	6.2	13	5.9	65	5.1
Home – Garage	Method of suicide										
	Overdose of medication	.	.	.	.	1	0.3	1	0.5	2	0.2
	Self-poisoning	7	2.0	10	2.9	5	1.4	15	6.8	37	2.9
	Hanging, strangulation and suffocation	50	14.4	54	15.5	52	14.6	31	14.2	187	14.7
	Firearm discharge	1	0.3	2	0.6	1	0.3	4	1.8	8	0.6
	Total	58	16.7	66	18.9	59	16.5	51	23.3	234	18.4
Home – Bathroom	Method of suicide										
	Overdose of medication	.	.	.	.	.	.	1	0.5	1	0.1
	Hanging, strangulation and suffocation	2	0.6	2	0.6	.	.	.	.	4	0.3
	Drowning and submersion	1	0.3	.	.	.	.	.	.	1	0.1
	Sharp object	.	.	.	.	1	0.3	.	.	1	0.1
	Total	3	0.9	2	0.6	1	0.3	1	0.5	7	0.6
Home – Kitchen	Method of suicide										
	Overdose of medication	.	.	.	.	.	.	1	0.5	1	0.1
	Hanging, strangulation and suffocation	1	0.3	2	0.6	.	.	.	.	3	0.2

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Other specified means	.	.	.	.	1	0.3	.	.	1	0.1
	Total	1	0.3	2	0.6	1	0.3	1	0.5	5	0.4
Home – Bedroom	Method of suicide										
	Overdose of medication	3	0.9	5	1.4	10	2.8	4	1.8	22	1.7
	Self-poisoning	2	0.6	1	0.3	3	0.8	.	.	6	0.5
	Hanging, strangulation and suffocation	8	2.3	11	3.2	6	1.7	3	1.4	28	2.2
	Sharp object	2	0.6	1	0.3	.	.	1	0.5	4	0.3
	Firearm discharge	4	1.2	1	0.3	4	1.1	5	2.3	14	1.1
	Total	19	5.5	19	5.4	23	6.4	13	5.9	74	5.8
Home – Laundry	Method of suicide										
	Hanging, strangulation and suffocation	.	.	1	0.3	3	0.8	1	0.5	5	0.4
	Total	.	.	1	0.3	3	0.8	1	0.5	5	0.4
Home – Indoor living areas, not elsewhere classified	Method of suicide										
	Overdose of medication	1	0.3	2	0.6	4	1.1	.	.	7	0.6
	Self-poisoning	.	.	1	0.3	.	.	.	.	1	0.1
	Hanging, strangulation and suffocation	5	1.4	6	1.7	7	2.0	3	1.4	21	1.7
	Sharp object	.	.	1	0.3	2	0.6	.	.	3	0.2
	Firearm discharge	.	.	2	0.6	.	.	3	1.4	5	0.4
	Other specified means	.	.	.	.	.	.	1	0.5	1	0.1
	Total	6	1.7	12	3.4	13	3.6	7	3.2	38	3.0
Other and unspecified place in home	Method of suicide										
	Overdose of medication	6	1.7	8	2.3	3	0.8	5	2.3	22	1.7
	Self-poisoning	10	2.9	14	4.0	9	2.5	10	4.6	43	3.4

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Hanging, strangulation and suffocation	48	13.8	33	9.5	40	11.2	19	8.7	140	11.0
	Smoke, fire and flames	.	.	1	0.3	.	.	1	0.5	2	0.2
	Sharp object	2	0.6	1	0.3	3	0.8	2	0.9	8	0.6
	Firearm discharge	6	1.7	6	1.7	5	1.4	12	5.5	29	2.3
	Other specified means	.	.	.	.	.	.	1	0.5	1	0.1
	Total	72	20.7	63	18.1	60	16.8	50	22.8	245	19.3
Residential institution	Method of suicide										
	Hanging, strangulation and suffocation	1	0.3	.	.	1	0.3	1	0.5	3	0.2
	Total	1	0.3	.	.	1	0.3	1	0.5	3	0.2
Residential institution, prison	Method of suicide										
	Overdose of medication	1	0.3	.	.	1	0.3	.	.	2	0.2
	Hanging, strangulation and suffocation	8	2.3	5	1.4	2	0.6	1	0.5	16	1.3
	Total	9	2.6	5	1.4	3	0.8	1	0.5	18	1.4
Residential institution, aged care facilities	Method of suicide										
	Hanging, strangulation and suffocation	.	.	.	.	1	0.3	.	.	1	0.1
	Total	.	.	.	.	1	0.3	.	.	1	0.1
Other specified residential institution	Method of suicide										
	Hanging, strangulation and suffocation	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	.	.	.	.	.	.	1	0.1
School	Method of suicide										
	Hanging, strangulation and suffocation	.	.	.	.	1	0.3	.	.	1	0.1

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
Health service area	Total	.	.	.	.	1	0.3	.	.	1	0.1
	Method of suicide										
	Overdose of medication	.	.	1	0.3	.	.	1	0.5	2	0.2
	Hanging, strangulation and suffocation	3	0.9	1	0.3	2	0.6	.	.	6	0.5
	Sharp object	.	.	.	.	1	0.3	.	.	1	0.1
	Jumping	.	.	.	.	1	0.3	.	.	1	0.1
	Total	3	0.9	2	0.6	4	1.1	1	0.5	10	0.8
Other specified institution and public administrative area	Method of suicide										
	Hanging, strangulation and suffocation	2	0.6	.	.	.	.	.	.	2	0.2
	Total	2	0.6	.	.	.	.	.	.	2	0.2
Sports and athletics area, sporting grounds (outdoor)	Method of suicide										
	Hanging, strangulation and suffocation	1	0.3	.	.	1	0.3	.	.	2	0.2
	Total	1	0.3	.	.	1	0.3	.	.	2	0.2
Sports and athletics area, sporting hall (indoor)	Method of suicide										
	Hanging, strangulation and suffocation	.	.	.	.	1	0.3	.	.	1	0.1
	Total	.	.	.	.	1	0.3	.	.	1	0.1
Sports and athletics area, unspecified	Method of Suicide										
	Hanging, strangulation and suffocation	.	.	1	0.3	.	.	.	.	1	0.1
	Total	.	.	1	0.3	.	.	.	.	1	0.1
Street and highway	Method of suicide										
	Self-poisoning	.	.	1	0.3	2	0.6	.	.	3	0.2
	Firearm discharge	.	.	1	0.3	.	.	.	.	1	0.1
	Jumping	1	0.3	.	.	1	0.3	.	.	2	0.2

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Crashing of motor vehicle	1	0.3	.	.	1	0.3	.	.	2	0.2
	Total	2	0.6	2	0.6	4	1.1	.	.	8	0.6
Street and highway, roadway	Method of suicide										
	Overdose of medication	.	.	1	0.3	1	0.3	.	.	2	0.2
	Self-poisoning	6	1.7	3	0.9	3	0.8	.	.	12	0.9
	Hanging, strangulation and suffocation	1	0.3	1	0.3	3	0.8	.	.	5	0.4
	Firearm discharge	1	0.3	1	0.3	1	0.3	1	0.5	4	0.3
	Jumping	3	0.9	3	0.9	2	0.6	2	0.9	10	0.8
	Crashing of motor vehicle	1	0.3	2	0.6	1	0.3	.	.	4	0.3
	Total	12	3.5	11	3.2	11	3.1	3	1.4	37	2.9
Other specified public highway, street or road	Method of suicide										
	Self-poisoning	.	.	.	.	1	0.3	.	.	1	0.1
	Firearm discharge	.	.	.	.	.	.	1	0.5	1	0.1
	Total	.	.	.	.	1	0.3	1	0.5	2	0.2
Unspecified public highway, street or road	Method of suicide										
	Self-poisoning	.	.	.	.	1	0.3	.	.	1	0.1
	Total	.	.	.	.	1	0.3	.	.	1	0.1
Trade and service area	Method of suicide										
	Overdose of medication	.	.	.	.	1	0.3	.	.	1	0.1
	Hanging, strangulation and suffocation	.	.	1	0.3	.	.	.	.	1	0.1
	Firearm discharge	.	.	1	0.3	.	.	.	.	1	0.1
	Jumping	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	2	0.6	1	0.3	.	.	4	0.3
Trade and service area, shop and	Method of suicide	.	.	1	0.3	.	.	.	.	1	0.1

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
store	Self-poisoning										
	Hanging, strangulation and suffocation	1	0.3	.	.	.	.	.	.	1	0.1
	Jumping	.	.	1	0.3	1	0.3	.	.	2	0.2
	Total	1	0.3	2	0.6	1	0.3	.	.	4	0.3
Trade and service area, office building	Method of suicide										
	Hanging, strangulation and suffocation	.	.	1	0.3	1	0.3	.	.	2	0.2
	Firearm discharge	.	.	.	.	.	.	1	0.5	1	0.1
	Total	.	.	1	0.3	1	0.3	1	0.5	3	0.2
Trade and service area, café, hotel and restaurant	Method of suicide										
	Overdose of medication	2	0.6	.	.	1	0.3	.	.	3	0.2
	Hanging, strangulation and suffocation	2	0.6	2	0.6	5	1.4	1	0.5	10	0.8
	Sharp object	.	.	.	.	1	0.3	.	.	1	0.1
	Jumping	1	0.3	1	0.3	.	.	.	.	2	0.2
	Total	5	1.4	3	0.9	7	2.0	1	0.5	16	1.3
Other specified trade and service area	Method of suicide										
	Hanging, strangulation and suffocation	2	0.6	.	.	1	0.3	.	.	3	0.2
	Firearm discharge	.	.	.	.	.	.	1	0.5	1	0.1
	Jumping	.	.	.	.	1	0.3	.	.	1	0.1
	Crashing of motor vehicle	1	0.3	.	.	.	.	.	.	1	0.1
	Total	3	0.9	.	.	2	0.6	1	0.5	6	0.5
Unspecified trade and service area	Method of suicide										
	Self-poisoning	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	.	.	.	.	.	.	1	0.1
Industrial and construction area	Method of suicide	.	.	.	.	1	0.3	.	.	1	0.1

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Self-poisoning										
	Total	.	.	.	.	1	0.3	.	.	1	0.1
Industrial and construction area, construction area	Method of suicide										
	Hanging, strangulation and suffocation	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	.	.	.	.	.	.	1	0.1
Industrial and construction area, factory and plant	Method of suicide										
	Hanging, strangulation and suffocation	.	.	2	0.6	2	0.6	2	0.9	6	0.5
	Firearm discharge	.	.	.	.	2	0.6	.	.	2	0.2
	Total	.	.	2	0.6	4	1.1	2	0.9	8	0.6
Industrial and construction area, mine and quarry	Method of suicide										
	Self-poisoning	.	.	.	.	.	.	1	0.5	1	0.1
	Total	.	.	.	.	.	.	1	0.5	1	0.1
Unspecified industrial and construction area	Method of suicide										
	Hanging, strangulation and suffocation	1	0.3	.	.	.	.	.	.	1	0.1
	Total	1	0.3	.	.	.	.	.	.	1	0.1
Farm	Method of suicide										
	Overdose of medication	.	.	1	0.3	.	.	.	.	1	0.1
	Self-poisoning	2	0.6	.	.	1	0.3	.	.	3	0.2
	Hanging, strangulation and suffocation	.	.	1	0.3	2	0.6	2	0.9	5	0.4
	Firearm discharge	.	.	4	1.1	4	1.1	1	0.5	9	0.7
	Jumping	.	.	.	.	.	.	1	0.5	1	0.1
	Total	2	0.6	6	1.7	7	2.0	4	1.8	19	1.5
Other specified place of occurrence	Method of suicide	1	0.3	1	0.3	2	0.6	.	.	4	0.3

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Overdose of medication										
	Self-poisoning	2	0.6	3	0.9	4	1.1	2	0.9	11	0.9
	Hanging, strangulation and suffocation	19	5.5	18	5.2	7	2.0	5	2.3	49	3.9
	Drowning and submersion	.	.	1	0.3	1	0.3	1	0.5	3	0.2
	Smoke, fire and flames	.	.	.	.	.	.	1	0.5	1	0.1
	Sharp object	.	.	1	0.3	1	0.3	.	.	2	0.2
	Firearm discharge	1	0.3	2	0.6	1	0.3	1	0.5	5	0.4
	Jumping	4	1.2	6	1.7	8	2.2	1	0.5	19	1.5
	Other specified means	.	.	.	.	.	.	1	0.5	1	0.1
	Total	27	7.8	32	9.2	24	6.7	12	5.5	95	7.5
Other specified place of occurrence, stream of water	Method of suicide										
	Hanging, strangulation and suffocation	.	.	1	0.3	2	0.6	.	.	3	0.2
	Drowning and submersion	1	0.3	.	.	1	0.3	1	0.5	3	0.2
	Total	1	0.3	1	0.3	3	0.8	1	0.5	6	0.5
Other specified place of occurrence, large area of water	Method of suicide										
	Drowning and submersion	.	.	1	0.3	2	0.6	.	.	3	0.2
	Jumping	1	0.3	1	0.3	.	.	.	.	2	0.2
	Total	1	0.3	2	0.6	2	0.6	.	.	5	0.4
Other specified place of occurrence, beach	Method of suicide										
	Overdose of medication	.	.	1	0.3	.	.	.	.	1	0.1
	Self-poisoning	.	.	3	0.9	2	0.6	.	.	5	0.4
	Hanging, strangulation and suffocation	1	0.3	2	0.6	.	.	1	0.5	4	0.3
	Drowning and submersion	.	.	.	.	1	0.3	2	0.9	3	0.2

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Smoke, fire and flames	.	.	1	0.3	.	.	.	.	1	0.1
	Sharp object	.	.	.	.	1	0.3	.	.	1	0.1
	Firearm discharge	.	.	1	0.3	1	0.3	2	0.9	4	0.3
	Jumping	1	0.3	.	.	3	0.8	.	.	4	0.3
	Total	2	0.6	8	2.3	8	2.2	5	2.3	23	1.8
Other specified place of occurrence, forest	Method of suicide										
	Self-poisoning	1	0.3	2	0.6	2	0.6	1	0.5	6	0.5
	Hanging, strangulation and suffocation	5	1.4	3	0.9	4	1.1	2	0.9	14	1.1
	Drowning and submersion	.	.	1	0.3	.	.	.	.	1	0.1
	Smoke, fire and flames	.	.	1	0.3	.	.	.	.	1	0.1
	Firearm discharge	.	.	1	0.3	1	0.3	2	0.9	4	0.3
	Total	6	1.7	8	2.3	7	2.0	5	2.3	26	2.0
Other specified place of occurrence, other specified countryside	Method of suicide										
	Self-poisoning	1	0.3	.	.	.	.	.	.	1	0.1
	Hanging, strangulation and suffocation	.	.	3	0.9	1	0.3	.	.	4	0.3
	Jumping	.	.	.	.	2	0.6	.	.	2	0.2
	Total	1	0.3	3	0.9	3	0.8	.	.	7	0.6
Other specified place of occurrence, parking lot	Method of suicide										
	Self-poisoning	2	0.6	3	0.9	5	1.4	1	0.5	11	0.9
	Hanging, strangulation and suffocation	1	0.3	.	.	.	.	.	.	1	0.1
	Smoke, fire and flames	.	.	.	.	1	0.3	.	.	1	0.1
	Firearm discharge	.	.	.	.	.	.	1	0.5	1	0.1
	Jumping	.	.	.	.	1	0.3	.	.	1	0.1
	Other specified means	.	.	1	0.3	.	.	.	.	1	0.1

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
Other specified place of occurrence, communal living area	Total	3	0.9	4	1.1	7	2.0	2	0.9	16	1.3
	Method of suicide										
	Overdose of medication	.	.	.	.	1	0.3	.	.	1	0.1
	Total	.	.	.	.	1	0.3	.	.	1	0.1
Unspecified place of occurrence	Method of suicide										
	Overdose of medication	2	0.6	.	.	1	0.3	1	0.5	4	0.3
	Self-poisoning	3	0.9	5	1.4	5	1.4	2	0.9	15	1.2
	Hanging, strangulation and suffocation	17	4.9	7	2.0	10	2.8	5	2.3	39	3.1
	Sharp object	.	.	.	.	1	0.3	.	.	1	0.1
	Firearm discharge	2	0.6	3	0.9	3	0.8	4	1.8	12	0.9
	Jumping	1	0.3	.	.	.	.	.	.	1	0.1
	Crashing of motor vehicle	.	.	1	0.3	.	.	.	.	1	0.1
	Total	25	7.2	16	4.6	20	5.6	12	5.5	73	5.7
Total	Method of suicide										
	Overdose of medication	17	4.9	23	6.6	34	9.5	16	7.3	90	7.1
	Self-poisoning	49	14.1	57	16.3	47	13.2	43	19.6	196	15.4
	Hanging, strangulation and suffocation	236	68.0	208	59.6	196	54.9	93	42.5	733	57.6
	Drowning and submersion	2	0.6	3	0.9	6	1.7	4	1.8	15	1.2
	Smoke, fire and flames	1	0.3	3	0.9	2	0.6	4	1.8	10	0.8
	Sharp object	4	1.2	6	1.7	12	3.4	4	1.8	26	2.0
	Firearm discharge	22	6.3	32	9.2	34	9.5	47	21.5	135	10.6
	Jumping	13	3.7	13	3.7	22	6.2	5	2.3	53	4.2
	Crashing of motor vehicle	3	0.9	3	0.9	2	0.6	.	.	8	0.6

		Age at death									
		25–34		35–44		45–54		55–64		Total	
		n	%	n	%	n	%	n	%	n	%
	Other specified means	.	.	1	0.3	2	0.6	3	1.4	6	0.5
	Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Additional data on hospital events

Table A7.9: Hospital events by age and ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

		Ethnicity							
		Māori		Non-Māori		Missing		Total	
		n	%	n	%	n	%	n	%
Used ED or outpatients	Age at death								
No	25–34 years	29	14.4	108	10.1	.	.	137	10.8
	35–44 years	34	16.8	129	12.1	2	50.0	165	13.0
	45–54 years	13	6.4	152	14.3	1	25.0	166	13.1
	55–64 years	4	2.0	73	6.8	1	25.0	78	6.1
Yes	25–34 years	60	29.7	150	14.1	.	.	210	16.5
	35–44 years	29	14.4	155	14.5	.	.	184	14.5
	45–54 years	26	12.9	165	15.5	.	.	191	15.0
	55–64 years	7	3.5	134	12.6	.	.	141	11.1
Admitted to hospital	Age at death								
No	25–34 years	10	5.0	69	6.5	.	.	79	6.2
	35–44 years	12	5.9	60	5.6	2	50.0	74	5.8
	45–54 years	6	3.0	84	7.9	1	25.0	91	7.2
	55–64 years	4	2.0	47	4.4	1	25.0	52	4.1
Yes	25–34 years	79	39.1	189	17.7	.	.	268	21.1
	35–44 years	51	25.2	224	21.0	.	.	275	21.6
	45–54 years	33	16.3	233	21.9	.	.	266	20.9
	55–64 years	7	3.5	160	15.0	.	.	167	13.1
Total	Age at death								
	25–34 years	89	44.1	258	24.2	.	.	347	27.3
	35–44 years	63	31.2	284	26.6	2	50.0	349	27.4
	45–54 years	39	19.3	317	29.7	1	25.0	357	28.1
	55–64 years	11	5.4	207	19.4	1	25.0	219	17.2

Additional data on alcohol and drug involvement

Table A7.10: Alcohol involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Alcohol involved										
No	80	23.1	84	24.1	98	27.5	64	29.2	326	25.6
Not available	11	3.2	7	2.0	10	2.8	5	2.3	33	2.6
Not stated	119	34.3	109	31.2	123	34.5	78	35.6	429	33.7
Not tested	.	.	2	0.6	3	0.8	3	1.4	8	0.6
Trace	49	14.1	35	10.0	44	12.3	27	12.3	155	12.2
Yes	88	25.4	112	32.1	79	22.1	42	19.2	321	25.2
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.11: Cannabis involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Cannabis involved										
No	70	20.2	92	26.4	77	21.6	59	26.9	298	23.4
Unknown	254	73.2	237	67.9	270	75.6	158	72.1	919	72.2
Yes	23	6.6	20	5.7	10	2.8	2	0.9	55	4.3
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.12: Other drug involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Other drugs involved										
No	26	7.5	32	9.2	20	5.6	11	5.0	89	7.0
Unknown	321	92.5	316	90.5	337	94.4	207	94.5	1181	92.8
Yes	.	.	1	0.3	.	.	1	0.5	2	0.2
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.13: Other illicit drug involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Illicit drugs involved										
No	86	24.8	112	32.1	90	25.2	59	26.9	347	27.3
Unknown	251	72.3	232	66.5	263	73.7	158	72.1	904	71.1
Yes	10	2.9	5	1.4	4	1.1	2	0.9	21	1.7
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.14: Prescription/pharmacy drug involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Prescription/pharmacy drugs involved										
No	75	21.6	77	22.1	60	16.8	41	18.7	253	19.9
Unknown	258	74.4	247	70.8	277	77.6	162	74.0	944	74.2
Yes	14	4.0	25	7.2	20	5.6	16	7.3	75	5.9
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.15: Volatile substances involvement by 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Age at death								Total	
	25–34		35–44		45–54		55–64			
	n	%	n	%	n	%	n	%	n	%
Volatile substance involved										
No	28	8.1	36	10.3	22	6.2	14	6.4	100	7.9
Unknown	315	90.8	310	88.8	329	92.2	205	93.6	1159	91.1
Yes	4	1.2	3	0.9	6	1.7	.	.	13	1.0
Total	347	100.0	349	100.0	357	100.0	219	100.0	1272	100.0

Table A7.16: Method of suicide by alcohol involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Alcohol involved						
	No	Not available	Not stated	Not tested	Trace	Yes	Total
Method of suicide							
Overdose of medication	21	2	28	1	15	23	90
Self-poisoning	40	1	53	1	38	63	196
Hanging, strangulation and suffocation	186	23	251	5	81	187	733
Drowning and submersion	5	.	6	.	1	3	15
Smoke, fire and flames	2	.	4	.	1	3	10
Sharp object	8	.	10	.	3	5	26
Firearm discharge	35	6	54	.	13	27	135
Jumping	26	.	16	1	2	8	53
Crashing of motor vehicle	2	1	3	.	1	1	8
Other specified means	1	.	4	.	.	1	6
Total	326	33	429	8	155	321	1272

Table A7.17: Method of suicide by cannabis involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Cannabis involved			
	No	Unknown	Yes	Total
Method of suicide				
Overdose of medication	19	68	3	90
Self-poisoning	40	152	4	196
Hanging, strangulation and suffocation	176	519	38	733
Drowning and submersion	5	10	.	15
Smoke, fire and flames	3	7	.	10
Sharp object	5	20	1	26
Firearm discharge	31	100	4	135
Jumping	15	33	5	53
Crashing of motor vehicle	2	6	.	8
Other specified means	2	4	.	6
Total	298	919	55	1272

Table A7.18: Method of suicide by other drugs involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Other drugs involved			
	No	Unknown	Yes	Total
Method of suicide				
Overdose of medication	6	84	.	90
Self-poisoning	16	179	1	196
Hanging, strangulation and suffocation	45	688	.	733
Drowning and submersion	.	15	.	15
Smoke, fire and flames	.	10	.	10
Sharp object	2	24	.	26
Firearm discharge	12	122	1	135
Jumping	8	45	.	53
Crashing of motor vehicle	.	8	.	8
Other specified means	.	6	.	6
Total	89	1181	2	1272

Table A7.19: Method of suicide by illicit drugs involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Illicit drugs involved			
	No	Unknown	Yes	Total
Method of suicide				
Overdose of medication	23	64	3	90
Self-poisoning	44	151	1	196
Hanging, strangulation and suffocation	209	510	14	733
Drowning and submersion	4	10	1	15
Smoke, fire and flames	3	7	.	10
Sharp object	6	20	.	26
Firearm discharge	33	101	1	135
Jumping	22	31	.	53
Crashing of motor vehicle	2	6	.	8
Other specified means	1	4	1	6
Total	347	904	21	1272

Table A7.20: Method of suicide by prescription/pharmacy drugs involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Prescription/pharmacy drugs involved			
	No	Unknown	Yes	Total
Method of suicide				
Overdose of medication	3	56	31	90
Self-poisoning	32	150	14	196
Hanging, strangulation and suffocation	169	540	24	733
Drowning and submersion	4	11	.	15
Smoke, fire and flames	3	7	.	10
Sharp object	4	22	.	26
Firearm discharge	23	108	4	135
Jumping	12	39	2	53
Crashing of motor vehicle	1	7	.	8
Other specified means	2	4	.	6
Total	253	944	75	1272

Table A7.21: Method of suicide by volatile substance involvement for men aged 25–64 who died by suicide, 2007–11 (n=1272) (Ministry of Health data)

	Volatile substance involved			
	No	Unknown	Yes	Total
Method of suicide				
Overdose of medication	8	82	.	90
Self-poisoning	15	172	9	196
Hanging, strangulation and suffocation	52	679	2	733
Drowning and submersion	1	14	.	15
Smoke, fire and flames	1	7	2	10
Sharp object	3	23	.	26
Firearm discharge	13	122	.	135
Jumping	7	46	.	53
Crashing of motor vehicle	.	8	.	8
Other specified means	.	6	.	6
Total	100	1159	13	1272

Table A7.22: Offences by general offence category and 10-year age group for men aged 25–64 who died by suicide, 2007–11 (n=527 people with 3306 offences) (Police data)

		Offences		
		No. of people	Total no. of offences	Mean no. of offences
Age at death	General offence category			
25–34 years	Violence	119	421	3.5
	Sexual	10	40	4.0
	Drugs/antisocial	95	256	2.7
	Dishonesty	71	456	6.4
	Property damage	67	117	1.7
	Misc/admin/unknown	144	535	3.7
35–44 years	Violence	67	191	2.9
	Sexual	20	49	2.5
	Drugs/antisocial	49	163	3.3
	Dishonesty	30	103	3.4
	Property damage	25	69	2.8
	Misc/admin/unknown	94	258	2.7
45–54 years	Violence	58	136	2.3
	Sexual	15	63	4.2
	Drugs/antisocial	34	68	2.0
	Dishonesty	23	75	3.3
	Property damage	9	17	1.9
	Misc/admin/unknown	71	172	2.4
55–64 years	Violence	12	21	1.8
	Sexual	6	12	2.0
	Drugs/antisocial	10	19	1.9
	Dishonesty	8	9	1.1
	Property damage	2	3	1.5
	Misc/admin/unknown	29	53	1.8

Table A7.23: Offences by more detailed general offence categories for men aged 25–64 who died by suicide, 2007–11 (n=527 people with 3306 offences) (Police data)

		Offences		
		No. of people	Total no. of offences	Mean no. of offences
General offence category	Offence category			
Violence	Homicide	6	7	1.2
	Kidnapping/abduction	2	3	1.5
	Robbery	10	12	1.2
	Grievous assaults	50	125	2.5
	Serious assaults	157	288	1.8
	Minor assaults	87	117	1.3
	Intimidation/threats	110	196	1.8
	Group assemblies	7	21	3.0
Sexual	Unknown codes	0	.	.
	Sexual affronts	6	7	1.2
	Sexual attacks	41	113	2.8
	Abnormal sex	2	2	1.0
	Immoral behaviour	7	20	2.9
	Immoral behaviour/miscellaneous	2	22	11.0
Drugs/antisocial	Drugs (not cannabis)	13	19	1.5
	Drugs (cannabis only)	61	107	1.8
	Disorder	109	214	2.0
	Vagrancy offences	0	.	.
	Family offences	2	4	2.0
	Contravene orders	44	127	2.9
	Liquor offences	28	35	1.3
Dishonesty	Unknown codes	0	.	.
	Burglary	45	127	2.8
	Car conversion	31	67	2.2
	Theft	91	245	2.7
	Receiving	18	32	1.8
	Fraud	17	172	10.1
Property damage	Unknown codes	15	69	4.6
	Property damage	93	134	1.4
	Endangering property	3	3	1.0
Misc/admin/unknown	Unknown codes	259	615	2.4

	Offences		
	No. of people	Total no. of offences	Mean no. of offences
Trespass	70	107	1.5
Littering	0	.	.
Animals (neglect & cruelty)	2	2	1.0
Postal/rail/fire service abuses	18	21	1.2
Firearms offences	26	101	3.9
Offences against justice	77	171	2.2
Bylaw breaches	1	1	1.0

Table A7.24: Type of Corrections sentence by ethnicity for men aged 25–64 who died by suicide, 2007–11 (n=337) (Corrections data)

		Ethnicity				Total	
		Māori		Non-Māori			
		n	%	n	%	n	%
Corrections data	Latest sentence given						
Yes but not active	Unknown	6	6.3	41	17.0	47	13.9
	Custodial	9	9.4	13	5.4	22	6.5
	Supervision	5	5.2	19	7.9	24	7.1
	Community detention	1	1.0	.	.	1	0.3
	Community service	3	3.1	8	3.3	11	3.3
	Community work	31	32.3	72	29.9	103	30.6
	Home detention	.	.	3	1.2	3	0.9
	Intensive supervision	2	2.1	2	0.8	4	1.2
	Non-residential periodic detention	7	7.3	13	5.4	20	5.9
	Parole	10	10.4	8	3.3	18	5.3
	Post-detention condition	1	1.0	3	1.2	4	1.2
	Probation (historic only)	.	.	1	0.4	1	0.3
	Released on conditions	8	8.3	9	3.7	17	5.0
	Total	83	86.5	192	79.7	275	81.6
Yes, on community sentence	Latest sentence given						
	Unknown	.	.	1	0.4	1	0.3
	Custodial	.	.	1	0.4	1	0.3
	Supervision	3	3.1	14	5.8	17	5.0
	Community work	6	6.3	17	7.1	23	6.8

		Ethnicity					
		Māori		Non-Māori		Total	
		n	%	n	%	n	%
Yes, on prison sentence	Intensive supervision	2	2.1	.	.	2	0.6
	Post-detention condition	1	1.0	1	0.4	2	0.6
	Released on conditions	.	.	1	0.4	1	0.3
	Total	12	12.5	35	14.5	47	13.9
	Latest sentence given						
	Custodial	.	.	3	1.2	3	0.9
	Community work	.	.	1	0.4	1	0.3
	Parole	1	1.0	2	0.8	3	0.9
	Post-detention condition	.	.	1	0.4	1	0.3
	Released on conditions	.	.	7	2.9	7	2.1
	Total	1	1.0	14	5.8	15	4.5

Table A7.25: ACC cause of accident for men aged 25–64 who died by suicide, 2007–11 (ACC data)

	Ethnicity							
	Māori		Non-Māori		Missing		Total	
	n	%	n	%	n	%	n	%
Cause of accident – how did it happen?								
Boiling (violent & inadvertent)	1	0.0	6	0.1	.	.	7	0.1
Bursting/breakage/distortion	1	0.0	8	0.1	.	.	9	0.1
Collapse of stack/bulk goods	2	0.1	14	0.1	.	.	16	0.1
Collapse/overturning	1	0.0	7	0.1	.	.	8	0.1
Collision/knocked over by object	83	3.6	409	3.7	.	.	492	3.7
Criminal act	3	0.1	10	0.1	.	.	13	0.1
Driving into hole/object	4	0.2	24	0.2	.	.	28	0.2
Electrical shock/short circuit	.	.	3	0.0	.	.	3	0.0
Explosion/blasting/implosion	4	0.2	17	0.2	.	.	21	0.2
Exposure to elements	8	0.3	34	0.3	.	.	42	0.3
Fire	6	0.3	23	0.2	.	.	29	0.2
Flooding/overflow of liquid	.	.	8	0.1	.	.	8	0.1
Folding/collapse	.	.	6	0.1	.	.	6	0.0
Inadvertent machine/vehicle movement	3	0.1	9	0.1	.	.	12	0.1
Lifting/carrying/strain	124	5.3	691	6.3	4	12.1	819	6.2
Loss of balance/personal control	256	11.0	1360	12.4	6	18.2	1622	12.2

	Ethnicity							
	Māori		Non-Māori		Missing		Total	
	n	%	n	%	n	%	n	%
Loss of consciousness/sleep	5	0.2	15	0.1	.	.	20	0.2
Loss of control of vehicle	34	1.5	172	1.6	.	.	206	1.6
Loss of hold	16	0.7	89	0.8	.	.	105	0.8
Lurching/jerks in vehicles	2	0.1	16	0.1	.	.	18	0.1
Mechanical malfunction	2	0.1	18	0.2	.	.	20	0.2
Medical treatment	1	0.0	5	0.0	.	.	6	0.0
Misjudgement of support	21	0.9	116	1.1	.	.	137	1.0
None	1149	49.5	4809	44.0	15	45.5	5973	44.9
Object coming loose/shifting	21	0.9	155	1.4	.	.	176	1.3
Oral ingestion of fungi	.	.	3	0.0	.	.	3	0.0
Other or unclear cause	190	8.2	933	8.5	5	15.2	1128	8.5
Puncture	17	0.7	51	0.5	1	3.0	69	0.5
Pushed or pulled	12	0.5	68	0.6	.	.	80	0.6
Recoil/ejection	4	0.2	9	0.1	.	.	13	0.1
Shooting	5	0.2	32	0.3	.	.	37	0.3
Skid	6	0.3	31	0.3	.	.	37	0.3
Slipping, skidding on foot	46	2.0	415	3.8	1	3.0	462	3.5
Something giving way underfoot	6	0.3	16	0.1	.	.	22	0.2
Struck by held tool/implement	46	2.0	198	1.8	.	.	244	1.8
Struck by person/animal	130	5.6	523	4.8	.	.	653	4.9
Swerving/evasive action	5	0.2	27	0.2	.	.	32	0.2
Tripping or stumbling	33	1.4	222	2.0	1	3.0	256	1.9
Twisting movement	15	0.6	100	0.9	.	.	115	0.9
Unclear fire or explosion	.	.	8	0.1	.	.	8	0.1
Work property or characteristics	59	2.5	275	2.5	.	.	334	2.5
Total	2321	100.0	10,935	100.0	33	100.0	13,289	100.0

Table A7.26: Sport involvement in ACC injury for men aged 25–64 who died by suicide, 2007–11 (ACC data)

	Ethnicity						Total	
	Māori		Non-Māori		Missing			
	n	%	n	%	n	%	n	%
Sport involved?								
Missing	2	0.1	6	0.1	.	.	8	0.1
No	2139	92.2	10,261	93.8	31	93.9	12,431	93.5
Yes	180	7.8	668	6.1	2	6.1	850	6.4
Total	2321	100.0	10,935	100.0	33	100.0	13,289	100.0