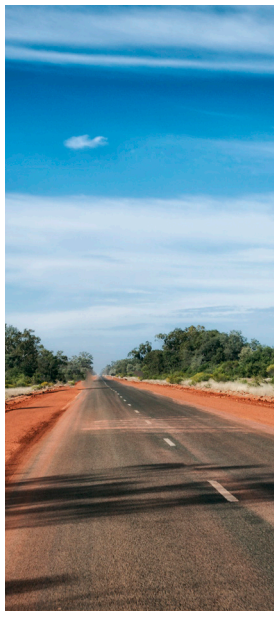
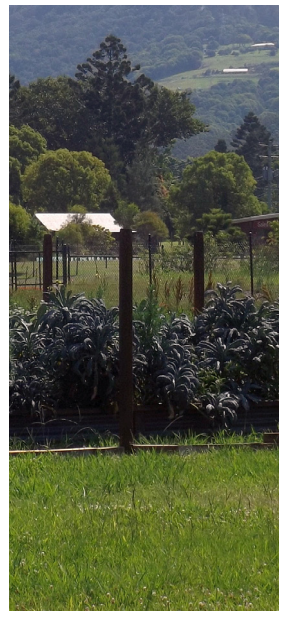
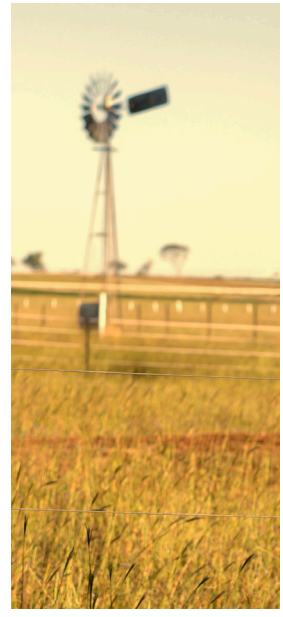
Suicide in QUEENSLAND

Mortality Rates and Related Data 2011–2013







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Suicide in Queensland

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Funded by Queensland Mental Health Commission

March 2016

Griffith UNIVERSITY

Australian Institute for
Suicide Research and Prevention

Suggested quotation: Potts, B., Kõlves, K., O'Gorman, J., & De Leo, D. (2016): *Suicide in Queensland, 2011–2013: Mortality Rates and Related Data,* Brisbane.

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National Library of Australia Cataloguing-in-Publication entry

Creator: Potts, Boyd, author.

Title: Suicide in Queensland : mortality rates and related data

2011 - 2013 / Boyd Potts, Kairi Kõlves,

John O'Gorman, Diego De Leo.

ISBN: 9781922117762 (paperback)

Subjects: Suicide--Queensland--Statistics.

Suicide--Research--Queensland.

Suicidal behavior--Queensland.

Other Creators/Contributors:

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Dewey Number: 362.2809943

Foreword from the Minister

Suicide is one of the most serious challenges to public health for Queenslanders. In our country, suicide is one of the leading causes of death for people aged between 14 and 45. We lose more potential years of life from suicide than from any other cause of death, and each death from suicide inflicts deep emotional trauma on many more families, friends and loved ones.

The Queensland Government recognises the significant challenge of suicide, and we are determined to respond strongly.

That is why in June 2015 our Government took action to invest in new training to help ensure our 5,000 staff in emergency departments are best equipped to recognise and respond to people who may be at risk of suicide.

In September 2015, we committed to the Queensland Suicide Prevention Action Plan 2015-17. The Action Plan, prepared by the Queensland Mental Health Commission, aims to reduce suicide and its impact on Queenslanders. The Plan outlines 42 individual actions that the Queensland Government will take towards achieving a 50 per cent reduction in suicide within a decade.

In May 2016, we announced a $1 million partnership with the Queensland Rugby League and the National Rugby League to extend a suicide prevention campaign into grassroots rugby league clubs across Queensland.

In July 2016, we further strengthened our commitment to suicide prevention, with a $9.6 million Suicide Prevention in Health Services Initiative, establishing the Queensland Suicide Prevention Health Taskforce to drive suicide prevention across the health system.

The Government also recognises the importance of a stronger, more accessible evidence base to ensure our efforts are best targeted.

That's why the Queensland Government is proud to continue our 26 year partnership with the Australian Institute for Suicide Research and Prevention to support the Queensland Suicide Register. Suicide is a significant challenge – and we need the best evidence and research to properly focus our efforts.

I congratulate the Australian Institute for Suicide Research and Prevention on the release of this report and look forward to our ongoing work with the Institute as leading partners in suicide prevention in Australia.

The Honourable Cameron Dick MP
Minister for Health and Minister
for Ambulance Services

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Key Findings 2011–2013

General overview

- Between 2011 and 2013, 1914 suicides were recorded in Queensland, which corresponds to an age-standardised suicide rate of 14.01 per 100,000 (21.32 in males and 6.94 per 100,000 in females).
- The crude suicide rate for males was 21.03 per 100,000, for females was 6.95 per 100,000 and for the sexes combined (all persons) was 13.97 per 100,000.
- Males died by suicide 3-times more often than females.
- In males, the highest suicide rates were seen in those aged 35–44 years (32.59 per 100,000) and those 75 years and over (32.33 per 100,000).
- In females, the highest rates were among 35–44 year olds (11.70 per 100,000) and 45–54 year olds (9.15 per 100,000).

Suicide methods

- Most frequently used suicide methods in Queensland were hanging (49.0%), drug or medicine overdose (18.0%), carbon monoxide toxicity (7.1%), and firearms (6.7%).
- 'Other methods' accounted for 20.1% of all suicides, comprising of methods, such as jumping from height (4.4%), suffocation by plastic bag (2.6%), cutting by sharp objects (2.5%), and drowning (2.0%).
- Overall, males were 3.9 times more likely to use firearms and 1.4 times more likely to use hanging than females, while females were more 2.7 times more likely to use poisoning as suicide method.

Metropolitan, regional, remote areas

- Suicide rates for all persons were higher in remote areas (26.77 per 100,000) than in regional (14.85 per 100,000) or metropolitan areas (12.94 per 100,000) of Queensland.
- The distribution of suicides by persons under the age of 35 was 28.8%, 32.7% and 48.1% in metropolitan, regional and remote areas, respectively. For persons between 35 and 54 years, the distribution was 44.1%, 37.8% and 36.8%, respectively. In the age group 55 years and over, 27.1% were in metropolitan areas, 29.5% in regional areas and 15.1% in remote areas.

- Hanging was the most common suicide method, accounting for 45.7% of deaths in metropolitan areas, for 50.6% in regional areas, and 72.6% in remote areas. Firearms were used in 3.9% of suicides in metropolitan areas, 10.3% in regional and 12.3% in remote parts of Queensland. Poisoning as a suicide method was more prevalent in metropolitan areas (21.0%) than in regional (16.5%) and remote areas (3.8%).

Geographic regions

- Geographic regions across Queensland had different profiles in terms of suicide rates, gender ratios, age distributions and methods used.
- Overall, the highest age-standardised suicide rate was found in the Greater Western Queensland region (27.25 per 100,000), and the lowest in Metro South HHS (11.75 per 100,000).
- In males, the highest mortality was in the Greater Western Queensland region (35.76 per 100,000), and the lowest in Metro South HHS (17.76 per 100,000). In females, suicide rates ranged from 17.60 in Greater Western Queensland to 3.20 per 100,000 in Darling Downs HHS.
- The Darling Downs HHS had the largest male: female suicide ratio (7.2:1), followed by Mackay HHS (6.4:1). The smallest gender ratio was recorded in Greater Western Queensland (2.3:1).
- The highest proportion of suicide by persons younger than 35 years was seen in Greater Western Queensland (55.9% of suicides in this region) and the lowest in the Sunshine Coast HHS (16.4% of suicides in this region). The highest percentage of suicides among persons aged 55 and older was in the Sunshine Coast HHS (47.4%) and the lowest in Greater Western Queensland (8.5%).
- Hanging was the most common method used in all regions, with the highest percentage recorded in the Western region (78.0%), and the lowest in Wide Bay HHS (39.4%).
- The incidence of firearm use was the lowest in Metro North HHS (3.6%) and Townsville HHS (4.1%), and the highest incidence was in the Wide Bay HHS (16.2%). Use of poisoning ranged from 5.1% in Greater Western Queensland to 28.3% of suicides in the Sunshine Coast HHS.

Vulnerable populations

Aboriginal and Torres Strait Islander persons

- Of the 1914 suicides reported between 2011 and 2013, 126 (6.6%) were by persons of Aboriginal or Torres Strait Islander descent.
- The age-standardised suicide rate in Aboriginal and Torres Strait Islander persons was 1.68 times that of all of Queenslanders (23.48 vs. 14.01 per 100.000). This was true for both males (35.99 vs 21.32 per 100,000) and females (11.98 vs. 6.94 per 100,000). For Aboriginal and Torres Strait Islander males, the highest rates were recorded in the 35–44 years age group (72.14 per 100,000), while in females the highest rates were in age group 25–34 years (25.20 per 100,000).
- The majority of Aboriginal and Torres Strait Islander suicides were under the age of 35 at the time of death (65.9%). 5.6% were 55 years or older.

- Hanging accounted for 89.7% of all deaths by suicide of Aboriginal and Torres Strait Islander persons.
- The highest number of suicides occurred in the Cairns & Cape region (n = 31), Greater Western Queensland (n = 26), Metro South HHS (n = 14), and Townsville HHS (n = 12).
- True suicide mortality figures in Aboriginal and Torres Strait Islander populations remain poorly understood due to incomplete data collection processes and inaccurate classification systems.

Culturally and Linguistically Diverse (CALD) population

- In the 2011–2013 period there were 389 (20.3%) deaths recorded in the QSR of persons born outside Australia. The majority of these (93.2%) were born in the English speaking countries of Canada, Republic of Ireland, New Zealand, South Africa, and the United Kingdom.
- The specific non-English speaking countries most represented were Germany (n = 13), the Netherlands (n = 12), China (n = 8), Papua New Guinea and Japan (n = 6, each), and India (n = 5).
- In 2011, the crude suicide rate for persons born overseas did not exceed the overall rate for Queensland (8.41 vs. 13.42 per 100,000), or the rate for persons born in Australia (15.12 per 100,000).

People under psychiatric care

- Eighteen cases of suicides by persons under inpatient psychiatric care were reported in the period 2011–2013. Of these, 13 were by males and 5 were by females.
- Main method used was jumping from high places, accounting for 7 cases, followed by hanging (5 cases), jumping in front of a moving object or suffocation with plastic bag (each 2 cases) and medicine overdoses or carbon monoxide poisoning (1 case each).
- The majority of these deaths occurred when patients left the ward (n = 12) either absconding or being on permitted leave. The remaining cases died within the facility.

People in custody

- Four suicides were reported among people in custody; all were males.
- The four deaths each occurred in the detention cell, with the predominant method of hanging (3 cases) or cutting and piercing (1 case).
- All cases were between the ages of 26 and 45 years.
- One person was identified as Aboriginal or Torres Strait Islander.

Lesbian, Gay, Bisexual, Transgender and Intersex populations

- During 2011–2013, there were 20 suicides that were identified as members of the LGBTI populations; 14 were male, 5 were female and one person was female-born and identified as transgender.
- The majority of cases (n = 12) were between 25 and 44 years. The age range was 14 to 64 years.
- The leading methods of suicide were hanging (9 cases) followed by jumping from height (4

cases) and poisoning (3 cases).

- These figures likely under-represent the true number of suicides, as they rely on overt identification in police or coronial reports, and often by the admissions of family members or friends about the deceased's sexual orientation.

Children under 15

- During 2011–2013, there were 21 suicides by children less than 15 years of age, 14 by males and 7 by females, who died by suicide. The youngest suicide occurred by a child less than 10 years of age.
- Most cases occurred by hanging (n = 18), and in the person's own residence (n = 17).
- Four of these deaths were by children of Aboriginal and/or Torres Strait Islander descent; two were 12 and two were 14 years of age.
- 8 children under 15 died by suicide in the Metro South HHS and 3 children under 15 died by suicide in the Darling Downs HHS region. No deaths under 15 years were reported in Townsville HHS, Greater Western Queensland or Central Queensland HHS regions.

Psychosocial profiles

Marital status

- The distribution of suicides by marital status shows the largest proportions among married/de facto persons (34.6%) and never married/single persons (25.8%). The lowest proportion was reported in widowed persons (3.7%).
- Marital status is underreported in source documents, with 17.0% of cases in 2011–2013 reporting no information regarding marital status.

Employment status

- In 2011–2013, people who died by suicide were most frequently employed (31.3%), followed by unemployed (24.9%), retired (14.3%), people with a disability (5.2%) and other not in labour force (4.8%).
- Crude suicide rates were the highest in the unemployed (120.0 per 100,000) and the lowest in employed people (9.7 per 100,000).
- People who died by suicide in age groups < 35 and 35–54 years were most frequently employed (34.7% and 39.2% respectively), followed by unemployed (32.1% and 28.6% respectively). In age group 55+ they were most frequently retired (51.2%), followed by employed (15.4%).
- Exact employment status was not able to be determined in 19.5% of cases using the materials available.

Psychiatric disorders

- In 2011–2013, 47.2% of all suicide cases had at least one psychiatric disorder recorded in the

QSR. The prevalence was significantly greater in females than in males (61.6% vs 42.4%).

- The most prevalent was unipolar depression (36.3%), followed by anxiety disorders (9.8%), substance use disorders (7.8%), psychotic disorders (5.8%), bipolar depression (5.6%) and personality disorders (2.7%).
- Unipolar depression, anxiety disorders, bipolar depression and personality disorders were significantly more frequent in females than in males who suicided.

History of suicide attempts

- In 2011–2013, 30.2% of people who died by suicide had a history of previous suicide attempt(s), significantly more frequent in females (38.4% vs 27.5%).
- Previous attempts were more frequently recorded in the age groups 35–54 and <35 years, (32.5% and 32.1%, respectively) and it was less frequent in age group 55+ years (24.6%).

Life events

- In 2011–2013, relationship problems were the most frequently recorded life events (27.0%), followed by relationship conflict (15.5%), financial problems (14.9%), bereavement (13.9%) and familial conflict (10.3%) in people who died by suicide.
- Relationship problems, financial problems, recent or pending unemployment, pending legal matters, work/school problems were significantly more frequent in males.
- Bereavement, familial conflict, childhood trauma and sexual abuse were significantly more frequent in females.
- Prevalence of all life events recorded in the QSR except interpersonal conflict differed significantly by age group.
- The recording of life events relies on the accuracy of next-of-kin accounts in the Form 1 and coronial investigations, and therefore it is likely to be underestimated.

Health conditions

- In 2011–2013, a physical health condition of some type was recorded in the QSR in 48.7% of cases; significantly more frequently in females than males (53.5% vs 47.2%).
- The age groups were significantly different by prevalence of any physical health condition being highest in the age group 55+ years (77.4%) followed by age groups 35–54 years (45.5%) and lowest in the age group <35 years (28.2%).
- The most frequent was general or unspecified health problems (19.0%), followed by circulatory system disorders (16.7%) and metabolism or nutritional disorders (10.1%).
- Digestive system disorders, metabolism or nutritional disorders, musculoskeletal disorders, respiratory system disorders, urinary-genital disorders and traumas (near time of death) were significantly more frequent in females.
- Prevalence of all recorded physical health conditions except traumas differed significantly by age group.

Acknowledgements

With the staff of AISRAP, many organisations and individuals have contributed to the production of this report and the ongoing success of maintaining the Queensland Suicide Register.

A number of organisations are acknowledged for their ongoing support:

Queensland Mental Health Commission, which provided funding for this project and the printing of this report, and has supported the work of the Australian Institute for Suicide Research and Prevention since responsibility was transferred from Queensland Health in 2013.

Offices of the Coroner throughout Queensland, whose staff have provided the documentation necessary for maintenance of the Queensland Suicide Register, provided prompt clarification on specific deaths.

Queensland Police Service, whose Officers frequently deal with the consequences of suicides and, in the course of duty, collect invaluable information related to deaths by suicide.

Victorian Department of Justice, which manages the National Coronial Information System, utilised as an additional data source for suicide deaths by Queensland residents, and whose staff has facilitated access to documentation needed on specific deaths.

Queensland Health Scientific Services, whose staff has provided an important service in the delivery of coronial documentation.

Lastly, we would like to extend our gratitude to the Australian Bureau of Statistics for supplying a considerable amount of data and consultation time.

Much gratitude is extended to the staff of these organisations for their dedication and commitment to the project over many years.

Introduction

Suicide, the deliberate act of killing oneself, is responsible for over 800,000 deaths worldwide every year (WHO, 2014). Among those aged 15–29 years, it is the second leading cause of death. For each adult who dies by suicide there may be more than 20 others who attempt suicide, that is, intentionally poison, injure, or harm themselves without a fatal outcome (WHO, 2014). For each person who suicides, it is estimated that at least six others (family, friends, workmates) are affected by the death (Suicide Prevention Australia; SPA, 2014).

The age-standardised rate of suicide (which adjusts for differences in the size and age structure of populations over time) is somewhat higher in high-income countries than in low- and middle-income countries (WHO, 2014). In Australia, more than 2,500 people die from suicide every year (ABS, 2016), a death rate well in excess of that from traffic accidents. For Australians aged 15 to 44 years, suicide is the leading cause of death. Suicide rates for Aboriginal and Torres Strait Islander people are particularly high and more than twice those for other Australians. As well as deaths by suicide, some 65,000 people are estimated to attempt to take their own lives (SPA, 2014).

Australia was one of the first countries to have a comprehensive national strategic approach to suicide prevention. This was led by the *National Suicide Prevention Strategy (1999)* and *Living is for Everyone (LIFE): a framework for prevention of suicide and self-harm in Australia (2000)*. In 2014, the Federal Government requested the National Mental Health Commission to undertake a review of Mental Health Programmes and Services. The report, 'Contributing Lives, Thriving Communities' (National Mental Health Commission, 2014), pointed to the costs to individuals and communities of mental illness and suicide and recommended reform of the mental health system. The Australian Government established an expert reference group to advise on the issues raised in the report and consulted with government agencies and community groups, notably those involved in suicide prevention and those involved with issues affecting Aboriginal and Torres Strait Islander people. The Government's response to the review (Australian Government, 2015) sought to provide an outcome-focussed approach within existing resources. A key initiative is a new approach to suicide prevention which will be systems-based and regionally implemented, with Primary Health Networks (PHNs) carrying a major responsibility:

> 'The Government will move to immediately implement a new national suicide prevention strategy with four critical components:
>
> - national leadership and infrastructure including evidence based population level activity and crisis support services;

- a systematic and planned regional approach to community based suicide prevention, which recognises the take-up of local evidence based strategies. This approach will be led by PHNs who will commission regionally appropriate activities, in partnership with LHNs and other local organisations;
- refocusing efforts to prevent Indigenous suicide; and
- working with state and territory governments to ensure effective post discharge follow up for people who have self-harmed or attempted suicide, in the context of the Fifth National Mental Health Plan. (Australian Government, 2015, p. 17).'

The detail of this new national approach, and a commitment to work with States and Territories to develop strategy, is currently being progressed by the PHNs but it seeks to provide for greater integration of hospital and community services for suicide prevention, intervention and postvention in regions. Vulnerable groups, including importantly Aboriginal and Torres Strait Islander people, will need particular focus.

Queensland Governments since 1997 have implemented cross-government strategies to reduce suicide risk and mortality, as well as build individual and community resilience. During this time, frameworks for suicide prevention supported by dedicated suicide prevention funding identified priorities for action. The *Queensland Government Youth Suicide Prevention Strategy 1997–2002* provided the first Queensland cross-Government blueprint for suicide prevention. The *Queensland Government Suicide Prevention Strategy 2003–2008* commenced in early 2003, providing a comprehensive and whole-of-Government approach to suicide prevention. In line with contemporary evidence, the singular focus on young people moved to a whole-of-life approach with priority attention directed to high-risk populations.

The Queensland Mental Health Commission was established in July 2013 and tasked with developing a whole-of-government strategic plan to improve the mental health and wellbeing of all people living in Queensland. The Commission consulted with individuals, families and communities affected by issues of mental health or substance use, as well as government and non-government agencies and service providers. Those consultations led to formulation of the *Queensland Mental Health, Drug and Alcohol Strategic Plan 2014–2019*.The plan outlined eight commitments to action that built on existing work and addressed priorities over a three to five year time period. One of these commitments included, in its first set of priorities, suicide prevention.

To take this priority forward the Commission launched an action plan in September 2015 to reduce suicide and its impact on Queenslanders. The *Queensland Suicide Prevention Action Plan 2015–17* set a shared goal 'to reduce suicide and its impact on Queenslanders (as) a step towards achieving a 50 per cent reduction in suicides in Queensland within a decade'. To do this, the Action Plan recognised a need to change the conversation about suicide and to ensure a broader model of prevention than had been employed in the past. In this context the Action Plan acknowledged that issues such as improving mental health and wellbeing and preventing and reducing the adverse impact of problematic alcohol and drug use are central to achieving the shared goal. It is supported by other action plans under the Strategic Plan, to do with mental health promotion, prevention and early intervention, an alcohol and drugs action plan, an action plan to promote social and emotional wellbeing among Aboriginal and Torres Strait Islander people, and an action plan to improve mental health and wellbeing among people living in rural and remote communities.

To support these initiatives, the Queensland Government in its 2016 Budget announced the reallocation of $9.6 million dollars of health funding 'to develop and implement a targeted suicide prevention strategy. In addition, funding will support the establishment of a suicide prevention taskforce to identify an evidence base for initiatives and strengthen partnerships between the primary and tertiary health networks (Queensland Government, 2016; p. 105).

One of the priority areas identified in the Action Plan is: A stronger more accessible evidence base to drive continuous improvement in research, policy, practice and service delivery. An existing source of evidence in this regard is the Queensland Suicide Register (QSR), a database of suicides in Queensland, funded by the Queensland Government and maintained by the Australian Institute for Suicide Research and Prevention, Griffith University. The QSR consists of a wide range of data on all suicide cases of Queensland residents from 1990 onward. It has been used to monitor suicide rates in Queensland and to study factors that relate to the incidence of suicide in the state. Studying the trends and characteristics of suicide mortality promises to provide a better understanding of suicide and guide the development of appropriate suicide prevention strategies.

The present report provides information on the incidence of suicide in Queensland for the period 2011–2013. As such, it complements previous reports of the Australian Institute for Suicide Research and Prevention on suicides in Queensland for the years 1990–1995, 1996–1998, 1999–2001, 2002–2004, 2005–2007, 2008–2010.

Structure of this report

Chapter 1

Outlines mortality data collection processes in Australia, compares data from the QSR with data from the Australian Bureau of Statistics (ABS), summarises data revisions introduced by the ABS, and evaluates the quality of the QSR data.

Chapter 2

Provides an overview of data on suicide at the international, national and state levels.

Chapter 3

Presents suicide data from the QSR, provides a general profile of Queensland suicide mortality and methods of suicide by age and gender.

Chapter 4

Provides a detailed analysis of the incidence and rates of suicide in Queensland for metropolitan, regional and remote areas, as well as for selected geographic regions.

Chapter 5

Presents profiles of suicides in six specific vulnerable populations: Aboriginal and Torres Strait Islander population, culturally and linguistically diverse populations, persons under psychiatric care, persons in custody, persons within the Lesbian, Gay, Bisexual, Transgender and Intersex populations and persons less than 15 years of age.

Chapter 6

Focuses on prevalence of psychosocial factors commonly related to suicide such as marital and employment status, psychiatric disorders, history of suicide attempts, physical health conditions and life events prior to death by suicide.

Chapter 7

Provides a comparison of the findings of this publication with earlier reports and their implications.

Chapter 1.
The Queensland Suicide Register

1.1 Sources of data

The Queensland Suicide Register (QSR) is a suicide mortality database, managed by the Australian Institute for Suicide Research and Prevention (AISRAP) and funded by the Queensland Mental Health Commission. It collates a broad range of information about suicide deaths by Queensland residents from 1990 to present, covering a wide range of demographic, psychosocial, psychiatric and behavioural aspects.

Data for each case of suicide in the QSR are obtained from the following sources:

- Police reports of death to a Coroner (since 1994, including a psychological autopsy)
- prior to December 2003: Form 4
- post December 2003: Form 1
- Post-mortem autopsy report
- Toxicology report
- Coroner's findings

These documents are provided to AISRAP by the Office of the State Coroner and are crosschecked with records from the National Coronial Information System (NCIS).

Police report of death to a Coroner

Investigating police officers compile relevant information and complete Report of death to a Coroner soon after attending the location of suicide by conducting interviews with those close to the deceased (next-of-kin). The forms used to collect this information have been modified and extended over recent years. Psychological autopsy reports were first developed in 1994 by AISRAP and were initially completed as a separate document to the police report during investigations of possible suicide deaths. In December 2003, this questionnaire was integrated into the current police form (Form 1). These reports represent a major source of information in the QSR as they contain information about the deceased's medical history and psychiatric history, past suicidal behaviour, possible triggers for suicide and critical life events preceding the death.

Form 4

Form 4 documents were in use until December 2003 and contained a brief summary of the circumstances surrounding the death, sociodemographic details of the deceased (e.g., age, sex, marital and employment status) and any other information deemed relevant by the investigating officer.

Form 1

The Form 1 has been in use since December 2003 and replaces the information previously collected separately through the Form 4 and psychological autopsy. The Form 1 was developed in consultation with the Queensland Police Service and the Office of the State Coroner, and is periodically updated for content.

Post-mortem autopsy report

Post-mortem examination of the body is conducted by a pathologist or government medical officer upon request by the coroner. It can involve internal or external autopsy. These reports are provided to AISRAP by the Queensland Office of the State Coroner. These contain information on the underlying cause of death, and information pertaining to the physical condition of the deceased, including any pre-mortem conditions.

Toxicology report

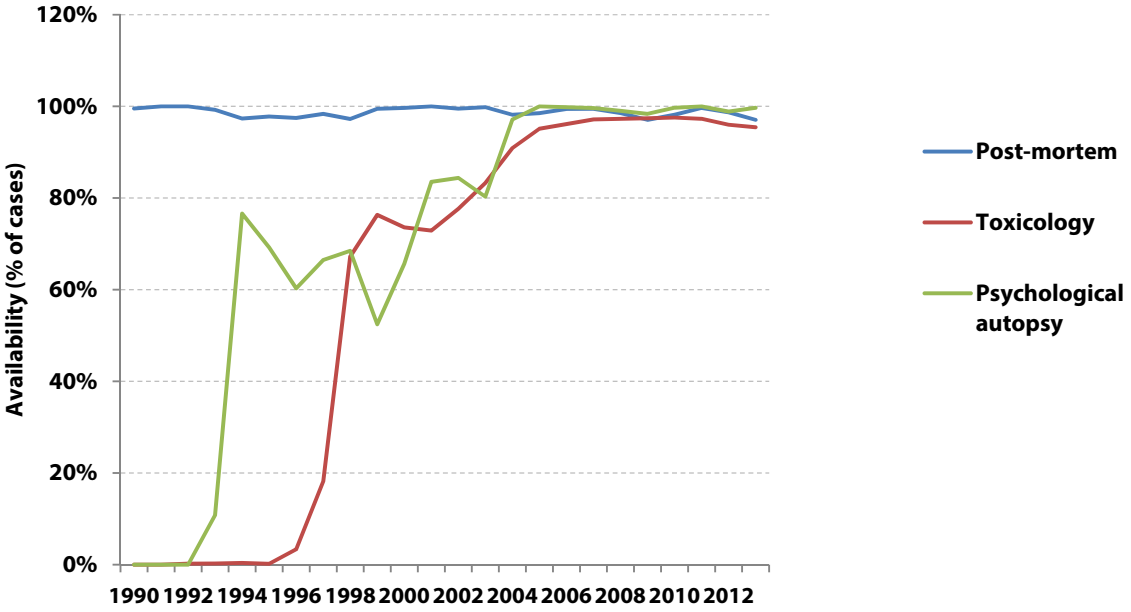
The toxicology report provides results of an analysis of any substances present in the circulatory, urinary and digestive systems of the deceased, such as alcohol, illicit drugs, medications and poisons.

Coroner's findings

Coroner's findings commenced with the introduction of the Queensland Coroners Act 2003. Findings are delivered at the completion of the coronial investigation for all reportable deaths to a coroner, including possible suicides. They provide the following information: who the deceased person is, how the person died (narrative of circumstances of death), when and where the person died and what caused the person to die.

Figure 1.1 shows the availability of each of the three sources of data from 1990 to 2013. As post-mortem results represent an essential document for inclusion of cases in the QSR, their availability has been close to 100% since the establishment of the QSR in 1990. Further, the figure depicts the introduction of psychological autopsy questionnaires in 1994. Between 1994 and 2013, these forms were available, on average, in 85% of cases. In 1998, an analysis of urine and/or blood started being systematically performed on people who died by suicide as part of post-mortem investigations; between 1998 and 2013, 88.2% of all suicide cases had a toxicology analysis performed and results subsequently entered into the QSR.

Figure 1.1 Availability of sources of data, Queensland Suicide Register, 1990–2013



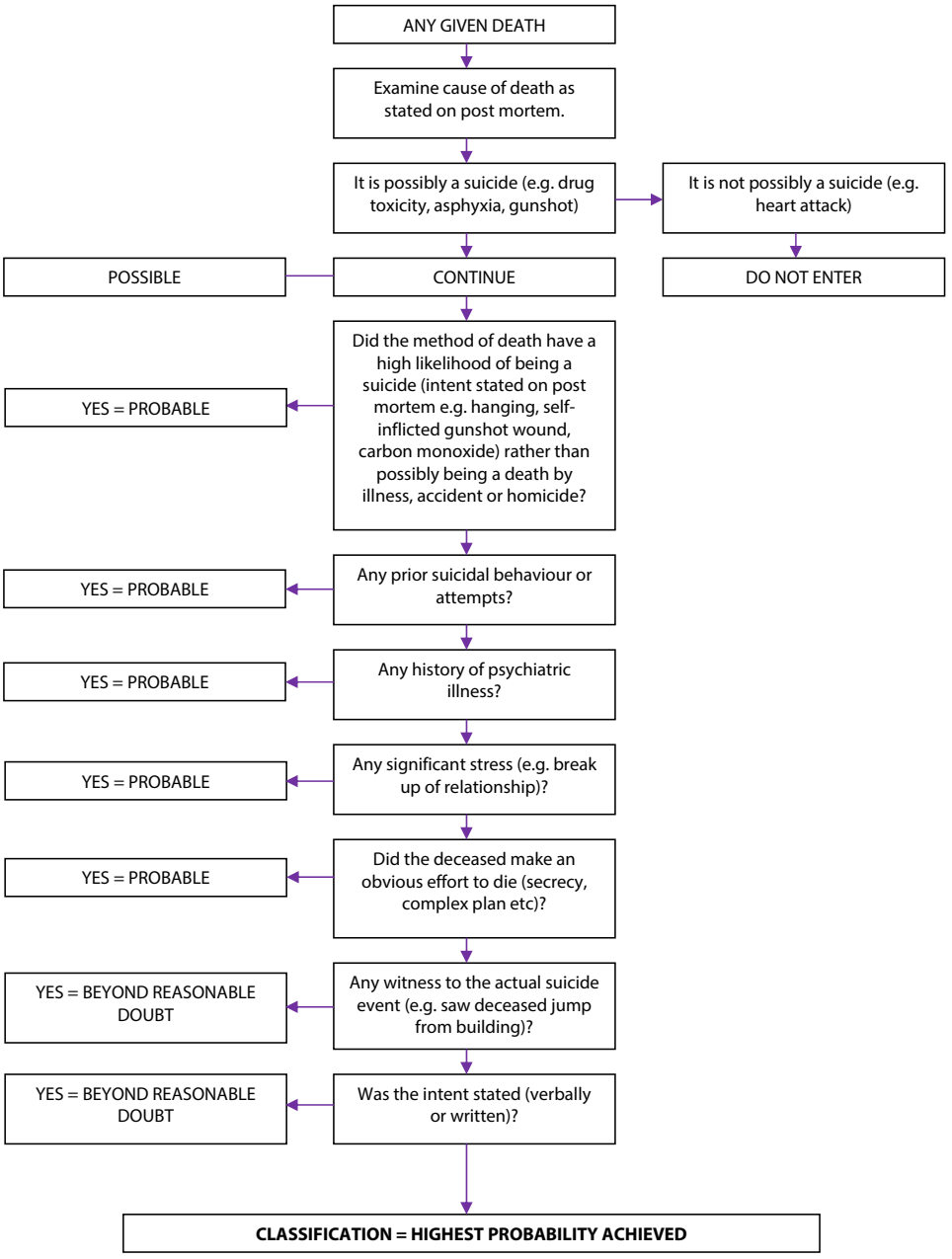
1.2 Classification of suicides

QSR staff scrutinise all received cases of possible suicides and accompanying documents to determine the level of probability that the death was due to a suicide. Cases are classified into three different levels:

1. *Beyond reasonable doubt:* The available information refers to one or more significant factors that, alone or in combination, constitute a pattern highly indicative of suicide.
2. *Probable:* The available information is not sufficient to allow for a judgement of 'beyond reasonable doubt', but is still more consistent with a death by suicide than by any other cause.
3. *Possible:* The available information is suggestive of a suicide, but there remains a substantial possibility that the death may be due to other internal or external causes of death.

The suicide classification flow chart (Figure 1.2) shows the algorithm followed in assigning the level of probability to QSR cases.

Figure 1.2 Suicide classification flow chart



1.3 Presentation of data

Data in this report are presented in a number of formats, including tables, line graphs, pie charts and histograms. Suicide rates are expressed as a given number of deaths per 100,000 of relevant population per year. Rates and ratios were only calculated where the incidence in a given group was at least 10.

Where age-standardisation was performed, the direct method of age-standardisation was used, using the Australian population of 2001 as the standard. This process produces a summary rate that controls for the effects of differences in the age distributions of Queensland and Australian populations, and also for the changing age structure of the Queensland population over time.

Age-standardised rates (ASR) are presented in the chapter with regional statistics. The ratios of these rates to the ASR of all of Queensland are calculated, providing an indication of the region mortality rate relative to the all-of-Queensland rate. A ratio greater than one indicates a suicide rate greater than the State-wide rate, while a ratio less than one indicates a rate lower than the State-wide level.

Confidence intervals are shown for the calculated age-standardised rates and rate ratios. The two figures provided by the interval are the lower and upper limits, indicating the range within which the true rate or ratio is likely to lie with 95% accuracy.

1.4 Comparison with Australian Bureau of Statistics suicide data

Accurate assessment of the incidence of suicides is a vital part of understanding the scope of this public health concern and determining the effectiveness of any targeted preventative strategies. However, mortality rates are influenced by social and cultural factors as well as variation in recording and classification systems between or even within countries (Mathers et al., 2005; De Leo, 2010). Therefore, where policy decisions are to be made based on any available suicide mortality statistics, it is essential that potential limitations in data which may decrease the precision of subsequent conclusions are acknowledged.

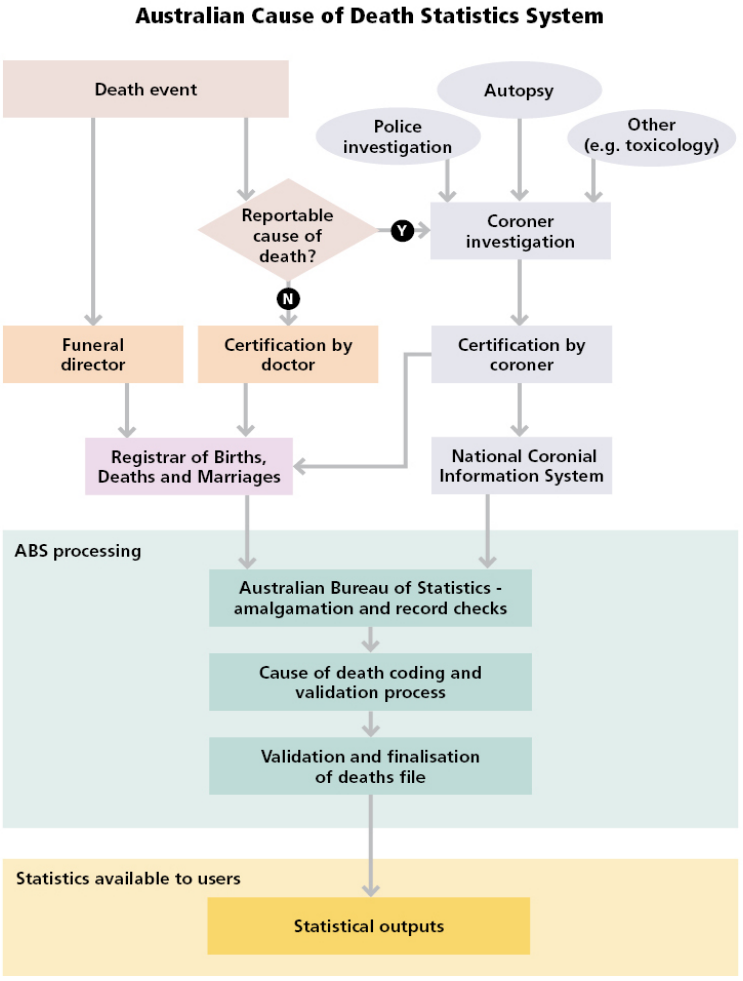
The following section provides a discussion of the data collection and processing procedures of suicide mortality data by the national statistical agency, the Australian Bureau of Statistics (ABS). Throughout the chapter, the two data systems — ABS and QSR — are compared in terms of sources of data, coding of suicides and definitions used and timing of data collection processes. Finally, the chapter summarises the recently introduced data revision processes by the ABS and compares suicide mortality data between the ABS and QSR.

1.4.1 The Australian mortality statistic system

Each death in Australia must be certified by either a doctor using a Medical Certificate of Cause of Death, or by a Coroner. In 2013, 86.8% of deaths were certified by a doctor and 13.2% were reported to a coroner (ABS, 2015). All external causes of death, including all suspected suicides, are required to be examined by a coroner who investigates both the mechanism by which a person died, and the intention of the injury (whether it was accidental, intentional self-harm or assault).

Figure 1.3 shows the process undertaken in producing cause of death statistics for Australia.

Figure 1.3 Australian mortality statistics system



Source: ABS, 2016.

1.4.2 Sources of data

The registration of deaths is the responsibility of the eight individual State and Territory Registrars of Births, Deaths and Marriages, which provide this information to the ABS for coding and compilation into aggregate statistics. In addition, since 2003, the ABS supplements data obtained by the Registrars with information from the National Coronial Information System (NCIS). Initially, where information was not available in NCIS due to the case still being under coronial investigation or the information about completion of this investigation not yet being uploaded to the database, the ABS sought additional information on coroner certified deaths by undertaking personal visits to coroner offices to extract information from paper records. However, these visits ceased in 2006 when NCIS became the only source of data used by the ABS for coroner certified deaths.

For the QSR, the Queensland Office of the State Coroner provides AISRAP with reports on all potential suicide deaths in Queensland, including information on the underlying causes of death, toxicology results, *pre-mortem* conditions and circumstantial evidence from police investigation, as well as Coroner's findings. Information received is checked against available records on the National Coroners Information System, for closed cases only. All identified cases of potential suicides are then scrutinised following the suicide classification flow chart (see Figure 1.2) and classified into one of the following categories: 'beyond reasonable doubt', 'probable', or 'possible'. The latter is excluded

from analyses, as the available information is not sufficient to determine suicide as the most likely cause of death.

1.4.3 Definition of suicide — 'burden of proof'

Causes of Death statistics, annually released by the ABS, are classified and reported following the World Health Organization International Classification of Diseases (ICD-10), which was endorsed by the WHO in 1990 and has been used by WHO member States since 1994 (WHO, 2006). Suicide data are reported under *Chapter XX: External Causes of morbidity and mortality*, spanning codes X60 to X84 and Y87.0.

The ICD-10 interpretation requires that specific documentation from a medical or legal authority be available regarding both the self-inflicted nature and suicidal intent of the incident (ABS, 2013). A medical or legal authority can include the coroner, police or pathologist. However, there are still great inconsistencies between jurisdictions and even individual coroners within the same jurisdictions in specifying the manner of death. For example, in Queensland, the word "suicide" has been acceptable under Queensland coronial legislation since 2003 (*Coroner's Act, 2003*); however, it is still not widely used in coronial deliberations. Possible reasons for this include legislative or regulatory barriers, sympathy with the feelings of the family, or sensitivity to the cultural practices and religious beliefs of the family (ABS, 2013). Different interpretations of what is acceptable evidence of a suicide in these reports may also lead to inconsistent coding. The 'high standard of proof' required by coroners in determining the causes and circumstances leading to death means that some deaths, which would be considered suicides in clinical or research situations, may lack sufficient evidence to be recognised as such in a legal sense and are consequently misclassified in other categories.

On the other hand, the QSR independently ascertains the level of probability that the death occurred as a result of self-inflicted actions with suicidal intent using the suicide classification flow chart. This method of assessment might lead to a lower threshold for classifying a death as suicide, as it follows health research criteria rather than legal criteria.

Nevertheless, guidelines introduced by the ABS in 2007 enabled deaths to be coded as suicide based on indicative evidence of intentional self-harm, whereas they were previously coded as suicide only where determined by a coroner. When the mechanism of death indicates a possible suicide, further investigations using NCIS information are initiated for both open and closed cases (for more details see ABS, 2016).

1.4.4 Year of occurrence / year of registration

With regard to the year of death, the QSR enters cases by the year in which the death occurred while the ABS reports the year of registration of death. On average, about 5% of deaths in Australia are not included in annual statistics until the following year or later (ABS, 2015).

1.4.5 Timing of data collection processes

Until 2009, the processing of causes of death data by the ABS was finalised at a certain point in time (about 13 months after the end of the reference period) to assure timely release of annual publications, for example in March 2009 for the year 2007. Once published, ABS mortality statistics were traditionally not revised after their initial release. This practice was problematic as suicides can often take a long time for coronial investigation to be finalised, and, consequently, every year

a significant number of suicides remained unaccounted for at the time the ABS was finalising its datasets. In addition, increases in the workload of coroners and NCIS clerks in uploading data on finalised cases into the electronic database further affected data quality.

However, in 2009, significant revision processes were introduced that changed the timing of collection, enabling the use of additional information relating to coroner certified deaths 12 and 24 months after initial processing of data. Revision processes are discussed in more detail below.

As a comparison, the QSR provides a register that is continually updated with the first report coming around two years after the latest incident to allow for comprehensive data to be included. For example, in preparation of the current report, suicides occurring between 2011 and 2013 were being collected and assessed until March 2016. Furthermore, refinements and updating of collated data continuously occur to this register as additional data become available at later dates.

1.4.6 ABS revisions of causes of death data

In 2009 ABS announced significant changes in quality assurance processes, particularly aimed at assessing and improving the quality of suicide coding.

The revisions process encompasses three aspects:

- Increased length of time from the end of the reference period to the publication of data from 11 to 15 months, to allow for a longer time period to receive information on coroner certified deaths;
- Re-examination of all coroner certified deaths 12 or 24 months after initial processing. During this time period, many coronial investigations are finalised and once coroners have made a determination of the underlying cause of death, the ABS is able to code the death more accurately. This ultimately yields three sets of suicide data for each reference year: preliminary, revised and final;
- Revised coding instructions for ABS coders. Specifically, this means that for the cases that remain open on NCIS at the time of processing mortality data, ABS coders can use additional information from police reports, toxicology reports, autopsy reports and coroners' initial findings to assign a more specific cause of death where possible. ABS coders can code a death as suicide even in closed cases where the coroner did not make such a determination, but there is sufficient evidence available to suggest the death was by suicide.

At the time of writing this report, data from 2006–2012 have undergone two rounds of revisions and have been released in their final form. For 2013, data that have been revised once are available. Table 1.1 shows changes in ABS suicide data for the recent years that have undergone these revisions (2009 to 2013) for all of Australia and for individual States and Territories, comparing preliminary data to the most recent release available (final or preliminary).

Table 1.1 Suicide data before and after revisions by ABS, 2009–2013

	2009		2010		2011		2012		2013**	
	Final	Change* %)	Final	Change* (%)	Final	Change* (%)	Final	Change* (%)	Revised	Change* (%)
NSW	591	14.8	674	12.3	617	9.0	727	2.8	709	1.9
Vic.	564	10.2	558	5.1	526	8.9	514	2.4	519	6.4
Qld	517	5.9	588	2.8	578	3.4	631	1.6	669	0.9
SA	186	-0.5	197	0.0	212	1.4	198	0.5	198	-0.5
WA	278	0.7	313	1.0	309	1.0	367	0.3	333	0.3
Tas.	81	-2.4	64	0.0	74	1.4	71	1.4	72	-2.7
NT	37	-2.6	45	0.0	44	2.3	48	0.0	33	0.0
ACT	31	-3.1	41	-2.4	33	-2.9	24	0.0	37	0.0
Australia	2286	7.2	2480	5.0	2393	5.3	2580	1.8	2570	1.9

*Percentage change with respect to preliminary figures for that year.

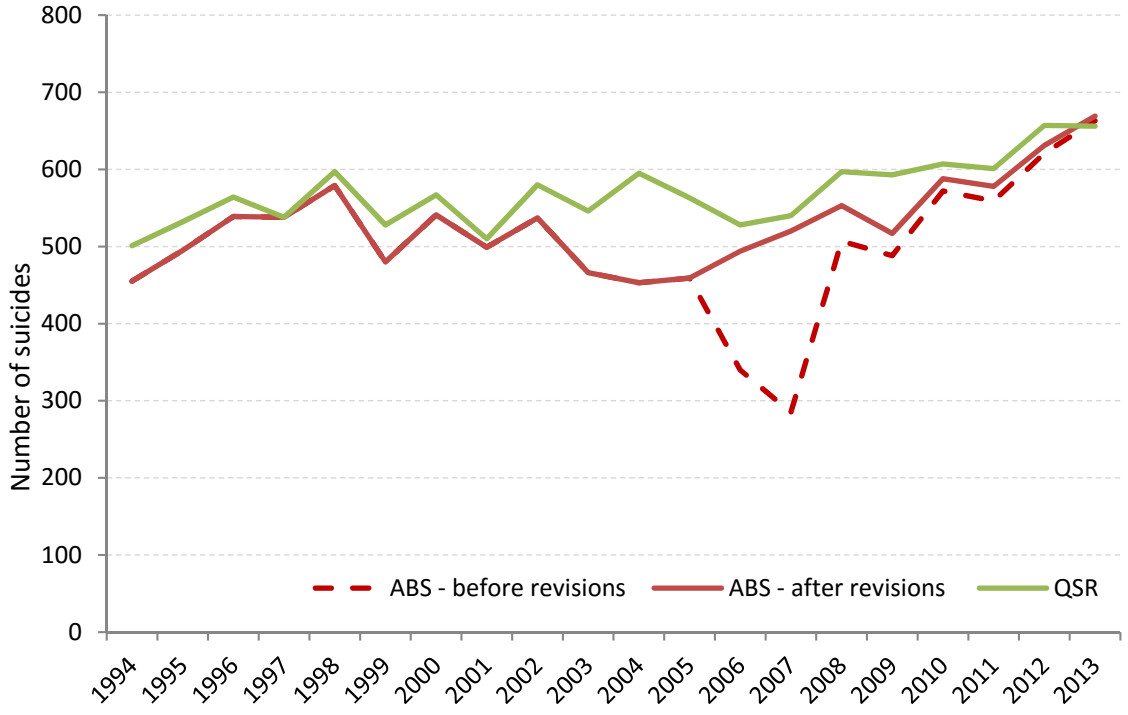
**Note: 2009–2012 have undergone two rounds of revisions, 2013 one revision only.

1.4.7 Comparison of the suicide data between the ABS and QSR

Figure 1.4 shows the trends of suicide incidence from 1990 to 2013 as reported by the ABS and QSR — the latter including only cases with a level of probability ascertained, as 'beyond reasonable doubt' and 'probable'. ABS data are shown separately for preliminary and revised datasets.

Since its establishment in 1990, QSR reports on suicide mortality have been well aligned with those of the ABS, with fluctuations within the range of 5%. However, from 2002 onward, the discrepancy between the two systems markedly increased, reaching its peak at a difference of 47% in 2007. ABS revisions of data from 2006 onwards have reduced this variance to levels below 10%, comparable to discrepancies observed until 2003. The increased use of information in police, toxicology and autopsy reports and coroner's findings for both open and closed cases in the ABS reporting of suicide has resulted in more inclusive figures. The ABS's first revision of data for 2013 reported more suicides in Queensland than reported in the QSR for the first time since the register's inception. Both datasets will undergo further revisions, particularly for the QSR as cases are closed and become accessible in NCIS.

Figure 1.4 Suicide incidence in Queensland 1994–2013, ABS and QSR data



1.5 Quality of the QSR data

Quality of the information presented in this report relies on the availability of the data sources and the completeness of data contained in each of them. Information on demographic, psychosocial and behavioural aspects of suicide cases is gathered from police reports, post-mortem and toxicology reports, and psychological autopsy questionnaires (for more detailed description of each of these sources and their availabilities, see section 1.1 Sources of data).

Despite the comprehensiveness and the wide range of variables in the QSR, several limitations may limit the accuracy of results based on this dataset. As the most relevant source of information, the Form 1 is typically completed by a member of the Queensland Police Service immediately or soon after the body is found, following an interview with the deceased's next-of-kin. This form has undergone significant revisions in recent years in response to an increasing appreciation of data quality issues by police. However, it should be noted that the primary purpose of the Form 1 is to uncover circumstances surrounding deaths due to external causes (to rule out suspicious circumstances), and not specifically suicide research. Therefore, when investigating possible suicides, some information that might be relevant for a better understanding of that person's death can go unrecorded if the investigating officer does not systematically enquire about it. Accuracy of data may also be hindered by the informant's lack of knowledge of a particular aspect of the deceased's life (e.g., presence of medical or psychiatric diagnosis, precipitating life events). In these circumstances, no data (missing values) are entered in the QSR, generating an under-estimation of some values and a possible inflation in the distributions of others.

Chapter 2.
Suicide Trends: Worldwide and Australia

This chapter provides an overview of the incidence of suicide internationally and across Australia. International suicide data were sourced from the World Health Organization Global Health Observatory (WHO GHO) data repository and published in the WHO report on suicide (WHO, 2014). The suicide incidence and age-standardised rates for Australia and its States and Territories was sourced from the Australian Bureau of Statistics (ABS, 2016).

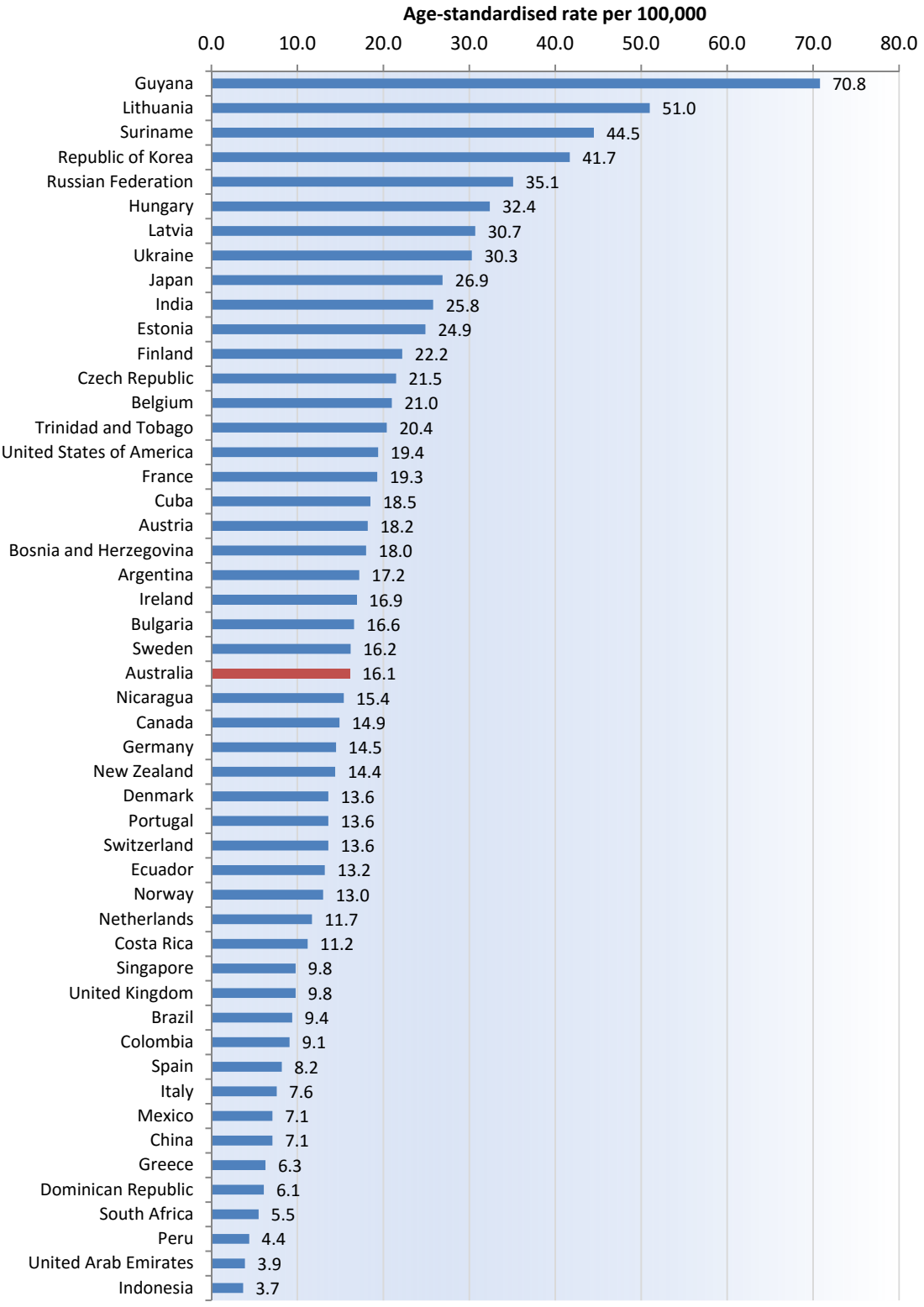
2.1 Worldwide trends

Suicide is among the leading causes of death internationally; however, there is substantial variation in the total burden of suicide between countries. For 2012, WHO provided estimates of age-standardised suicide rates for 172 WHO Member States with populations over 300,000. The estimates are mainly based on the WHO mortality database and use a number of statistical modelling techniques. Therefore they can differ from the local statistics produced by the national statistical offices in individual countries. In 2012, 804,000 suicides were estimated worldwide with 75.5% occurring in low- and middle-income countries (WHO, 2014).

Figure 2.1 and 2.2 show the 2012 age-standardised suicide rates (standardised to the WHO Standard Population) for 50 selected countries, separately for males and females (WHO, 2014). The highest rates of male suicide were recorded in Guyana (70.8 per 100,000), Lithuania (51.0 per 100,000), Suriname (44.5 per 100,000), the Republic of Korea (41.7 per 100,000), and the Russian Federation (35.1 per 100,000).

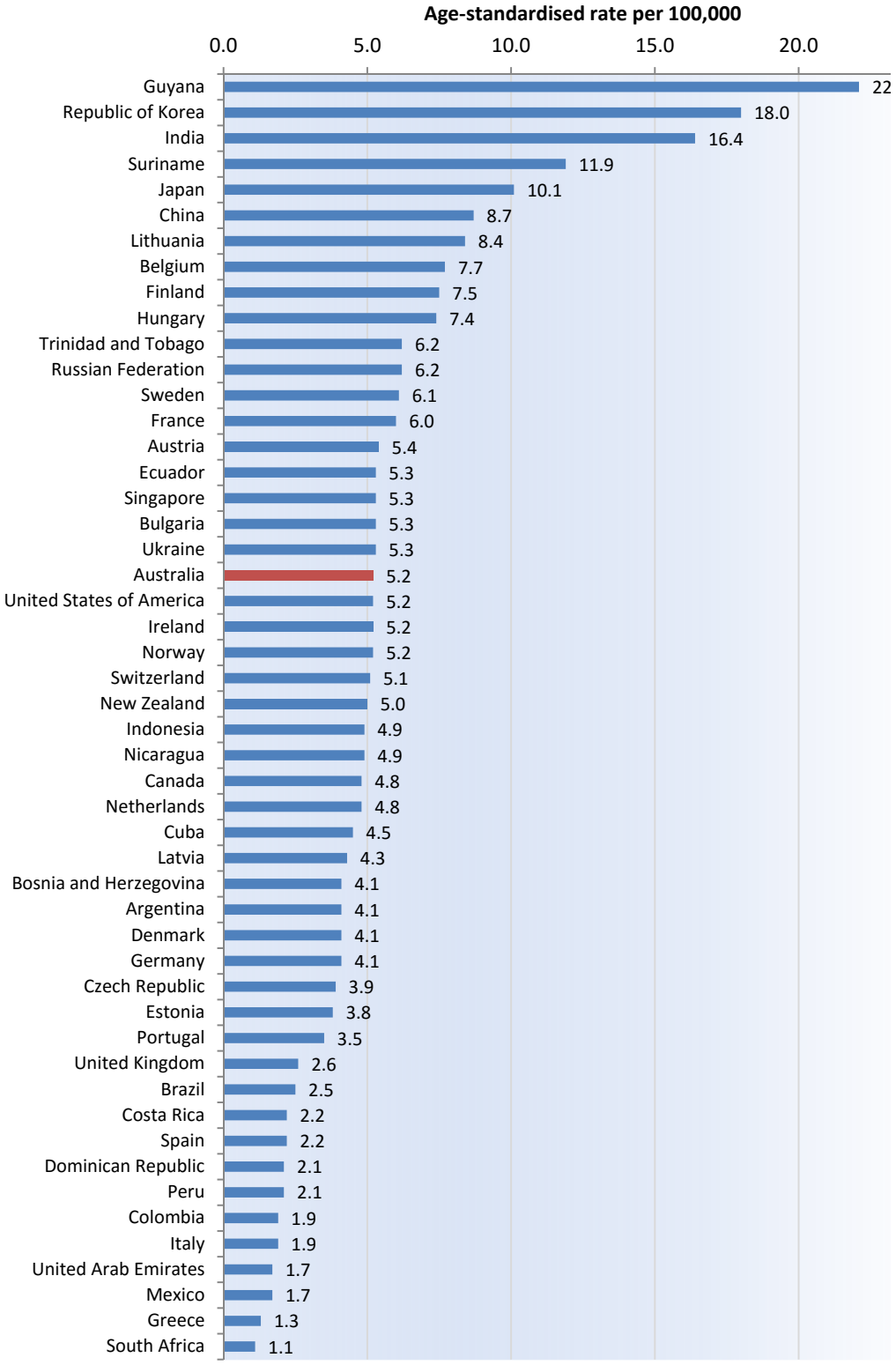
For females, the highest rate of suicide was recorded in the Guyana (22.1 per 100,000), followed by the Republic of Korea (18.0 per 100,000), India (16.4 per 100,000), Suriname (11.9 per 100,000), Japan (10.1 per 100,000) and China (8.7 per 100,000).

Figure 2.1 International suicide rates for males, selected countries (WHO estimates)



Source: WHO (2014)

Figure 2.2 International suicide rates for females, selected countries (WHO estimates)



Source: WHO (2014)

Table 2.1 shows the countries with the highest and lowest differences (ratios) between male and female suicide rates. Males are traditionally considered to have higher rates of suicide than females. However, this is primarily the case in high income countries (WHO, 2014). For 2012 the WHO

reported higher rates in females in Pakistan, China, Bangladesh, Indonesia and Iraq. In addition to the aforementioned countries in which the female rates exceeded those of males, low male:female ratios were observed in Kuwait, Afghanistan and Jordan. Countries with highest gender ratios of suicide were Malta, Belize, Morocco and Poland.

In Australia, male age-standardised (WHO Standard Population) suicide rates exceeded those of females by a ratio of 2.9:1 (WHO, 2014).

Table 2.1 Selected countries with highest and lowest gender ratio of suicide rates

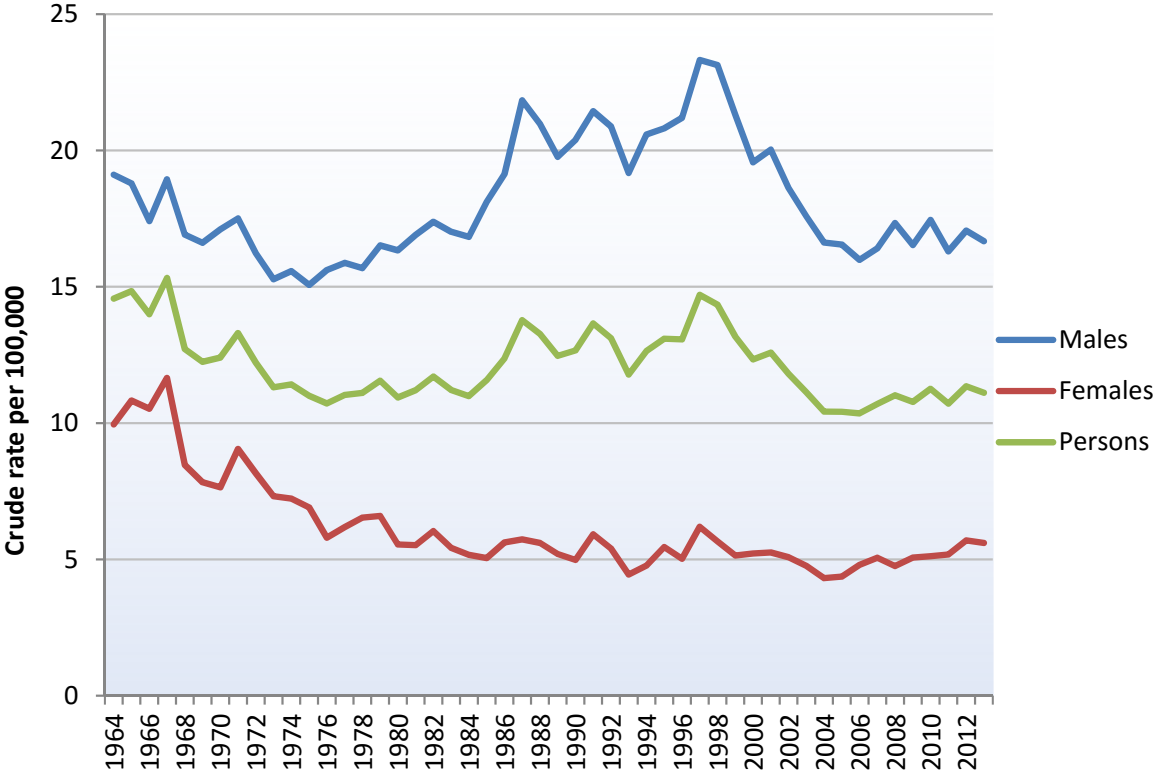
Country	Male-to-female suicide ratio
10 countries with highest male:female ratio	
Malta	15.9
Belize	9.8
Morocco	8.3
Poland	8.0
Slovakia	7.4
Latvia	7.1
Barbados	6.8
Estonia	6.6
Romania	6.3
Panama	6.2
10 countries with lowest male:female ratio	
Haiti	1.4
Albania	1.3
Kuwait	1.3
Afghanistan	1.2
Jordan	1.2
Pakistan	0.9
China	0.8
Bangladesh	0.8
Indonesia	0.8
Iraq	0.6

2.2 Suicide in Australia

2.2.1 National trends

Based on ABS data, Figure 2.3 provides crude suicide rates from 1964 to 2013. Overall, trends depict a decline in rates for both males and females. In females, there has been a decrease from a peak in 1967 (11.6 per 100,000) to the lowest value in 2004 (4.3 per 100,000). In recent years, the rates have risen again, reaching 5.6 per 100,000 in 2013. In males, the initial decline in rates (dropping from 18.9 in 1967 to 15.1 per 100,000 in 1975) was followed by a steady increase until a peak in 1997 (23.3 per 100,000). Since then, a steep decline in male suicide rates until 2006 (16.0 per 100,000) was reported. In 2013, the official rate of suicide for all persons indicated 11.1 deaths per 100,000 of population (16.7 among males and 5.6 among females).

Figure 2.3 Suicide mortality rates by year and gender, Australia, 1964–2013



Source: Australian Bureau of Statistics, 2016

Note: Data for 2013 will undergo further revisions by the ABS. More detailed information on suicide rates by age group is provided in Appendix A.

2.2.2 Trends between States and Territories

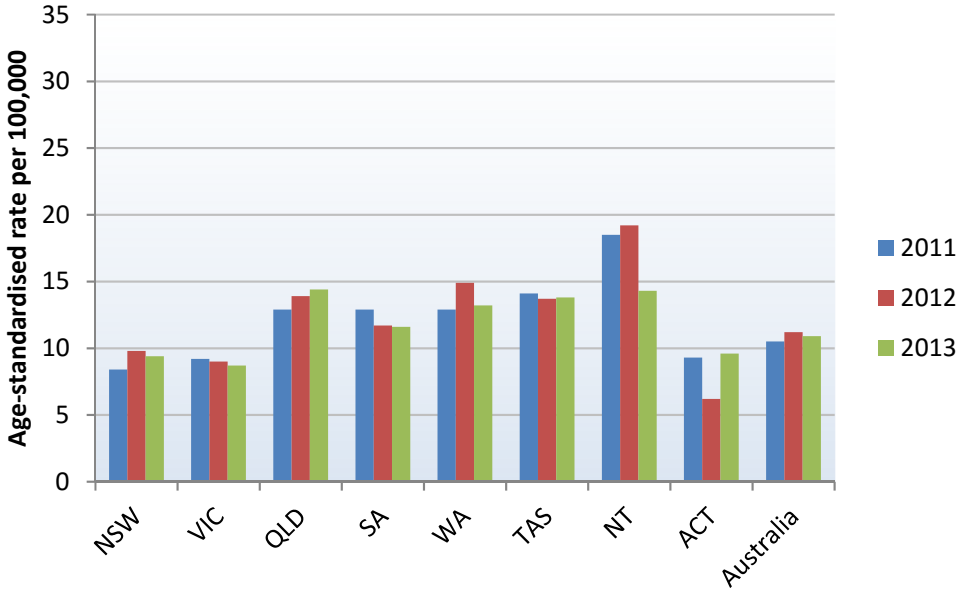
The following section provides a comparison of suicide mortality rates in Australian States and Territories between 2011 and 2013, based on ABS data.

Figure 2.4 presents age-standardised suicide rates for each State and Territory, and also for the whole of Australia. Suicide mortality for the whole country shows rose slightly during the period 2011–2013

(2011: 10.5 per 100,000; 2012: 11.2 per 100,000; 2013: 10.9 per 100,000). States that were above the national average suicide rate during this period include the Northern Territory, Tasmania, Western Australia, South Australia and Queensland (14.3, 13.8. 13.2, 11.6, 14.4 per 100,000 in 2013, respectively). New South Wales, Victoria and Australian Capital Territory were below the overall national level (9.4, 8.7 and 9.6 per 1000,000 in 2013, respectively).

States and Territories that showed an increase in suicide mortality between 2011 and 2013 were New South Wales (11.9%), Queensland (11.6%), Australian Capital Territory (3.2%) and Western Australia (2.3%). On the other hand, a decline in suicide mortality was recorded in the Northern Territory (-22.7%), South Australia (-10.8%) Victoria (-5.4%) and Tasmania (-2.1%).

Figure 2.4 Suicide rates for Australia's States and Territories, persons, 2011–2013

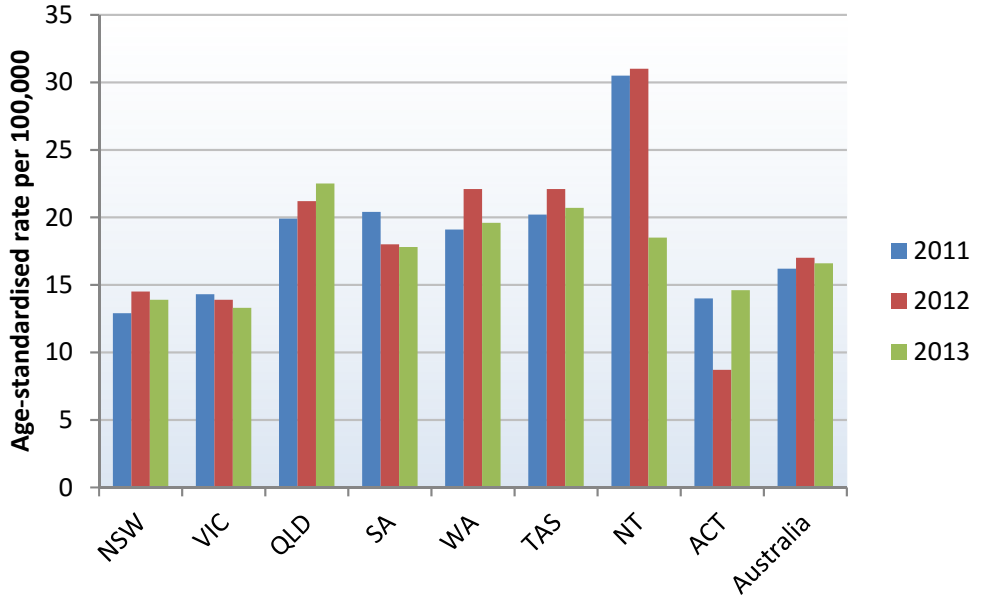


Source: Australian Bureau of Statistics, 2016

Note: Data for 2013 will undergo further revisions by the ABS

Figures 2.5 and 2.6 show the distribution of suicide mortality rates in Australia's States and Territories by gender. Rates were not published by the ABS for some years for Tasmania, the Northern Territory and Australian Capital Territory due to small numbers. In 2013, the biggest differences between published rates of male and female suicide were recorded in the Queensland and South Australia (3.4:1 and 3.2:1, respectively). The lowest ratios in 2013 were in New South Wales (2.7:1) and Tasmania (2.8:1).

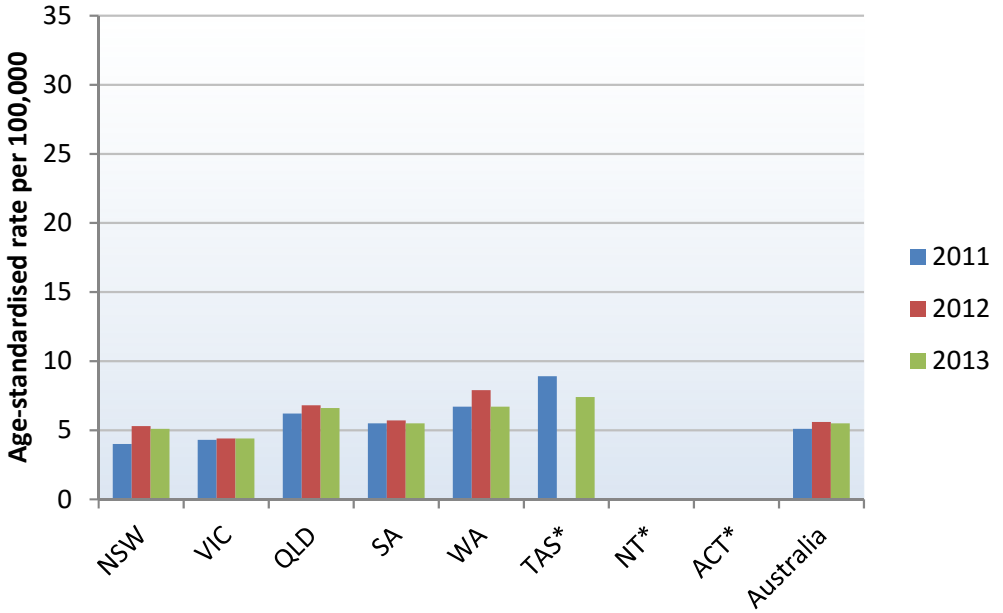
Figure 2.5 Suicide rates for Australia's States and Territories, males, 2011–2013



Source: Australian Bureau of Statistics, 2016

Note: Data for 2013 will undergo further revisions by the ABS

Figure 2.6 Suicide rates for Australia's States and Territories, females, 2011–2013



Source: Australian Bureau of Statistics, 2016

Note: Data for 2013 will undergo further revisions by the ABS

Table 2.2 presents age-standardised suicide rates for each State and Territory for the period 2005–2013.

Table 2.2 Age-standardised suicide rates for States and Territories by gender, 2005–2013

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
MALES									
2005	13.3	16	18.8	23.9	16.9	22.3	36.4	14.9	16.7
2006	13.9	14.3	19.4	17.2	17.8	23.2	24.8	13.6	16
2007	13.6	13.9	19.6	21.5	19.3	19.8	50	14.2	16.5
2008	13.9	16.3	21.2	16.5	21.6	25.8	27.5	16.6	17.4
2009	13.4	16.1	19.5	17.4	19.3	24	28.1	13.1	16.5
2010	14.7	15.6	20.4	19.1	21.7	19.6	31.6	19.2	17.5
2011	12.9	14.3	19.9	20.4	19.1	20.2	30.5	14	16.2
2012	14.5	13.9	21.2	18	22.1	22.1	31	8.7	17
2013	13.9	13.3	22.5	17.8	19.6	20.7	18.5	14.6	16.6
FEMALES									
2005	3.3	4.3	5	6.1	3.5	9.2	-	-	4.3
2006	3.3	4.7	5.5	5.8	6.1	-	-	-	4.7
2007	4.3	4.4	6	4.5	5.9	-	-	-	5
2008	4	4.3	5.3	5.6	5.9	-	-	-	4.7
2009	4.3	5.1	5	5.8	5.4	7.6	-	-	5
2010	4.2	4.6	6.6	4.7	5.4	-	-	-	5
2011	4	4.3	6.2	5.5	6.7	8.9	-	-	5.1
2012	5.3	4.4	6.8	5.7	7.9	-	-	-	5.6
2013	5.1	4.4	6.6	5.5	6.7	7.4	-	-	5.5
PERSONS									
2005	8.1	10	11.8	14.9	10.1	15.5	22.5	10.4	10.4
2006	8.4	9.4	12.3	11.4	11.9	14.6	15.2	9.4	10.2
2007	8.9	9	12.7	12.8	12.5	13.5	29.8	9.5	10.6
2008	8.8	10.2	13.2	11	13.8	15	17.5	10.1	10.9
2009	8.7	10.5	12.1	11.5	12.3	15.4	17.4	8.9	10.7
2010	9.3	10.1	13.4	11.8	13.6	13	18.8	11.3	11.2
2011	8.4	9.2	12.9	12.9	12.9	14.1	18.5	9.3	10.5
2012	9.8	9	13.9	11.7	14.9	13.7	19.2	6.2	11.2
2013	9.4	8.7	14.4	11.6	13.2	13.8	14.3	9.6	10.9

Source: Table 11.6, 3303.0 Causes of Death, Australia, 2014 (ABS, 2016)

— No rate published for data cells with small values.

Note: Data for 2013 will undergo further revisions by the ABS

Chapter 3.
An Overview of Suicides in Queensland from the QSR

3.1 Data from the Queensland Suicide Register

In total, 2004 cases of potential suicides were registered in the QSR for the period 2011–2013.

Table 3.1 shows the breakdown of these deaths by classification of 'level of certainty', year of death, age group and gender. Of the 2004 potential suicide deaths, 90 (4.5%) were classified as 'possible', 938 (46.8%) were classified as 'probable', and 976 cases (48.7%) were classified as 'beyond reasonable doubt' suicides. Only 'beyond reasonable doubt' and 'probable' suicide cases (*N* = 1914) are included in this report.

The rates of 'possible' suicides are 0.66 suicide deaths per 100,000 population, compared to 6.85 in 'probable', and 7.13 per 100,000 in 'beyond reasonable doubt' category.

The following percentages of suicides were considered too ambiguous ('possible' category) to include in the final analysis: 1.4% in the age group below 35 years of age, 1.9% in the age group 35–54 and 1.1% in the group 55 years and older. More female deaths were classified as 'possible' suicides than males (6.5%, compared to 3.8%).

Table 3.1 Numbers of suicide deaths by year, suicide classification, age group and gender, Queensland, 2011–2013

	MALES			FEMALES			PERSONS	
	2011	2012	2013	2011	2012	2013	Number	Rate (per 100,000)
POSSIBLE								
<35 years	6	10	4	3	2	3	28	0.43
35–54 years	4	8	12	3	10	2	39	1.03
55+ years	4	9	0	3	3	4	23	0.68
All ages	14	27	16	9	15	9	90	0.66
PROBABLE								
<35 years	65	83	84	15	31	29	307	4.68
35–54 years	61	112	110	23	37	43	386	10.24
55+ years	35	70	83	18	20	19	245	7.27
All ages	161	265	277	56	88	91	938	6.85
BRD*								
<35 years	93	60	64	37	26	12	292	4.45
35–54 years	112	102	98	41	24	31	408	10.82
55+ years	74	68	63	27	24	20	276	8.19
All ages	279	230	225	105	74	63	976	7.13
TOTAL	**454**	**522**	**518**	**170**	**177**	**163**	**2004**	**14.63**

*Beyond Reasonable Doubt

Tables 3.2 to 3.4 present the number of deaths in 2011–2013 by method of suicide according to the classification of level of probability. Further discussion on age and gender differences in the use of suicide methods can be found in Sections 3 and 4.

Table 3.2 shows suicide methods used in cases classified as 'beyond reasonable doubt'. Hanging accounted for 44.4% of deaths in this category, followed by poisonings by solid and liquid substances (18.2%), toxicity by carbon monoxide and other gases (11.2%), use of firearms and explosives (6.4%) and jumping from high places (6.4%). Collectively, these five methods accounted for 86.5% of all cases in this category.

Table 3.2 Suicides classified as 'beyond reasonable doubt' by method and gender, Queensland, 2011–2013

		Males	Females	Persons	%
Hanging and strangulation		353	80	433	44.4
Carbon monoxide and other gases		87	22	109	11.2
Poisoning by solid and liquid substances*		96	82	178	18.2
	Analgesics, antipyretics and antirheumatics	6	5	11	6.2
	Barbiturates	9	6	15	8.4
	Tranquillizers and other psychotropic agents	2	4	6	3.4
	Other sedatives and hypnotics	3	3	6	3.4
	Multiple drug toxicity	63	55	118	66.3
	Other and unspecified drugs	7	8	15	8.4
	Other and unspecified solid or liquid poisons	6	1	7	3.9
Firearms and explosives		57	5	62	6.4
Jumping from high places		42	20	62	6.4
Drowning		10	3	13	1.3
Hit by a moving object		17	7	24	2.5
Suffocation by a plastic bag		18	10	28	2.9
Cutting and piercing		17	3	20	2.0
Burns and fire		10	2	12	1.2
Crashing of a motor vehicle		5	4	9	0.9
Gases in domestic use		10	2	12	1.2
Electrocution		4	0	4	0.4
Other and unspecified methods		8	2	10	1.0
TOTAL		**734**	**242**	**976**	**100.0**
	*Sub-groups under this category provide subtotals of this number				

Table 3.3 shows the distribution of suicide methods by gender in cases classified as 'probable'. The largest percentage of these suicides was by hanging (53.7%), poisoning by solid and liquid substances (18.7%), use of firearms and explosives (7.0%) and carbon monoxide and other gases (5.7%). Taken together, these methods comprised 85.1% of all probable suicides.

Table 3.3 Suicides classified as 'probable' by method and gender, Queensland, 2011–2013

	Males	Females	Persons	%
Hanging and strangulation	405	99	504	53.7
Carbon monoxide and other gases	45	8	53	5.7
Poisoning by solid and liquid substances*	89	86	175	18.7
Analgesics, antipyretics and antirheumatics	13	6	19	10.9
Barbiturates	3	2	5	2.9
Tranquillizers and other psychotropic agents	6	4	10	5.7
Other sedatives and hypnotics	2	4	6	3.4
Multiple drug toxicity	55	65	120	68.6
Other and unspecified drugs	10	4	14	8.0
Other and unspecified solid or liquid poisons	0	1	1	0.6
Firearms and explosives	61	5	66	7.0
Jumping from high places	13	9	22	2.3
Drowning	16	9	25	2.7
Hit by a moving object	5	0	5	0.5
Suffocation by a plastic bag	16	6	22	2.3
Cutting and piercing	27	1	28	3.0
Burns and fire	9	3	12	1.3
Crashing of a motor vehicle	9	4	13	1.4
Gases in domestic use	2	0	2	0.2
Electrocution	2	0	2	0.2
Other and unspecified methods	4	5	9	1.0
TOTAL	**703**	**235**	**938**	**100.0**
*Sub-groups under this category provide subtotals of this number				

Table 3.4 shows suicide methods used in cases classified as 'possible'. The majority of these deaths occurred due to poisoning by solid and liquid substances (53.3%). Of these, 66.7% were by multiple drug overdoses, followed by overdoses with other and unspecified drugs (20.8%). Crashing of a motor vehicle accounted for 6.7% of 'possible' suicides, and deaths due to 'other and unspecified methods' accounted for 13.3% of all 'possible' suicide cases.

Table 3.4 Suicides classified as 'possible' by method and gender, Queensland, 2011–2013

	Males	Females	Persons	%
Hanging and strangulation	3	1	4	4.4
Carbon monoxide and other gases	0	0	0	0.0
Poisoning by solid and liquid substances*	24	24	48	53.3
Analgesics, antipyretics and antirheumatics	1	2	3	6.3
Barbiturates	1	0	1	2.1
Tranquillizers and other psychotropic agents	0	0	0	0.0
Other sedatives and hypnotics	1	0	1	2.1
Multiple drug toxicity	15	17	32	66.7
Other and unspecified drugs	5	5	10	20.8
Other and unspecified solid or liquid poisons	1	0	1	2.1
Firearms and explosives	1	0	1	1.1
Jumping from high places	3	0	3	3.3
Drowning	2	2	4	4.4
Hit by a moving object	4	1	5	5.6
Suffocation by a plastic bag	0	0	0	0.0
Cutting and piercing	1	0	1	1.1
Burns and fire	1	1	2	2.2
Crashing of a motor vehicle	6	0	6	6.7
Gases in domestic use	1	0	1	1.1
Electrocution	0	0	0	0.0
Other and unspecified methods	9	3	12	13.3
TOTAL	**57**	**33**	**90**	**100.0**
*Sub-groups under this category provide subtotals of this number				

Deaths due to certain methods were more often classified as 'beyond reasonable doubt' or 'probable' suicides and consequently included in the analyses presented in this publication. All cases (100.0%) of carbon monoxide poisoning, suffocation by plastic bag and electrocution were classified as 'beyond reasonable doubt' or 'probable'. Other common methods in these classifications were hanging (99.6%), firearms (99.2%), cutting and piercing (98.0%) and jumping from height (96.6%). Deaths classified as 'possible' suicides were more likely to be due to crashing of a motor vehicle (21.4%), hit by a moving object (14.7%), poisoning by solid or liquid substances (12.0%).

3.2 Suicide mortality in Queensland, 1990–2013

This section presents the incidence and rates of suicide in Queensland using data sourced from the QSR for the period 1990–2013. This overview then leads into a more specific analysis of suicide mortality in Queensland between 2011 and 2013.

Table 3.5 Age-standardised suicide rates (per 100,000) by gender, Queensland 1990–2013

	Males	Females	Persons
1990	25.52	5.78	15.41
1991	24.02	6.03	14.83
1992	23.12	6.99	14.86
1993	22.14	4.94	13.15
1994	25.70	6.85	16.12
1995	26.48	6.88	16.57
1996	28.68	5.99	17.13
1997	26.23	6.25	16.05
1998	27.70	7.71	17.59
1999	25.01	6.18	15.42
2000	26.33	6.67	16.29
2001	22.76	6.22	14.39
2002	25.63	6.77	16.01
2003	23.56	6.27	14.72
2004	25.82	6.14	15.69
2005	22.92	6.20	14.45
2006	20.77	5.80	13.15
2007	20.29	6.34	13.21
2008	22.43	6.30	14.19
2009	20.75	6.89	13.72
2010	21.03	6.88	13.78
2011	19.90	7.09	13.39
2012	22.02	7.10	14.43
2013	21.99	6.65	14.18

Figure 3.1 shows the overall pattern of suicide rates for the period 1990 to 2013 by gender with overall linear trends indicated.

Suicide rates for males have been consistently higher than rates for females over the previous two decades. There was an increase in male suicide mortality from 1993 (22.1 per 100,000) until 1996 (28.7 per 100,000 of population). From then onward, there was a noticeable and steady decline in male suicides until 2006 (20.8 per 100,000), and the rate has been relatively stable since then, accounting for 22.0 deaths per 100,000 of population in 2013. A similar pattern can be observed for all persons, with the highest suicide rate recorded in 1998 (17.6 per 100,000), followed by a gradual decline in the subsequent years. Female suicide mortality did not fluctuate noticeably over the observed time period (range 4.9 to 7.7 per 100,000), averaging a rate of 6.5 per 100,000. The age-standardised rate for females in 2013 was 6.7 per 100,000.

Figure 3.1 Age-standardised suicide rates across all ages, Queensland, 1990–2013

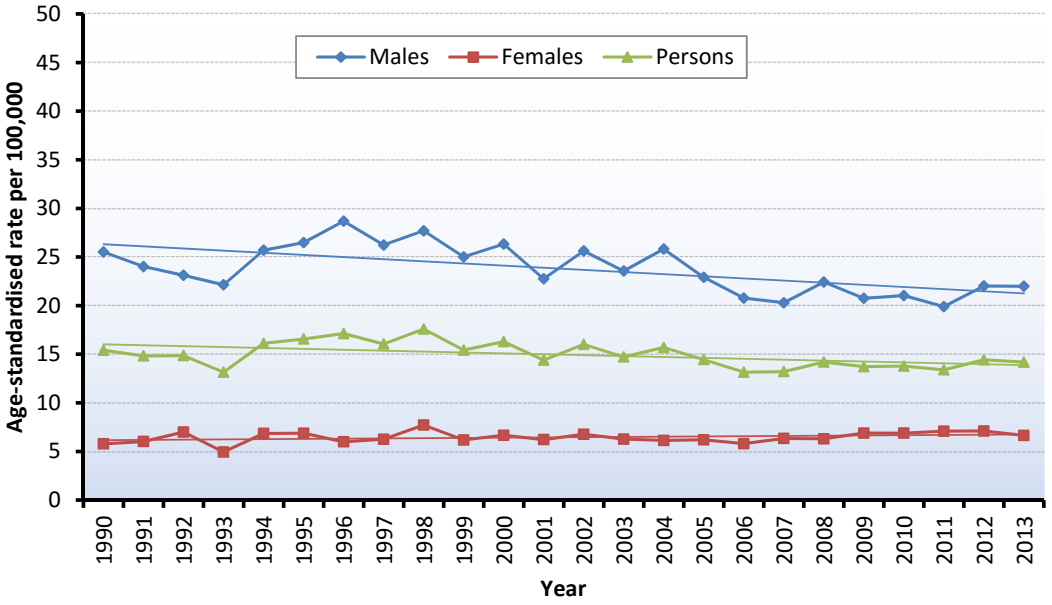
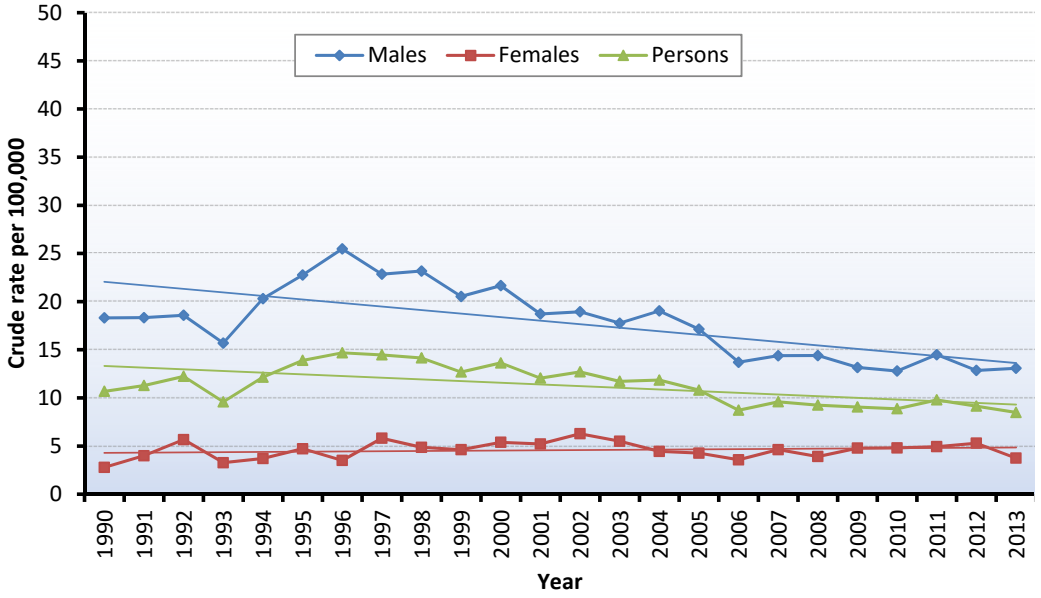


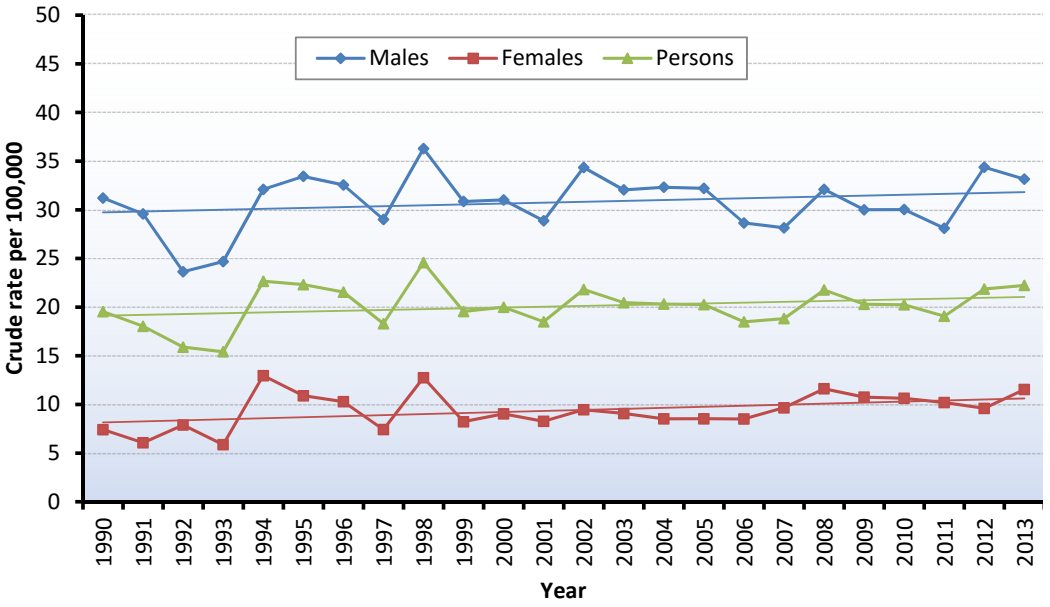
Figure 3.2 shows crude suicide rates for the age group of 34 years and younger with overall linear trends indicated. Trends are similar to those shown in Figure 3.1, with a period of increase in males and all persons until 1996 (25.5 per 100,000 for males, 14.7 per 100,000 for all persons) followed by a steady decline. Male suicide rates in this age group reached their lowest recorded value in 2010 (12.8 per 100,000). Suicide mortality of young females reached its peak in 2002 with 6.2 deaths per 100,000 of population; however, since 2004 the rate has been predominantly lower than 5 deaths per 100,000 of population. In all persons, suicide rates have declined through 2011–2013 to 8.5 per 100,000.

Figure 3.2 Suicide rates in the <35 year age group, Queensland, 1990–2013



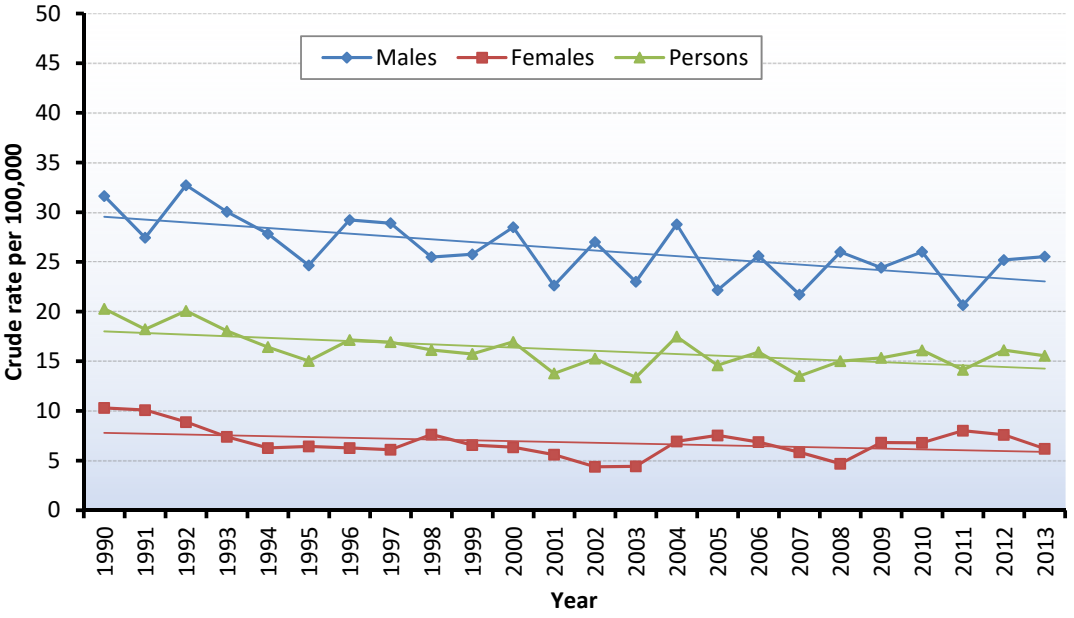
As shown in Figure 3.3, suicide trends for males and females aged 35–54 years display a marked pattern of variation around the indicated linear trend, in particular in the first half of the 1990s, with a peak reached in 1998 (males: 35.9 and females: 12.6 per 100,000). In 2013, the suicide rate for males in this age group was 33.2 per 100,000 and for females 11.5 per 100,000 of population.

Figure 3.3 Suicide rates for the 35–54 year age group, Queensland, 1990–2013



Suicide rates for the age group 55 years and older, presented in Figure 3.4, show a downward trend on average for all persons, males and females from the early 1990s until 2013. Rates for the period 2011–2013 were above the average long-term trend. The rate in 2013 was 25.5 per 100,000 in males and 6.2 per 100,000 in females.

Figure 3.4 Suicide rates in the 55+ year age group, Queensland, 1990–2013

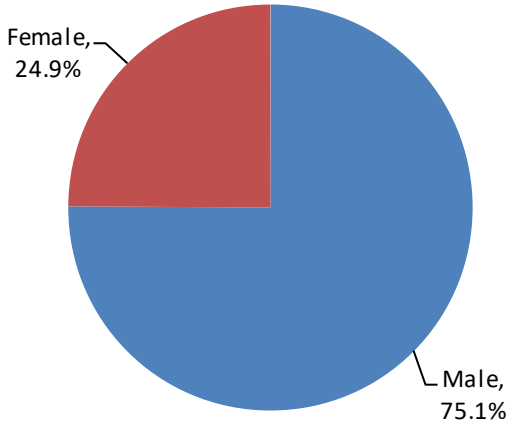


3.3 Profile of suicides in Queensland, 2011–2013

A total of 1914 suicides by Queensland residents were registered in the QSR in the period 2011–2013 (including only cases classified as 'probable' or 'beyond reasonable doubt').

Of these, 1437 (75.1%) suicides were by males and 477 (24.9%) were by females, corresponding to a gender ratio of 3.0:1.

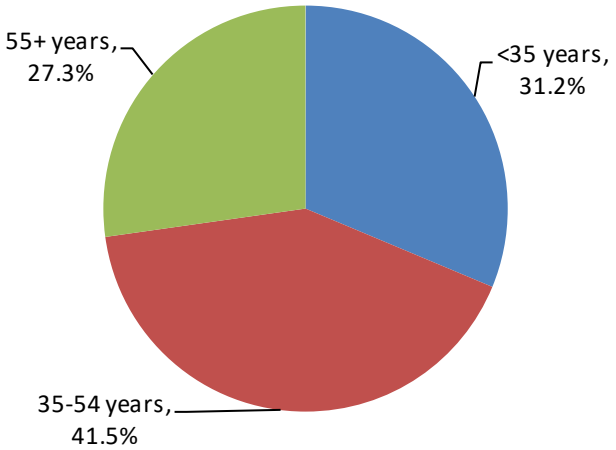
Figure 3.5 Proportion of all suicides by gender, Queensland, 2011–2013



The mean age at death for males was 44.9 years, with a range of 14 to 97 years of age. Females were on average 42.9 years old, with a range from 10 to 93 years.

Distribution of suicides by broad age groups (Figure 3.6) shows that 31.2% of all suicides occurred in the age group <34 years, 41.5% in 35–64 year olds and 27.3% among persons 55 years and older.

Figure 3.6 Proportion of all suicides by broad age group, Queensland, 2011–2013

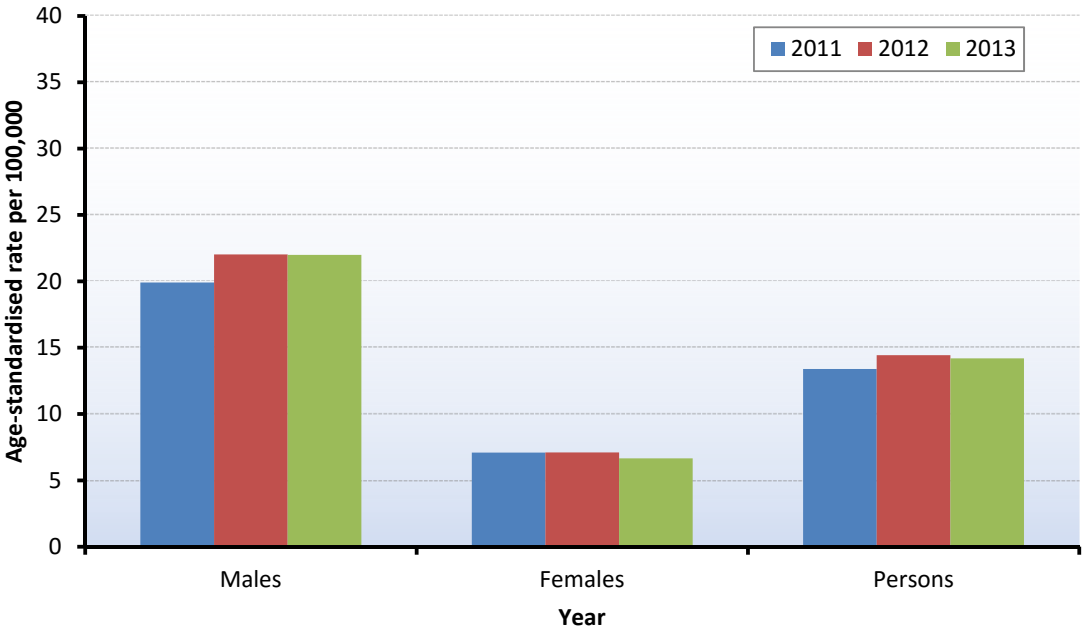


3.3.1. Suicide rates by age and gender

During the period 2011–2013, the overall age-standardised suicide rate for Queensland was 14.0 per 100,000 for all persons – 21.3 per 100,000 for males and 6.9 per 100,000 for females.

As seen in Figure 3.7, the rate for females declined slightly from 7.1 in 2011 to 6.7 per 100,000 in 2013, contrasted by a small increase in suicide rates by males from 19.9 in 2010 to 22.0 per 100,000 in 2013. The rates for all persons remained relatively stable over the triennium, despite an increase in 2012 (2011: 13.4, 2012: 14.4, 2013: 14.2 per 100,000 of population).

Figure 3.7 Age-standardised suicide rates by gender, Queensland, 2011–2013



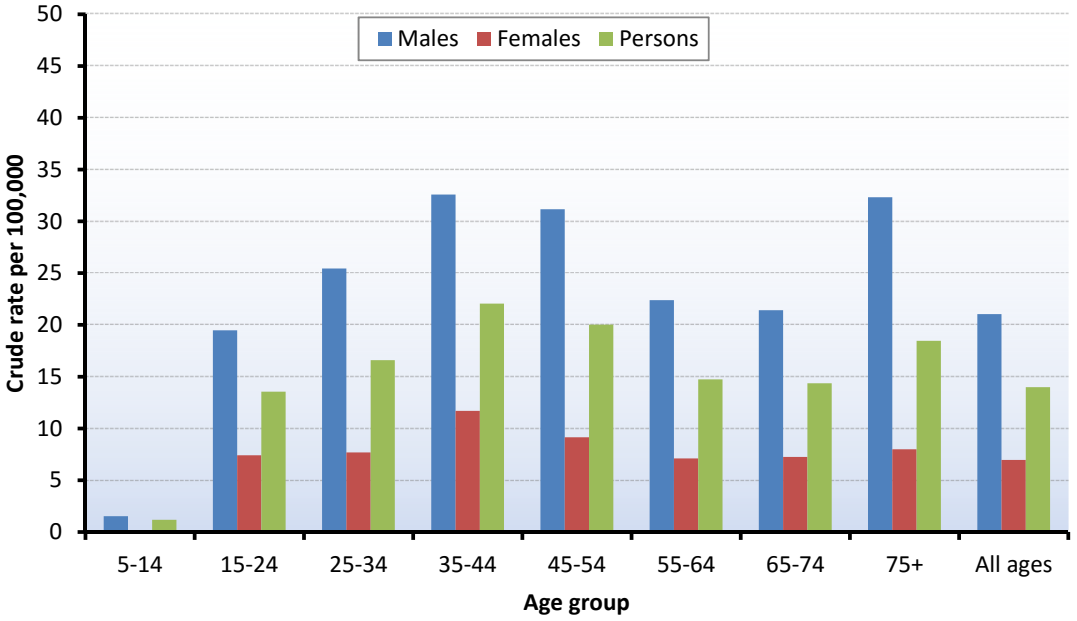
Breakdown of suicide rates by age and gender is shown in tabular (Table 3.6) and graphic format (Figure 3.8). Rates were not calculated in females aged 5–14 due to low numbers.

Table 3.6 Suicide rates (per 100,000) by age and gender, Queensland 2011–2013

	Males	Females	Persons
5–14	1.52	-	1.17
15–24	19.48	7.40	13.54
25–34	25.44	7.67	16.59
35–44	32.59	11.70	22.05
45–54	31.16	9.15	20.03
55–64	22.39	7.10	14.73
65–74	21.42	7.24	14.35
75+	32.33	7.99	18.46
All ages	21.03	6.95	13.97
ASR*	21.32	6.94	14.01

*Age-standardised rate

Figure 3.8 Suicide rates by age group and gender, Queensland, 2011–2013



For males, the highest suicide rates were recorded among those aged 35–44 years (32.6 per 100,000), followed by age groups over 75 years (32.3 per 100,000) and 45–54 years (31.2 per 100,000). In females, the highest rates were recorded among the groups 35–44 years (11.7 per 100,000) and 45–54 years (9.1 per 100,000). Suicide rates in children aged 14 years or younger were less than 2 deaths per 100,000 of population for both genders.

On average, males died by suicide 3.0 times more often than females. This ratio (males' suicide rate divided by females' suicide rate) ratio was smaller in younger age groups (in children younger than 15 years, no ratio was calculated due to the low incidence of suicide deaths in females) and largest among persons older than 75 years, where males died by suicide 4.0 times more often than females.

Table 3.7 Ratio male to female rates, Queensland 2011–2013

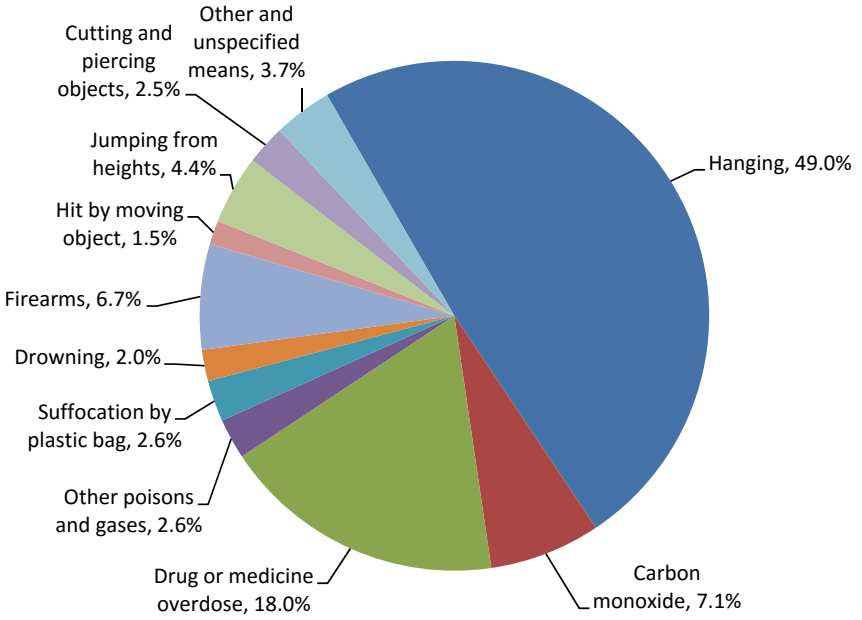
Age group	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75+	All ages
Ratio	-	2.6	3.3	2.8	3.4	3.2	3.0	4.0	3.0

3.3.2 Suicide methods by age and gender

This section will firstly present frequencies of the use of a wide range of specific suicide methods, before combining categories into five key methods for analysis by age group, gender and geographic region.

Figure 3.9 presents the distribution of methods used in suicide deaths in Queensland in 2011–2013. The main methods used were hanging (49.0%), drug or medicine overdoses (18.0%), firearms (6.7%), and carbon monoxide toxicity (7.1%). These four methods collectively accounted for 80.0% of all suicides.

Figure 3.9 Suicide methods, Queensland, 2011–2013



Figures 3.10 to 3.12 show suicide methods used against broad age group (below 34, 35–54 and 55 years and over) for females, males and all persons.

In this section methods have been grouped into five main categories. Poisoning encompasses deaths that occurred by ingestion of any solid or liquid substances, and the category of 'other methods' comprises less common methods, such as being hit by a moving vehicle, plastic bag asphyxiation, drowning, gas distributed either by pipeline or in mobile containers for domestic use, cutting and piercing objects, jumping from a height, crashing of a vehicle, electrocution, fire, and other specified and unspecified methods as detailed in Figure 3.9.

Figure 3.10 shows methods used as a percentage of all suicides by broad age group. Hanging was the predominant method of suicide in all age groups but with substantial differences in the percentage of deaths that occurred by this means (34-year-old and younger: 69.6%, 35–54 years: 48.4% and 55 years and older: 26.1%). The proportion of suicides by firearm were the highest in the oldest age group (14.6%) and the lowest in persons aged 34 and younger (3.2%). The percentage of deaths by poisoning also increased with age (0–34 years: 8.5%, 35–54 years: 21.7%, 55+ years: 25.0%). The highest percentage of suicides by 'other methods' was recorded in the group 55 years of age and older (26.1%); among these, the most common were suffocation with a plastic bag, cutting and piercing and drowning.

Figure 3.10 Suicide methods by broad age group, persons, Queensland, 2011–2013

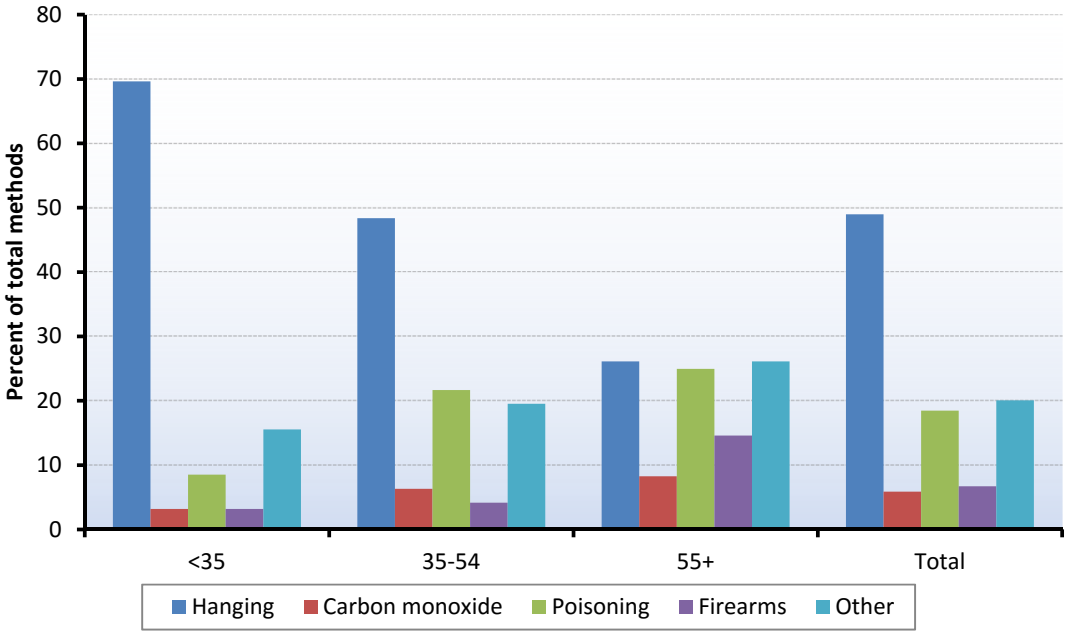


Figure 3.11 shows methods of suicide by broad age group for males. Overall, hanging accounted for almost half of all methods used by males (52.7%), followed by 'other methods' (20.0%), poisoning (12.9%) and firearms (8.2%). Toxicity by carbon monoxide accounted for 6.2% of all male suicides. Hanging was the most common method in all age groups but accounted for a much higher percentage of deaths in the <34 year age group (72.6%) than in 35–54 year olds (52.1%) or 55+ year olds (31.0%). Carbon monoxide toxicity had the highest percentage of use in the 55 and older age group (8.4%), while firearms were also used more frequently in males 55 and older (18.8%, compared to 3.6% in males younger than 35 years and 4.7% among 35–54 year olds).

Figure 3.11 Suicide methods by broad age group, males, Queensland, 2011–2013

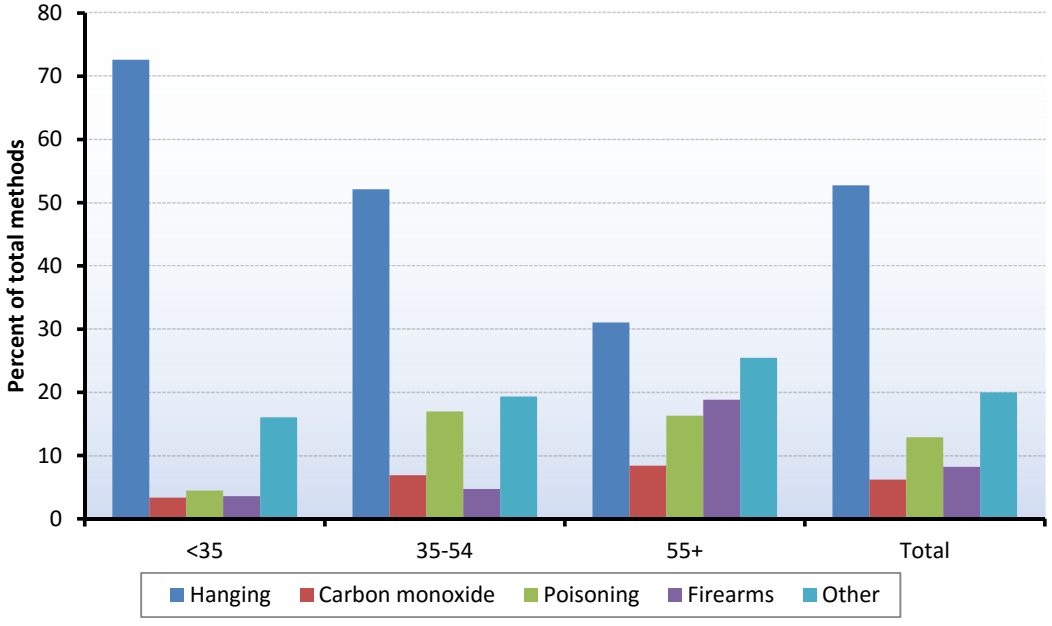
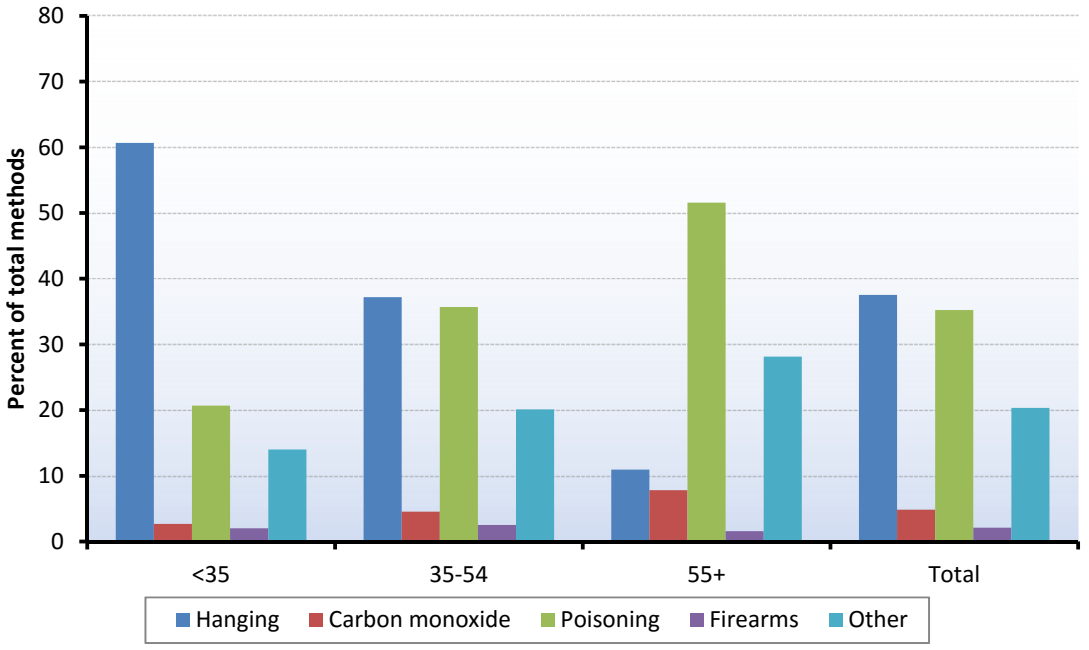


Figure 3.12 displays the distribution of methods of suicide by broad age group for females. Hanging was the most prevalent method of suicide in the youngest age group (60.7%) and in the 35–54

group (37.2%). Among those 55 years and older, most suicides occurred by poisoning (51.6%). There was an increase in the use of 'other methods' such as suffocation, drowning or jumping from height with older age, with 18.8% of suicide by females 55 years and older occurring by these means (compared to 5.3% in females younger than 35 years).

Figure 3.12 Suicide methods by broad age group, females, Queensland, 2011–2013



Chapter 4.
Suicides in Queensland, 2011–2013: Regional Statistics

This chapter presents data derived from the QSR for separate geographic regions in Queensland. The first part of the chapter (Section 4.1) provides data on the suicide mortality of metropolitan, regional and remote areas as classified by the Accessibility/Remoteness Index for Areas.

This is followed by a more detailed analysis in Section 4.2 for regional areas based on the geographical structure of the Hospital and Health Services (HHS; Queensland Health, 2014). In 2012, seventeen HHSs were established to administer the delivery of public hospital and health services formerly provided by Health Service Districts. The principal providers of public health services, HHSs are statutory bodies accountable to the Minister for Health, and legally bound by health service directives. Through implementation of state-wide service plans, national clinical standards and cooperation with health professionals and consumers, HHSs function to deliver hospital and other health services, teaching and research efficiently, effectively and economically (Hospital and Health Boards Act 2011). Queensland Health has committed to developing actions at the state and service delivery levels to detect, respond and manage suicide risk in the Queensland population (Queensland Health, 2010).

In 2014, the Cape York and Torres Strait-Northern Peninsula HHSs were amalgamated to form a single region. Children's Health Queensland HHS is a specialist state-wide service without the administrative geographical boundaries assigned to the other HHSs. Section 4.2 of this report examines suicide statistics for twelve geographical areas based on the regional framework of the HHSs.

In 2015 the Australian Government Department of Health established a system of 31 Primary Health Networks (PHN) in Australia, with seven in Queensland, to administer and deliver medical services and improve coordination between all levels of health care provision (Australian Government Department of Health, 2015). This new system of networks is designed to increase the effectiveness of medical services especially for patients at risk of poor health outcomes. Mental health and suicide prevention planning is one of the key roles of the PHNs. At the time of writing this report the development of regional mental health and suicide prevention plans through needs assessments was being undertaken, with a regional operational mental health and suicide prevention plan to be prepared by May 2016 (Australian Government Department of Health, 2016). Section 4.3 outlines the key suicide statistics for the seven PHN areas in Queensland.

Cases in the QSR are geocoded based on known usual place of residence provided by the Queensland Police and Office of the State Coroner. When calculating rates of suicide mortality

for selected geographic areas, cases of all individuals who died while in a facility (i.e., psychiatric hospitals or prisons) or away from their usual place of residence had to be closely examined to avoid distortion of mortality rates for particular regions.

Three cases listed a detention centre as the usual place of residence and were included in the analysis. Nineteen cases were described as homeless but provided enough geographic information to remain in the analysis to the level of detail required. Six cases were determined to be Queensland residents, but were not included in a specific geographical area due to the absence of specific information regarding usual place of residence.

In total, regional statistics are based on 1908 deaths. In the calculation of ratios comparing suicide rates of a particular regional area against the total Queensland level, the complete number of 1914 deaths was used.

4.1 Metropolitan, regional and remote suicide mortality

4.1.1 Introduction and overview

This section looks at the incidence of suicide in regions defined by a measure of 'accessibility' or 'remoteness' called the Accessibility/Remoteness Index of Australia (ARIA). The ARIA index was designed as an unambiguous geographic approach to defining remoteness as access to a range of services, some of which are available in smaller and others only in larger centres; the remoteness of a location can thus be measured in terms of how far one has to travel to centres of various sizes (Faulkner & French, 1983).

The index has been chosen by the ABS to be the basis for the remoteness categories included in Australian Standard Geographical Classification publications since 2001. Index scores range from 0 to 15, defining the following five categories: Major cities, Inner regional, Outer regional, Remote, and Very Remote. A more detailed presentation of classification schemes used for regional statistics is presented in Appendix B.

Three categories of remoteness have been used in this report — metropolitan, regional, and remote. Metropolitan areas were those classified by the ABS as Major Cities of Australia (score from 0 to 0.2), which for this report include Brisbane, the Gold Coast, and other areas with high accessibility to services. Regional areas were a combination of Inner Regional and Outer Regional centres (score from 0.2 to 5.92), and remote areas were a combination of Remote and Very Remote areas (score greater than 5.92). While this approach provides a useful separation with respect to accessibility to services, caution is needed in interpreting these statistics in broader decision-making contexts (ABS, 2001), particularly in a rapidly growing and quite dispersed state such as Queensland, where borders between metropolitan and regional places, as well as specific geographic regions, often change. This report uses the most recent ARIA revision from the 2011 Census. More information is detailed in the ABS publication Catalogue 1270.0.55.005 (ABS, 2011).

The key data from this analysis are presented in Table 4.1. This shows the incidence and rate of suicide by gender and age classes for the three areas. Age-standardised rates are presented separately for each area for males, females and all persons, with rate ratios representing their comparisons to the total Queensland age-standardised suicide rate.

Table 4.1 Suicide numbers, mortality rates and standardised ratios by gender and age group, metropolitan, regional and remote areas of Queensland, 2011–2013

	METROPOLITAN			REGIONAL			REMOTE		
MALES	No	Rate*	RR**	No	Rate*	RR**	No	Rate*	RR**
5–14	9	-	-	5	-	-	-	-	-
15–24	80	12.89	0.66	89	28.15	1.45	19	66.94	3.44
25–34	138	21.35	0.84	87	29.77	1.17	20	61.94	2.43
35–44	196	32.32	0.99	98	30.58	0.94	18	59.25	1.82
45–54	165	30.45	0.98	108	32.21	1.03	7	-	-
55–64	96	21.52	0.96	68	22.60	1.01	9	-	-
65–74	59	19.72	0.92	51	23.96	1.12	3	-	-
75+	63	32.03	0.99	41	32.42	1.00	3	-	-
All ages	806	19.20	0.91	547	22.65	1.08	79	35.89	1.71
ASR, Rate Ratio		19.43	0.91[a]		23.29	1.1		37.70	1.77[a]
95% CI of Rate Ratio		(0.84 – 0.99)			(0.99 – 1.21)			(1.41 – 2.22)	

	METROPOLITAN			REGIONAL			REMOTE		
FEMALES	No	Rate*	RR**	No	Rate*	RR**	No	Rate*	RR**
5–14	6	-	-	1	-	-	-	-	-
15–24	35	5.75	0.78	25	8.35	1.13	9	-	-
25–34	49	7.64	1.00	22	7.50	0.98	3	-	-
35–44	72	11.59	0.99	30	9.18	0.79	11	41.15	3.52
45–54	53	9.35	1.02	29	8.62	0.94	3	-	-
55–64	37	7.93	1.12	17	5.90	0.83	1	-	-
65–74	22	7.06	0.98	16	7.94	1.10	-	-	-
75+	21	7.57	0.95	14	9.14	1.14	-	-	-
All ages	295	6.88	0.99	154	6.46	0.93	27	13.97	2.01
ASR, Rate Ratio		6.83	0.98		6.53	0.94		14.35	2.07[a]
95% CI of Rate Ratio		(0.85 – 1.14)			(0.78 – 1.13)			(1.4 – 3.05)	

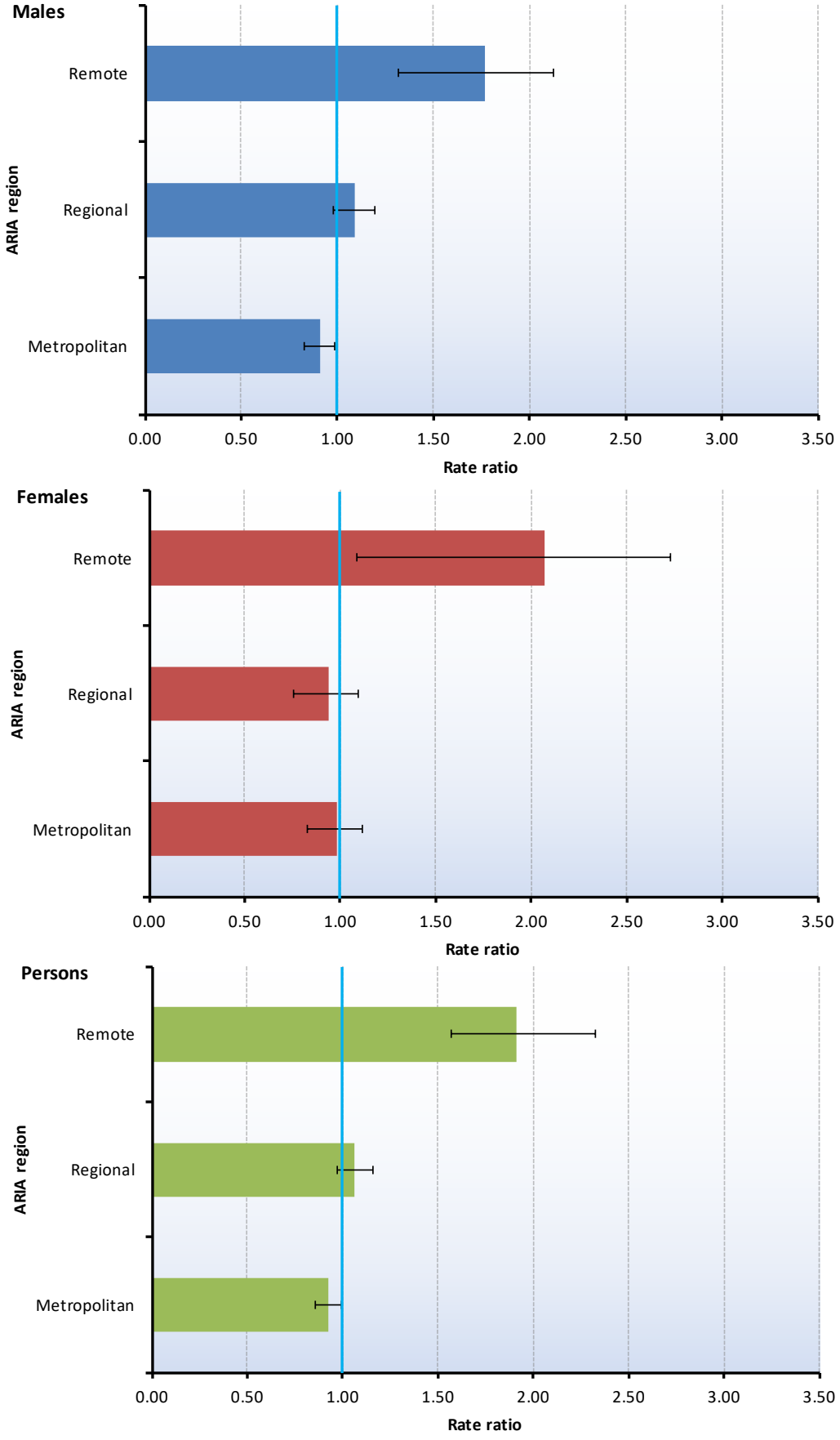
	METROPOLITAN			REGIONAL			REMOTE		
PERSONS	No	Rate*	RR**	No	Rate*	RR**	No	Rate*	RR**
5–14	15	1.41	1.20	6	-	-	-	-	-
15–24	115	9.36	0.69	114	18.52	1.37	28	52.49	3.88
25–34	187	14.52	0.88	109	18.62	1.12	23	37.11	2.24
35–44	268	21.83	0.99	128	19.78	0.90	29	50.78	2.30
45–54	218	19.66	0.98	137	20.40	1.02	10	17.46	0.87
55–64	133	14.57	0.99	85	14.44	0.98	10	21.80	1.48
65–74	81	13.26	0.92	67	16.17	1.13	3	-	-
75+	84	17.72	0.96	55	19.67	1.07	3	-	-
All ages	1101	12.97	0.93	701	14.61	1.05	106	25.64	1.83
ASR, Rate Ratio		12.94	0.92		14.85	1.06		26.77	1.91[a]
95% CI of Rate Ratio		(0.86 – 1.00)			(0.97 – 1.16)			(1.57 – 2.32)	

* Crude rate, with no rate calculated where the incidence in the group is less than 10 due to small numbers.

** Rate Ratio – the ratio of the study group rate to the rate in the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASRs), with statistical significance of 0.05 indicated by [a].

Figure 4.1 and Table 4.2 provide an overview of the age standardised rates across the three ARIA regions. Rate ratios of age-standardised rates for ARIA regions, presented in Figure 4.1, show that persons in metropolitan areas have significantly lower rates of suicide than the overall Queensland rate, while rates for persons in remote areas were significantly above the Queensland average. Although regional males, females and persons had higher rates than the Queensland average for the corresponding gender, the wide confidence intervals indicate that the differences are not statistically significant.

Figure 4.1 Rate ratios of age-standardised rates for males, females and persons, ARIA regions, Queensland 2011–2013



* Blue line indicates Queensland level; where the bar crosses the line the suicide rate of that region is higher than the average rate for Queensland, and when it is shorter, the rate is smaller. Statistical significance of 0.05 is indicated by [a]

Table 4.2 Age-standardised rates for ARIA regions by gender, Queensland, 2011–2013

AREA	Males	Females	Persons
Metropolitan	19.43	6.83	12.94
Regional	23.29	6.53	14.85
Remote	37.70	14.35	26.77

The following section provides information on the distribution of suicides according to gender, broad age group and suicide methods in metropolitan, regional and remote areas of Queensland.

4.1.1 Metropolitan

Metropolitan areas cover locations populated by more than half of the Queensland population (62.0%). In 2011–2013, the metropolitan area had 57.7% of all suicides (*N* = 1101). Of those, 806 (73.2%) were by males and 295 (26.8%) by females, corresponding to a gender ratio of 2.7:1.

Results presented in Figure 4.2 and 4.3 show that 28.8% of suicides in this area occurred in the under 35-year-old group, 44.1% in the 35–54 year olds and 27.1% in the 55+ group. Hanging accounted for 45.7% of all suicides, poisoning for 21.0%, carbon monoxide toxicity for 5.6% and firearms for 3.9% of deaths.

Figure 4.2 Proportion of suicides by broad age group, metropolitan areas, Queensland, 2011–2013

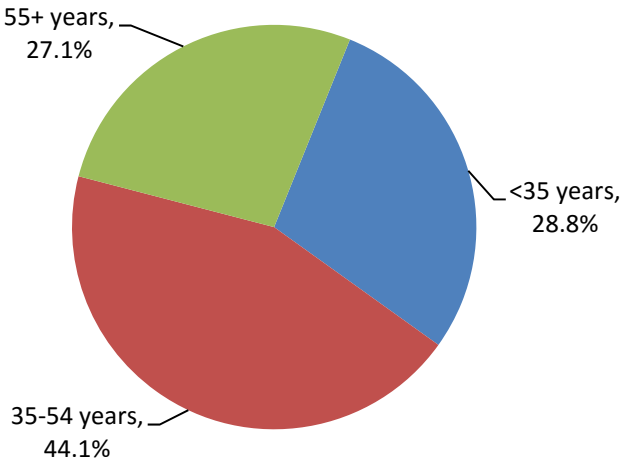
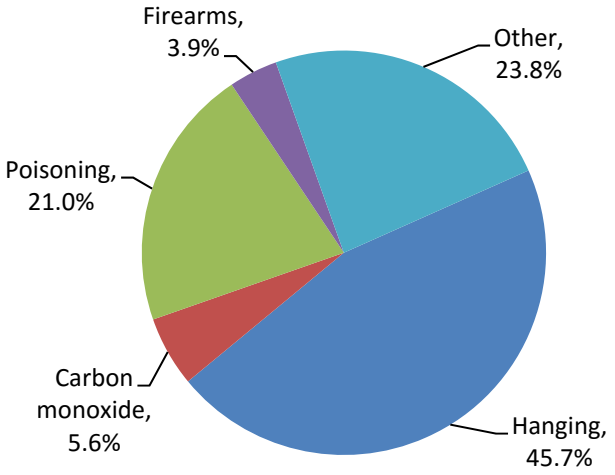


Figure 4.3 Methods used as a proportion of all suicides, metropolitan areas, Queensland, 2011–2013



4.1.2 Regional

Regional areas cover an increasingly diverse population, with groups ranging from outer city suburbs to outer regional areas. In the study period 2011–2013, these areas were home to approximately 35.0% of the total Queensland population. In 2011–2013, regional areas had 36.7% of all suicides (*N* = 701). Of those, 547 (78.0%) were by males and 154 (22.0%) by females, corresponding to a gender ratio of 3.6:1.

Figure 4.4 shows the broad age distribution of suicides, with 32.7% of all suicides occurring by people less than 35 years of age, 37.8% in the age group 35–54 years and 29.5% by persons aged 55 and more.

As seen in Figure 4.5, 50.6% of suicides occurred by hanging, followed by poisoning (16.5%), firearms (10.3%) and carbon monoxide (6.8%) The proportion of deaths by firearms was 2.6 times higher than in metropolitan areas.

Figure 4.4 Proportion of suicides by broad age group, regional areas, Queensland, 2011–2013

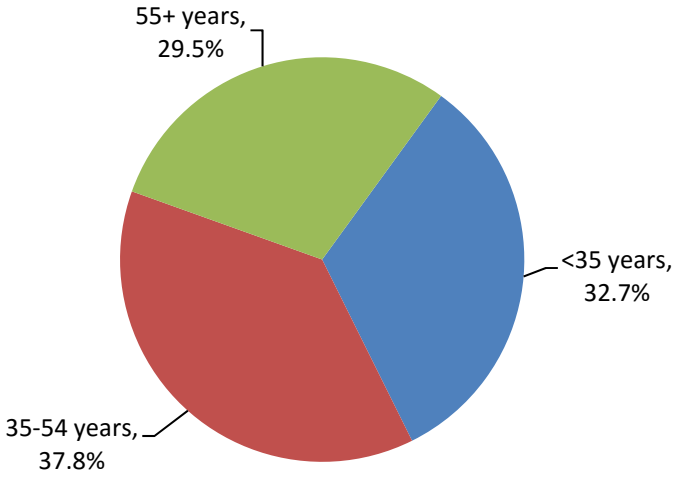
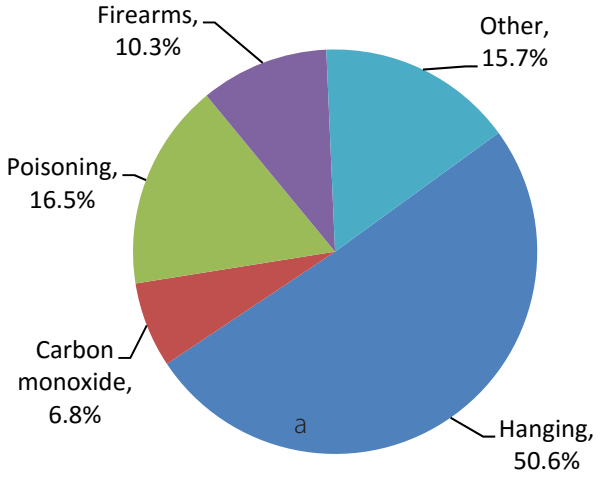


Figure 4.5 Methods used as a proportion of all suicides, regional areas, Queensland, 2011–2013



4.1.3 Remote

Suicides that occurred in remote areas of Queensland in 2011–2013 show a different profile to those in metropolitan and regional areas. While this region comprised only 3.0% of the total Queensland population, it accounted for 5.6% (*N* = 106) of total suicides. Of those, 79 (74.5%) were by males and 27 (25.5%) by females, corresponding to a gender ratio of 2.9:1.

Distribution by broad age group in Figure 4.6 shows that 48.1% of all suicides occurred in the age group of 34 years and younger, a percentage much higher than recorded in metropolitan (28.8%) and regional areas (32.7%). Conversely, the proportion of suicide in the age group 35–54 was lower than in other areas, accounting for 36.8% of all suicides. A further difference between remote areas and the rest of Queensland is represented by the higher use of hanging and firearms as suicide methods (72.6% and 12.3%, respectively). Carbon monoxide was used approximately three times less often than in metropolitan areas (1.9%) and poisoning was used about seven times less frequently (3.8%).

Figure 4.6 Proportion of suicides by broad age group, remote areas, Queensland, 2011–2013

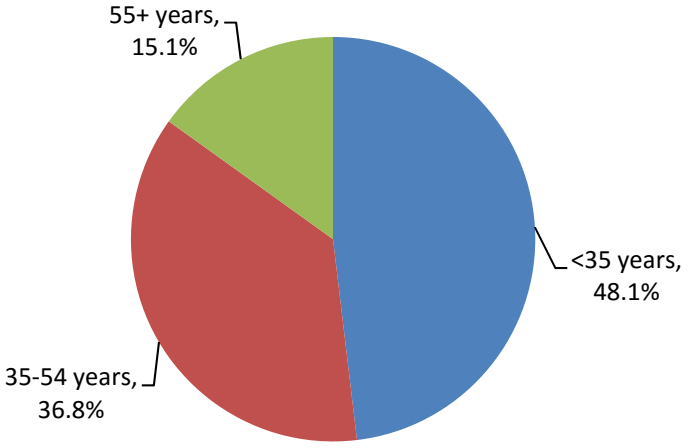
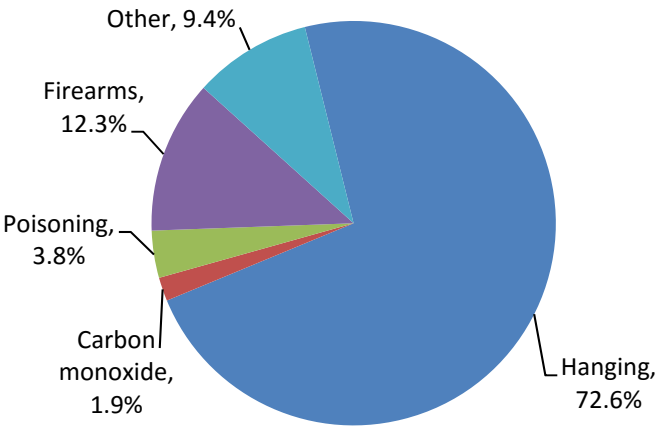


Figure 4.7 Methods used as a proportion of all suicides, remote areas,

Queensland, 2011–2013



4.2 Suicide mortality by geographic region

4.2.1 Introduction and overview

The following section describes suicide mortality based on the 2014 Hospital and Health Services (HHS) of Queensland Health (Queensland Health, 2014). There are fifteen geographical HHS in Queensland. For the purposes of this report, three regions in Western Queensland (North West, Central West and South West HHS), and two regions in North Queensland (Torres & Cape, and Cairns & Hinterland HHS) are reported as the amalgamated areas of Greater Western Queensland and Cairns & Cape, respectively. Geographic boundaries are presented on the map of Queensland in Figure 4.8. For a more detailed presentation of the geographic regions with corresponding statistical divisions and regional boundaries, see Appendix B.

The population data used for calculation of rates were obtained from the Estimated Resident Population (ERP) by Region, Age and Sex (ABS, 2014).

Table 4.3 and Figure 4.9 present age-standardised rates for each geographic region and their ratios against the total Queensland rate for males, females and all persons. Results show that the age-standardised rate for all persons in the Greater Western Queensland and Cairns & Cape regions, West Moreton and Mackay HHS are significantly higher than the overall Queensland average and significantly lower in Metro South HHS. More detailed discussion of these differences and interpretation of their statistical significance are provided in the subsequent regional analyses.

Figure 4.8 Map of geographic regions used in the report

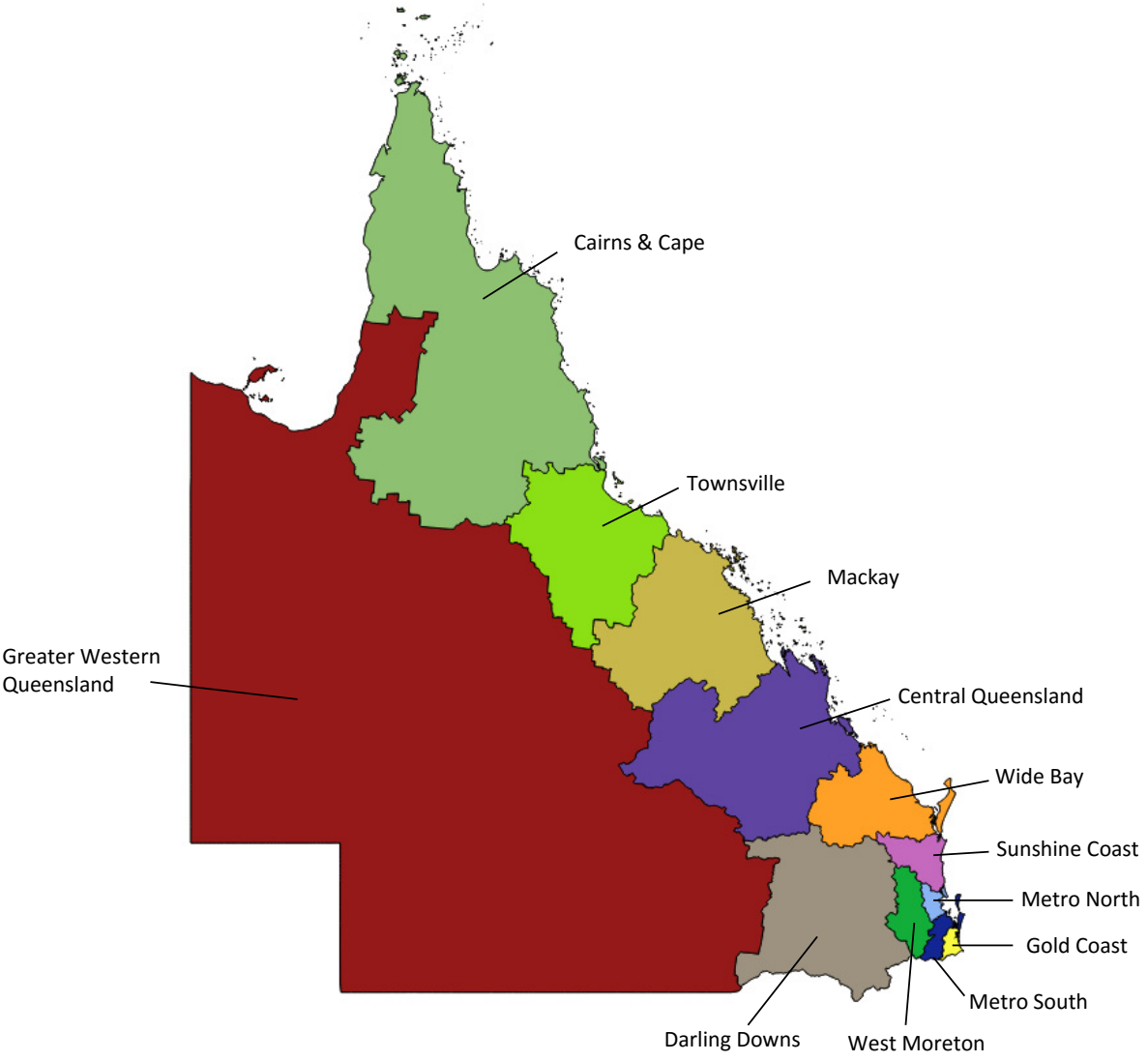
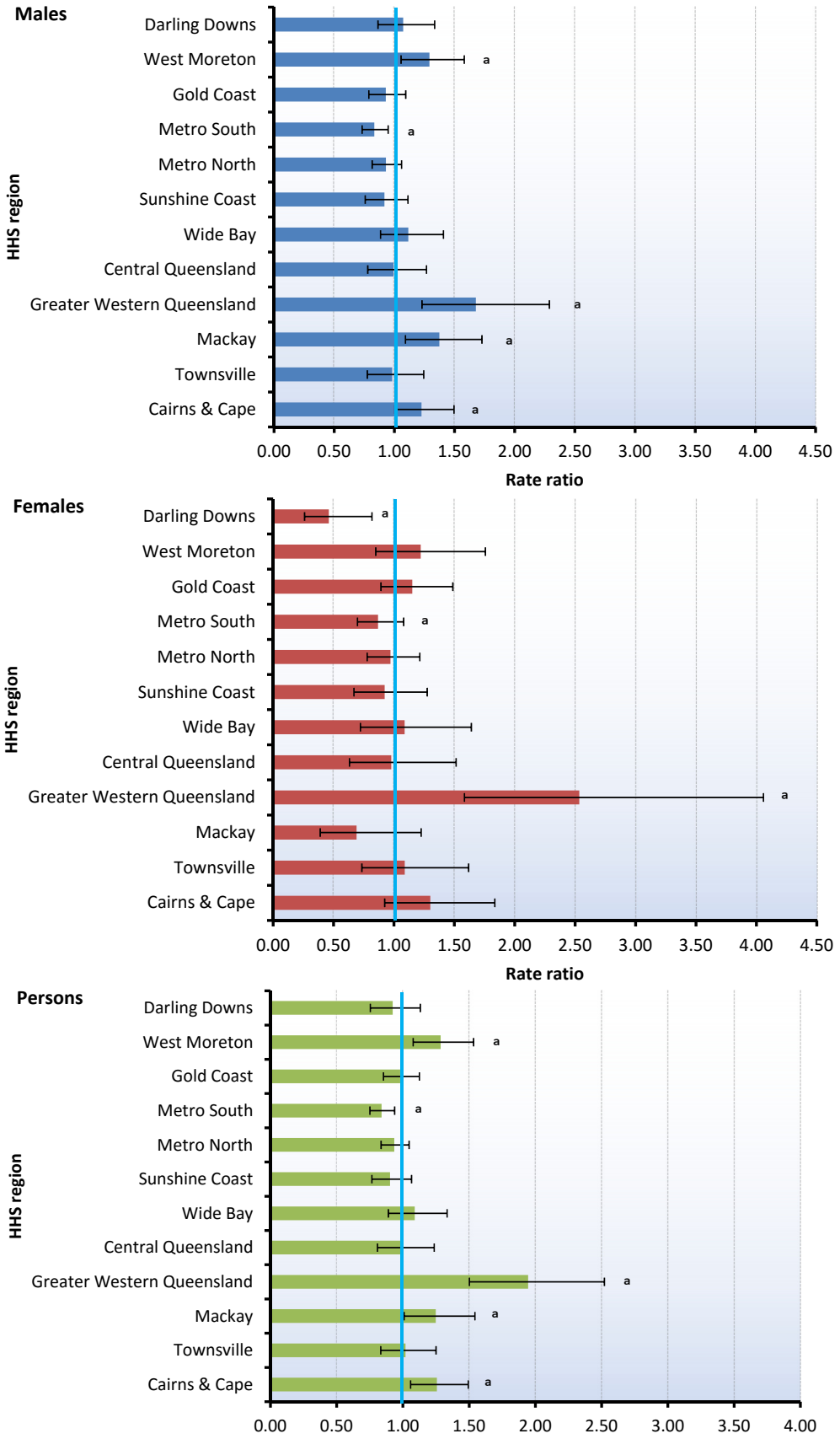


Table 4.3 Age-standardised rates by geographic region and gender, Queensland, 2011–2013

REGION	Males	Females	Persons
Cairns & Cape*	26.12	9.04	17.61
Townsville	20.94	7.57	14.29
Mackay	29.29	4.80	17.48
Greater Western Queensland*	35.76	17.60	27.25
Central Queensland	21.17	6.79	14.00
Wide Bay	23.79	7.56	15.26
Sunshine Coast	19.57	6.41	12.65
Metro North	19.82	6.75	13.10
Metro South	17.76	6.03	11.75
Gold Coast	19.80	8.00	13.72
West Moreton	27.54	8.48	18.00
Darling Downs	22.89	3.20	12.94
Total Queensland	21.32	6.94	14.01

*Cairns & Cape region consists of Torres & Cape HHS and Cairns & Hinterland HHS. Greater Western Queensland consists of North West HHS, Central West HHS and South West HHS.

Figure 4.9 Rate ratios of age-standardised suicide rates of geographic regions against total Queensland rate, 2011–2013



* Blue line indicates Queensland level; where the bar crosses the line the suicide rate of that region is higher than the average rate for Queensland, and when it is shorter, the rate is smaller. Statistical significance of 0.05 is indicated by [a]. Cairns & Cape region consists of Torres & Cape HHS and Cairns & Hinterland HHS. Greater Western Queensland consists of North West HHS, Central West HHS and South West HHS.

Table 4.4 shows the ratio of male to female suicide rates in the twelve geographic regions. The Darling Downs HHS region had the highest gender rate ratio (7.2:1), with 87.8% of all suicides by males. The Mackay HHS region also had gender rate ratio exceeding that of the total Queensland rate (6.4:1). The regions in which lower-than-average proportions of male suicides were most prominent include Greater Western Queensland (69.5%) and the Gold Coast HHS (70.2%).

Table 4.4 Proportion and ratio of male to female suicides in geographic regions, Queensland, 2011–2013

REGION	Gender ratio (male:female)	Proportion of males (%)
Cairns & Cape*	3.0	74.8
Townsville	2.8	73.5
Mackay	6.4	86.5
Greater Western Queensland*	2.3	69.5
Central Queensland	3.2	76.4
Wide Bay	3.1	75.8
Sunshine Coast	2.8	73.7
Metro North	2.8	74.0
Metro South	2.8	73.8
Gold Coast	2.4	70.2
West Moreton	3.3	76.5
Darling Downs	7.2	87.8
Total Queensland	3.0	75.1

* Cairns & Cape region consists of Torres & Cape HHS and Cairns & Hinterland HHS. Greater Western Queensland consists of North West HHS, Central West HHS and South West HHS.

Table 4.5 provides a summary of the age distribution of suicide cases for the regions. The highest proportion of suicides among young people aged 34 years or under was recorded in the Greater Western Queensland region (55.9%) and lowest in the Sunshine Coast HHS (16.4%), compared to the total Queensland proportion for this age group (31.3%). On average, 41.5% of suicides in the whole of Queensland occurred in the age group 35–54 years, with this percentage highest in Central Queensland HHS (47.2%), and lowest in Darling Downs HHS (32.7%). For the oldest age group (55+ year olds), the highest proportions were seen in the Sunshine Coast (47.4%), and the Wide Bay HHS (44.4%). The lowest proportion was observed in the Greater Western Queensland region (8.5%).

Table 4.5 Broad age distribution of suicide incidence by geographic region, Queensland, 2011–2013

REGION	<35 years (%)	35–54 years (%)	55+ years (%)
Cairns & Cape*	35.3	39.6	25.2
Townsville	36.7	39.8	23.5
Mackay	32.6	39.3	28.1
Greater Western Queensland*	55.9	35.6	8.5
Central Queensland	33.7	47.2	19.1
Wide Bay	21.2	34.3	44.4
Sunshine Coast	16.4	36.2	47.4
Metro North	30.7	43.6	25.7
Metro South	33.2	42.4	24.3
Gold Coast	24.9	47.1	28.0
West Moreton	31.8	43.9	24.2
Darling Downs	43.9	32.7	23.5
Total Queensland	31.3	41.5	27.2

*Cairns & Cape region consists of Torres & Cape HHS and Cairns & Hinterland HHS. Greater Western Queensland consists of North West HHS, Central West HHS and South West HHS.

Table 4.6 illustrates notable variation in suicide methods between regions. While hanging represented the most common method in all twelve regions (total of 49.0%), its use ranged from of 78.0% of all suicides in the Greater Western Queensland region to 39.4% in Wide Bay HHS. On average, 18.4% of suicides occurred by poisoning, with the highest percentage recorded in Sunshine Coast HHS (28.3%) and the lowest in the Greater Western Queensland region (5.1%). Considerable fluctuation is noticeable also in the use of firearms and carbon monoxide as suicide methods, ranging from 3.6 – 16.2% and 0 – 12.5% respectively.

Table 4.6 Main methods used by geographic region, Queensland, 2011–2013

REGION	Method used (%)				
	Hanging	Carbon monoxide	Poisoning	Firearms	Other
Cairns & Cape*	56.8	3.6	15.1	10.1	14.4
Townsville	59.2	3.1	15.3	4.1	18.4
Mackay	49.4	10.1	6.7	11.2	22.5
Greater Western Queensland*	78.0	0	5.1	10.2	6.8
Central Queensland	52.8	5.6	23.6	6.7	11.2
Wide Bay	39.4	7.1	21.2	16.2	16.2
Sunshine Coast	41.4	12.5	28.3	5.3	12.5
Metro North	43.9	4.5	23.2	3.6	24.9
Metro South	47.0	6.5	16.2	5.1	25.1
Gold Coast	46.7	5.3	19.1	4.4	24.4
West Moreton	52.3	7.6	15.9	5.3	18.9
Darling Downs	55.1	2.0	14.3	15.3	13.3
Total Queensland	49.0	5.9	18.4	6.7	20.1

*Cairns & Cape region consists of Torres & Cape HHS and Cairns & Hinterland HHS. Greater Western Queensland consists of North West HHS, Central West HHS and South West HHS.

The following sections provide a more detailed examination of suicide mortality in each geographic region. A summary table is provided for each region, showing suicide incidence and mortality rates by age and gender. Also, pie graphs are presented for each region, portraying age distributions and methods used.

4.2.2 Cairns & Cape

In 2013, the Cairns & Cape defined region (consisting of the Torres & Cape and Cairns & Hinterland HHS regions) had a population of 272,349 inhabitants. During the period 2011–2013 there were 139 suicides in this region, with males accounting for 104 cases (74.8%). This represents an age-standardised suicide mortality rate of 17.6 per 100,000, which was higher than the total Queensland mortality rate (14.0 per 100,000). Overall, the age-standardised suicide rate for all persons in Cairns & Cape was significantly higher than the total rate for Queensland (rate ratio 1.2:1).

Table 4.7 presents suicide mortality rates for Cairns & Cape by gender and age group. Among males, the highest suicide rates were seen in the 15–24 and 35–44 year olds (46.5 and 36.6 per 100,000, respectively) and the lowest among 25–34 year olds (25.3 per 100,000).

In females, the highest mortality rate was seen among the 35–44 year-old group (16.9 per 100,000). In comparison to the Queensland overall rate, females from Cairns & Cape had a higher age-standardised rate (rate ratio 1.3), but the difference was not found to be statistically significant.

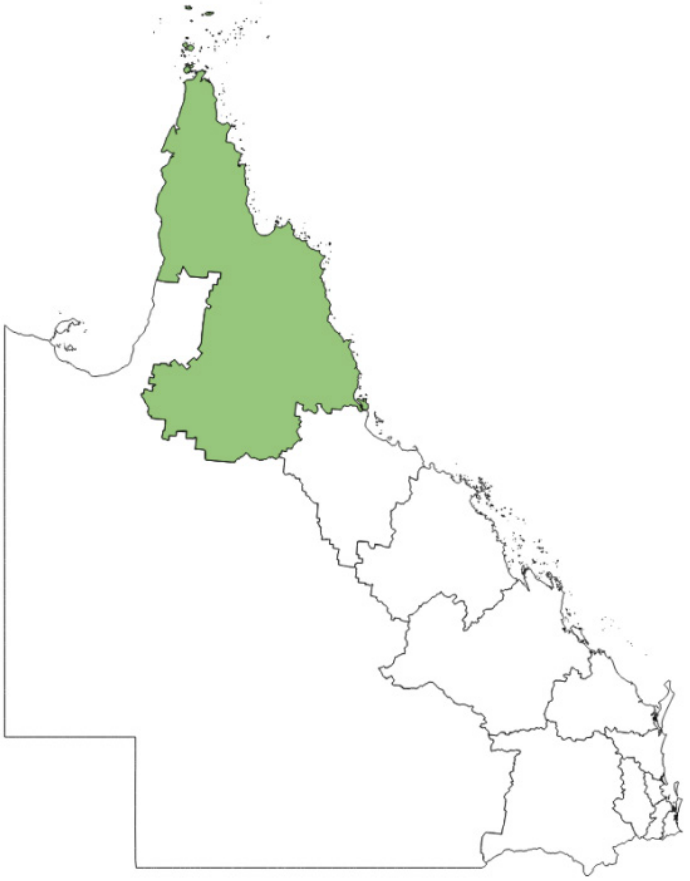


Table 4.7 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Cairns & Cape, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	24	46.55	2.39
25–34	13	25.28	0.99
35–44	21	36.56	1.12
45–54	20	34.27	1.10
55–64	12	24.11	1.08
65–74	10	31.87	1.49
75+	3	-	-
All ages	104	25.57	1.22
ASR = 26.12 Rate Ratio = 1.23 95% CI (1.00–1.50)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	7	-	-
25–34	4	-	-
35–44	10	16.89	1.44
45–54	4	-	-
55–64	4	-	-
65–74	5	-	-
75+	1	-	-
All ages	35	8.78	1.26
ASR = 9.04 Rate Ratio = 1.30 95% CI (0.92 – 1.83)			

PERSONS	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	31	30.52	2.25
25–34	17	16.10	0.97
35–44	31	26.57	1.21
45–54	24	20.73	1.04
55–64	16	16.76	1.14
65–74	15	25.43	1.77
75+	4	-	-
All ages	139	17.26	1.24
ASR = 17.61 Rate Ratio = 1.26 95% CI (1.06 – 1.49)[a]			

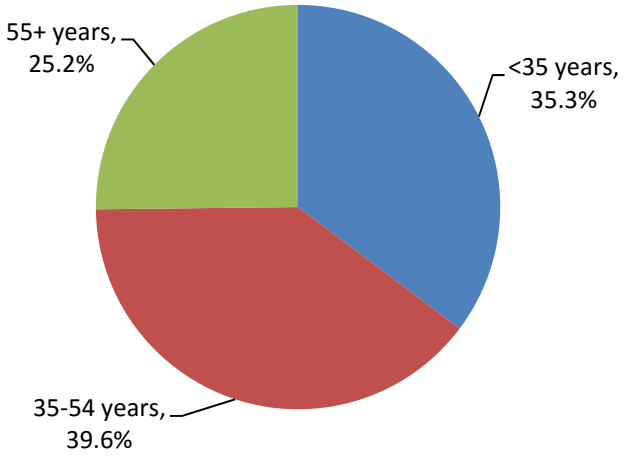
* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

Figure 4.10 shows the distribution of suicides in Cairns & Cape by broad age group. Persons below

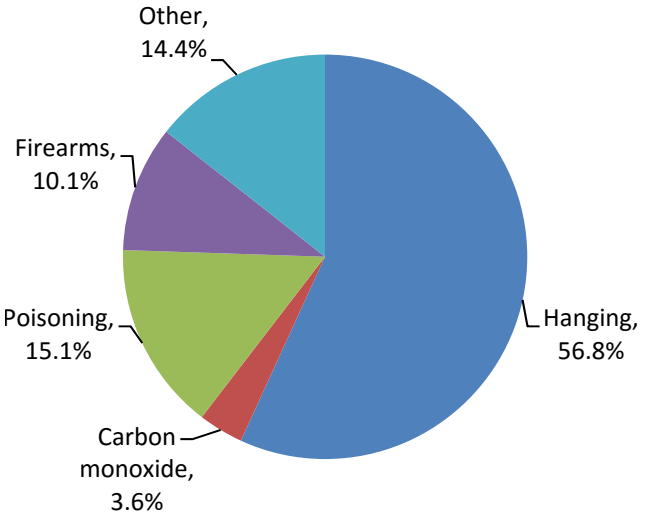
the age of 35 years accounted for 35.3% of suicides, 39.6% of suicides were by individuals aged between 35 and 54 years, and 25.2% were 55 years of age or older.

Figure 4.10 Proportion of all suicides by broad age group, Cairns & Cape, 2011–2013



With regard to methods used (Figure 4.11), the largest percentage of deaths occurred due to hanging (56.8%) and the lowest due to carbon monoxide poisoning (3.6%). The use of firearms was higher than in the overall Queensland population (6.7% vs. 10.1%). The proportion of deaths due to poisoning was lower than at the overall Queensland level (15.1% vs. 18.4%).

Figure 4.11 Methods used as a proportion of all suicides, Cairns & Cape, 2011–2013



4.2.3 Townsville HHS

In 2013, the Townsville HHS region had population of 233,660 inhabitants. During the period 2011–2013, there were 98 suicides in this region representing an age-standardised suicide rate of 14.3 per 100,000. Males accounted for 72 cases (73.5%) in this region.

Table 4.8 presents suicide mortality rates for Townsville HHS by gender and age group. Among males, the highest suicide rate was seen in 35–44 year olds (37.8 per 100,000), and the lowest among 65–74 year olds, not including the 5–14 year old group which recorded no suicide deaths in the 2010–2013 period. The presentation of female rates was constrained by small sample sizes in all age classes, with the highest incidence observed in the age group 45–54 years. For all persons, the highest rates were recorded among 35–44 year olds (22.0 per 100,000).

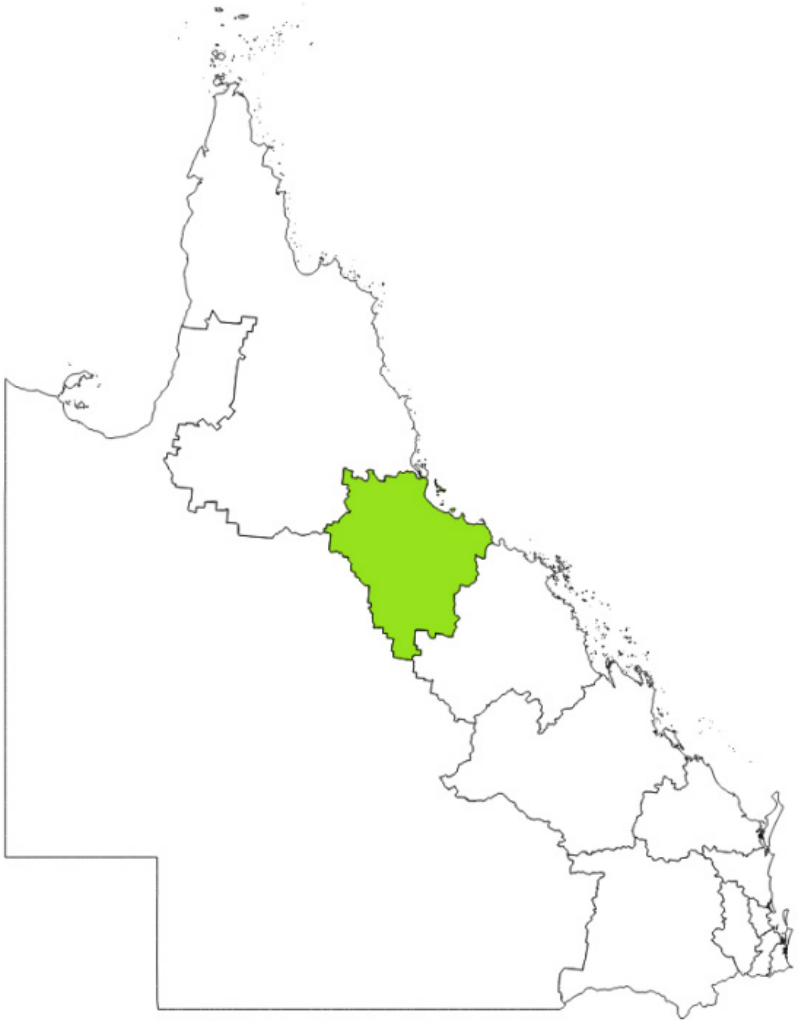


Table 4.8 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Townsville HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	17	30.99	1.59
25–34	9	-	-
35–44	18	37.84	1.16
45–54	11	23.99	0.77
55–64	10	26.51	1.18
65–74	3	-	-
75+	4	-	-
All ages	72	20.81	0.99
ASR = 20.94 Rate Ratio = 0.98 95% CI (0.78 – 1.24)			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	6	-	-
25–34	4	-	-
35–44	3	-	-
45–54	7	-	-
55–64	1	-	-
65–74	2	-	-
75+	3	-	-
All ages	26	7.61	1.10
ASR = 7.57 Rate Ratio = 1.09 95% CI (0.73 – 1.62)			

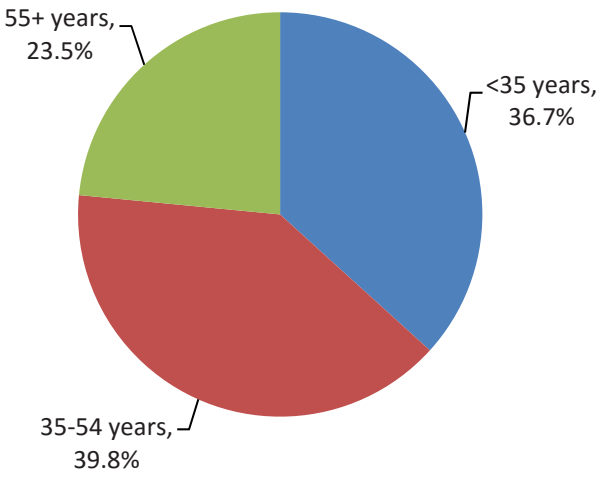
PERSONS	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	23	21.48	1.59
25–34	13	13.09	0.79
35–44	21	21.99	1.00
45–54	18	19.74	0.99
55–64	11	15.07	1.02
65–74	5	-	-
75+	7	-	-
All ages	98	14.25	1.02
ASR = 14.29 Rate Ratio = 1.02 95% CI (0.83 – 1.25)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

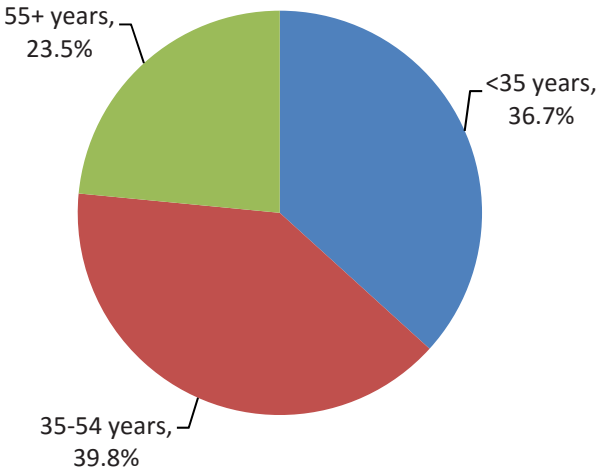
Figure 4.12 shows that, in the Townsville HHS region, 36.7 % of suicides occurred in 34-year-olds and under, 39.8% among 35–54-year-olds and 23.5% by persons older than 55 years.

Figure 4.12 Proportion of suicides by broad age group, Townsville HHS, 2011–2013



The proportion of suicide deaths by method used in Townsville HHS is shown in Figure 4.13. Hanging was used more often in this region as a suicide method than the Queensland average (59.2% vs. 49.0%). Both poisoning and firearms constituted a relatively smaller proportion than observed in Queensland as a whole (15.3% vs. 18.4% and 4.1% vs. 6.7%, respectively).

Figure 4.13 Methods used as a proportion of all suicides, Townsville HHS, 2011–2013



4.2.4 Mackay HHS

In 2013, the Mackay HHS region had a population of 180,013 inhabitants. During the period 2011–2013, there were 89 suicides in this region representing an age-standardised suicide rate of 17.5 per 100,000. This rate was shown to be significantly higher than the Queensland age-standardised rate ($p < 0.05$). Males accounted for 77 cases (86.5%) in this region, among the highest proportion of males in all HHS regions.

Table 4.9 presents suicide mortality rates for the Mackay HHS region by gender and age group. Among males, the highest suicide rate was seen in 25–34 year olds (34.8 per 100,000) and 45–54 year olds (43.7 per 100,000). Among females, reliable rates could not be calculated for all age groups due to small numbers. In all age groups, fewer than 4 female suicide deaths were observed.

Table 4.9 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Mackay HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	10	26.96	1.38
25–34	15	34.81	1.37
35–44	12	28.79	0.88
45–54	18	43.69	1.40
55–64	8	-	-
65–74	5	-	-
75+	8	-	-
All ages	77	27.69	1.32
ASR = 29.29 Rate Ratio = 1.37 95% CI (1.09 – 1.73)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	2	-	-
25–34	1	-	-
35–44	3	-	-
45–54	2	-	-
55–64	2	-	-
65–74	0	-	-
75+	2	-	-
All ages	12	4.80	0.69
ASR = 4.80 Rate Ratio = 0.69 95% CI (0.39 – 1.23)			

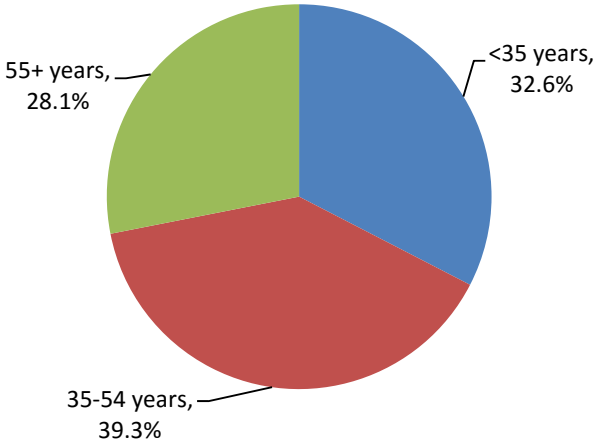
PERSONS	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	12	17.17	1.27
25–34	16	19.72	1.19
35–44	15	19.21	0.87
45–54	20	25.96	1.30
55–64	10	17.55	1.19
65–74	5	-	-
75+	10	46.25	2.51
All ages	89	16.86	1.21
ASR = 17.48 Rate Ratio = 1.25 95% CI (1.01 – 1.54)[a]			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

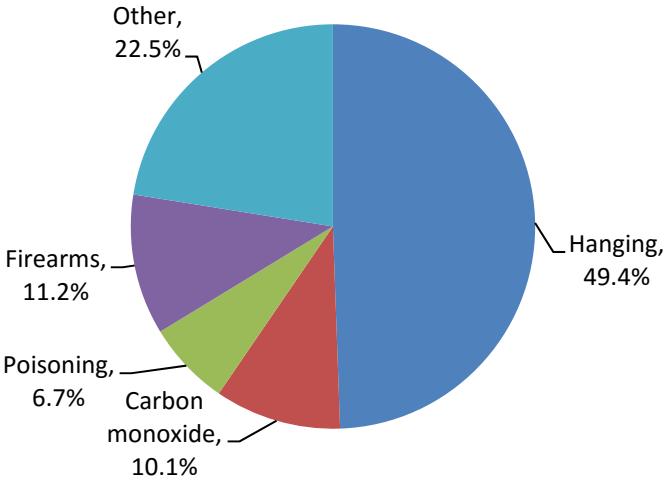
In the Mackay HHS region, 32.6% of suicides were by people under the age of 35, 39.3% of suicides were by 35–44 year olds and 28.1% in the over 55 year olds (Figure 4.14). This is comparable to the age distribution for all of Queensland.

Figure 4.14 Proportion of suicides by broad age group, Mackay HHS, 2011–2013



With regard to the method used (Figure 4.15), the Mackay HHS region had higher firearm use (11.2%) than the whole of Queensland. On the other hand, it had a high percentage of suicide that occurred due to 'other methods' (22.5%), which most commonly included methods such as cutting with sharp objects and crashing of a motor vehicle. Consistent with the rest of Queensland, the highest proportion of suicide methods was hanging, used in 49.4% of cases.

Figure 4.15 Methods used as a proportion of all suicides, Mackay HHS region, 2011–2013



4.2.5 Greater Western Queensland

In 2013, the Greater Western Queensland region had a population of 74,453 inhabitants making it the most sparsely populated region of the state with the largest geographical area. This region comprises the North West, Central West and South West HHS regions.

During the period 2011–2013, there were 59 suicides in this region representing an age-

standardised suicide rate of 27.3 per 100,000. This rate was shown to be significantly higher than the Queensland age-standardised rate ($p < 0.05$). Males accounted for 41 cases (69.5%) in this region, representing the lowest proportion of males in all regions.

Table 4.10 presents suicide mortality rates for the Greater Western Queensland region by gender and age group. Rates could not be reliably calculated for many age groups in this region due to small numbers. The highest rate was observed in the 15–24 age group (63.1 per 100,000), 4.7 times higher than the Queensland rate for the same age group.

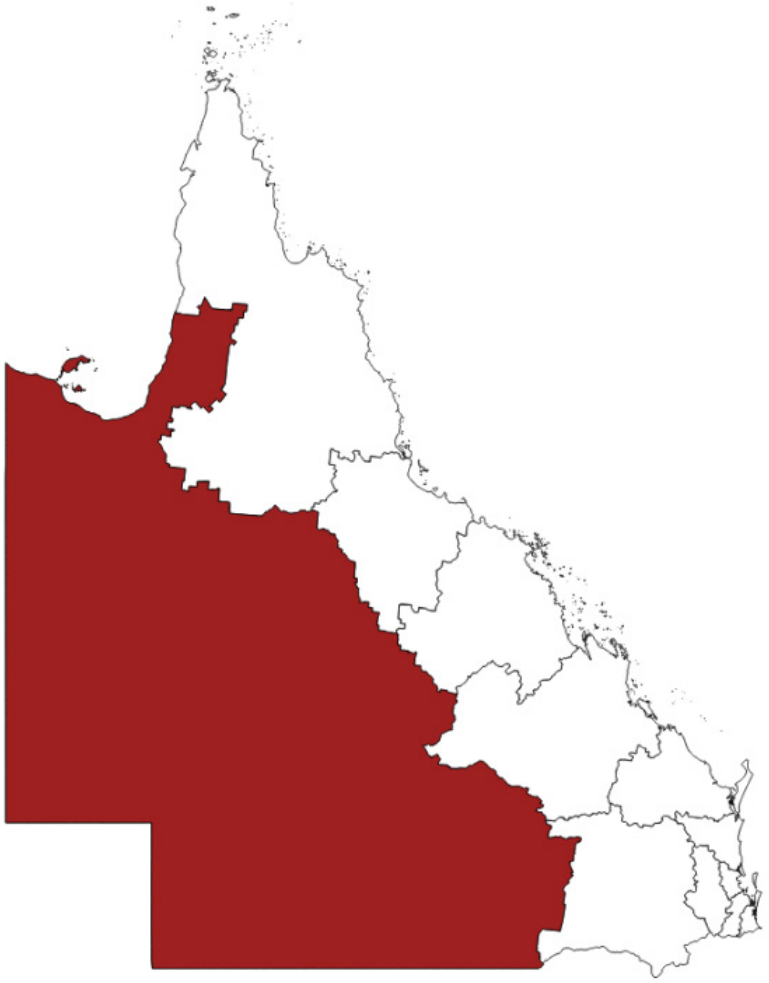


Table 4.10 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Greater Western Queensland, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	12	77.99	4.00
25–34	12	67.02	2.63
35–44	8	-	-
45–54	4	-	-
55–64	3	-	-
65–74	2	-	-
75+	0	-	-
All ages	41	35.16	1.67
ASR = 35.76 Rate Ratio = 1.68 95% CI (1.23 – 2.29)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	6	-	-
25–34	3	-	-
35–44	5	-	-
45–54	4	-	-
55–64	0	-	-
65–74	0	-	-
75+	0	-	-
All ages	18	17.14	2.47
ASR = 17.60 Rate Ratio = 2.53 95% CI (1.58 – 4.06)[a]			

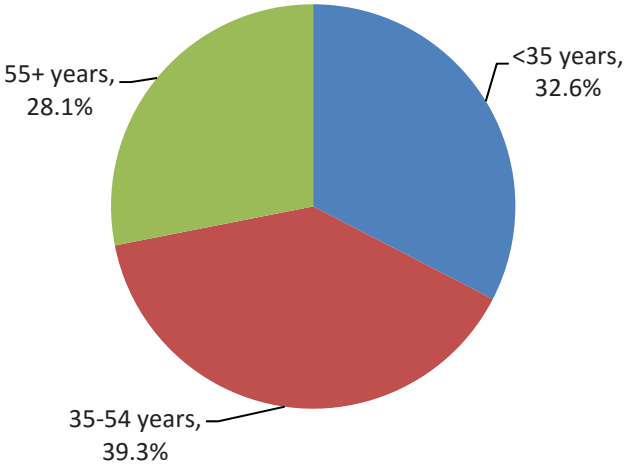
PERSONS	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	18	63.13	4.66
25–34	15	42.99	2.59
35–44	13	42.23	1.92
45–54	8	-	-
55–64	3	-	-
65–74	2	-	-
75+	0	-	-
All ages	59	26.62	1.91
ASR = 27.25 Rate Ratio = 1.95 95% CI (1.50 – 2.52)[a]			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

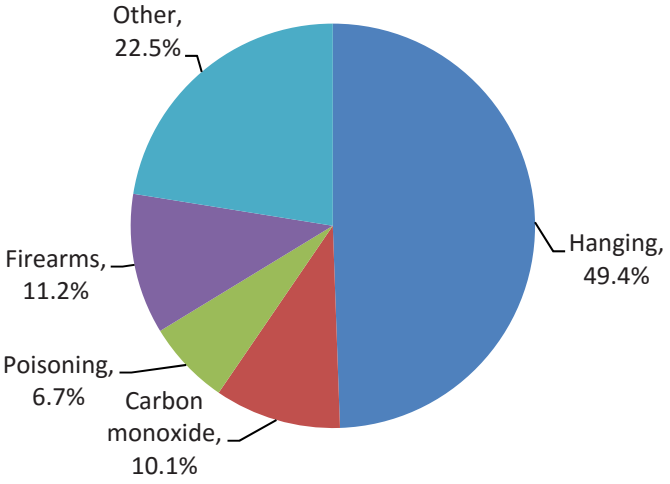
In the Greater Western Queensland region, 91.5% of suicides were by people under the age of 55, with the largest proportion (55.9%) occurring in those under 35 years.

Figure 4.16 Proportion of suicides by broad age group, Greater Western Queensland, 2011–2013



Hanging was the most prominent method of suicide used in the Greater Western Queensland region (78.0%), followed by firearms (10.2%). These methods were used in higher proportions than in Queensland as a whole (49.0% and 6.7%, respectively). In 2011–2013, several methods including suffocation, jumping from high places and drowning were not observed in this region.

Figure 4.17 Methods used as a proportion of all suicides, Greater Western Queensland region, 2011–2013



4.2.6 Central Queensland HHS

In 2013, the Central Queensland HHS had a population of 223,221. During the period 2011–2013, there were 89 suicides in this region representing an age-standardised suicide rate of 14.0 per 100,000. This rate was comparable to the Queensland age-standardised rate. Males accounted for 68 cases (76.4%) in this region.

Table 4.11 presents suicide mortality rates for the Central Queensland HHS region by gender and age group. Among males, the highest suicide rate was seen in the 35–44 age group (36.9 per 100,000) and 45–54 year olds (32.1 per 100,000). Among females, reliable rates could not be calculated for all age groups due to small numbers. Taken together, the highest rate for all persons was observed in the 35–44 age group, 24.5 per 100,000.

Table 4.11 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Central Queensland HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	10	21.06	1.08
25–34	13	27.04	1.06
35–44	17	36.88	1.13
45–54	15	32.10	1.03
55–64	5	-	-
65–74	3	-	-
75+	5	-	-
All ages	68	20.27	0.96
ASR = 21.17 Rate Ratio = 0.99 95% CI (0.78 – 1.27)			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	6	-	-
25–34	1	-	-
35–44	5	-	-
45–54	5	-	-
55–64	2	-	-
65–74	2	-	-
75+	0	-	-
All ages	21	6.63	0.95
ASR = 6.79 Rate Ratio = 0.98 95% CI (0.63 – 1.51)			

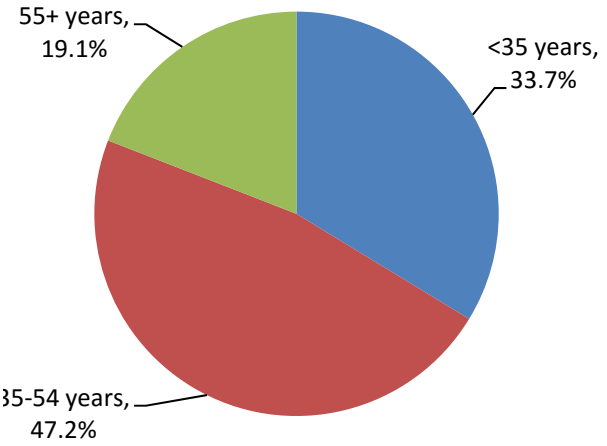
PERSONS	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	16	17.74	1.31
25–34	14	15.03	0.91
35–44	22	24.47	1.11
45–54	20	21.94	1.10
55–64	7	-	-
65–74	5	-	-
75+	5	-	-
All ages	89	13.65	0.98
ASR = 14.00 Rate Ratio = 1.00 95% CI (0.81 – 1.24)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

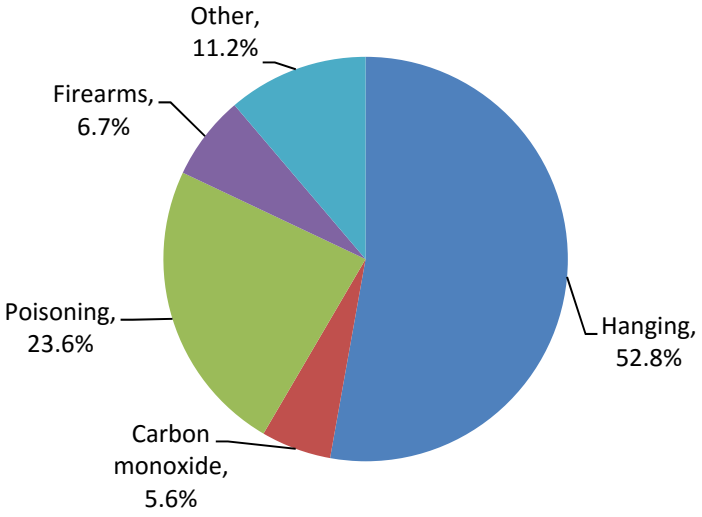
In the Central Queensland HHS region, the largest proportion of suicides was observed in people between 35 and 54 years of age (47.2%), followed by those under 35 (33.7%) and those over 55 (19.1%).

Figure 4.18 Proportion of suicides by broad age group, Central Queensland HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Central Queensland HHS region (52.8%). Poisoning deaths occurred in a proportion larger than that of the state average (23.6% vs. 18.0%). Poisoning was used in 47.6% of female suicide deaths in this region.

Figure 4.19 Methods used as a proportion of all suicides, Central Queensland HHS region, 2011–2013



4.2.7 Wide Bay HHS

In 2013, the Wide Bay HHS had a population of 210,496. During the period 2011–2013, there were 99 suicides in this region representing an age-standardised suicide rate of 15.3 per 100,000. This rate was 1.1-times higher than the Queensland age-standardised rate, which was not statistically significant ($p > .05$). Males accounted for 75 cases (75.8%) in this region.

Table 4.12 presents suicide mortality rates for the Wide Bay HHS region by gender and age group. Among males, the highest suicide rate was seen in the over 75 age group (41.2 per 100,000). Age-specific rates were not calculated for groups younger than 35 in males, and all age groups for females due to small numbers.

Table 4.12 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Wide Bay HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	7	-	-
25–34	7	-	-
35–44	12	34.30	1.05
45–54	14	34.20	1.10
55–64	10	22.32	1.00
65–74	14	34.91	1.63
75+	10	41.18	1.27
All ages	75	24.26	1.15
ASR = 23.79 Rate Ratio = 1.12 95% CI (0.88 – 1.41)			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	4	-	-
25–34	2	-	-
35–44	5	-	-
45–54	3	-	-
55–64	3	-	-
65–74	3	-	-
75+	4	-	-
All ages	24	7.60	1.09
ASR = 7.56 Rate Ratio = 1.09 95% CI (0.72 – 1.64)			

PERSONS	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	11	16.08	1.19
25–34	9	-	-
35–44	17	23.10	1.05
45–54	17	19.97	1.00
55–64	13	14.37	0.98
65–74	17	21.86	1.52
75+	14	26.66	1.44
All ages	99	15.84	1.13
ASR = 15.26 Rate Ratio = 1.09 95% CI (0.89 – 1.33)			

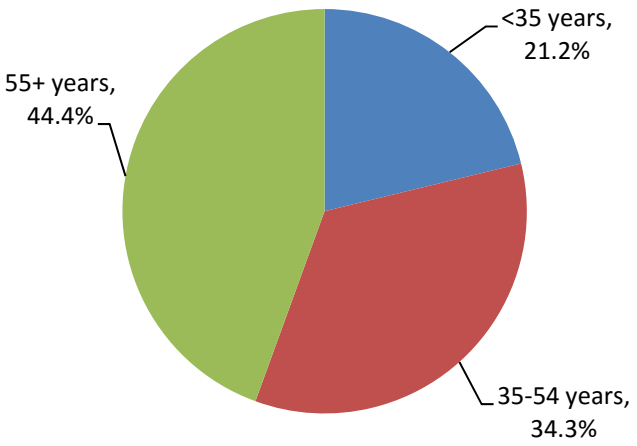
* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

In the Wide Bay HHS region, the largest proportion of suicides was observed in people over 55 years of age (44.4%). This is a much higher proportion than was observed for this age group in all other regions

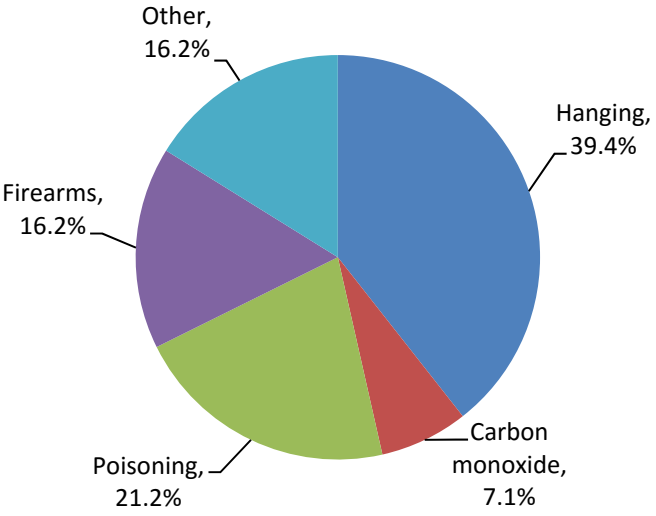
except the Sunshine Coast HHS (47.4%). The age groups under 35 and 35–54 comprised 21.2% and 34.3% of suicides in Wide Bay, respectively.

Figure 4.20 Proportion of suicides by broad age group, Wide Bay HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Wide Bay HHS region (39.4%), but less so than in other regions and in Queensland on average. Firearms were used in 16.2% of suicides in the Wide Bay HHS, the highest proportion of firearm-related deaths in all regions. Poisoning deaths also occurred in a proportion larger than that of the state average (21.2%). All suicides by firearms in Wide Bay HHS were by males.

Figure 4.21 Methods used as a proportion of all suicides, Wide Bay HHS region, 2011–2013



4.2.8 Sunshine Coast HHS

In 2013, the Sunshine Coast HHS had a population of 378,182. During the period 2011–2013, there were 152 suicides in this region representing an age-standardised suicide rate of 12.6 per 100,000. This rate was lower than the Queensland age-standardised rate, although the difference was not statistically significant ($p > 0.05$). Males accounted for 112 cases (73.7%) in this region.

Table 4.13 presents suicide mortality rates for the Sunshine Coast HHS region by gender and age group. Among males, the highest suicide rate was seen in the over 75 age group (50.80 per 100,000), followed by the 45–54 and 55–64 age groups with rates of 32.97 and 31.77 per 100,000, respectively. Age-specific rates were not calculated for groups younger than 25 in males, and all age groups for females due to small numbers.

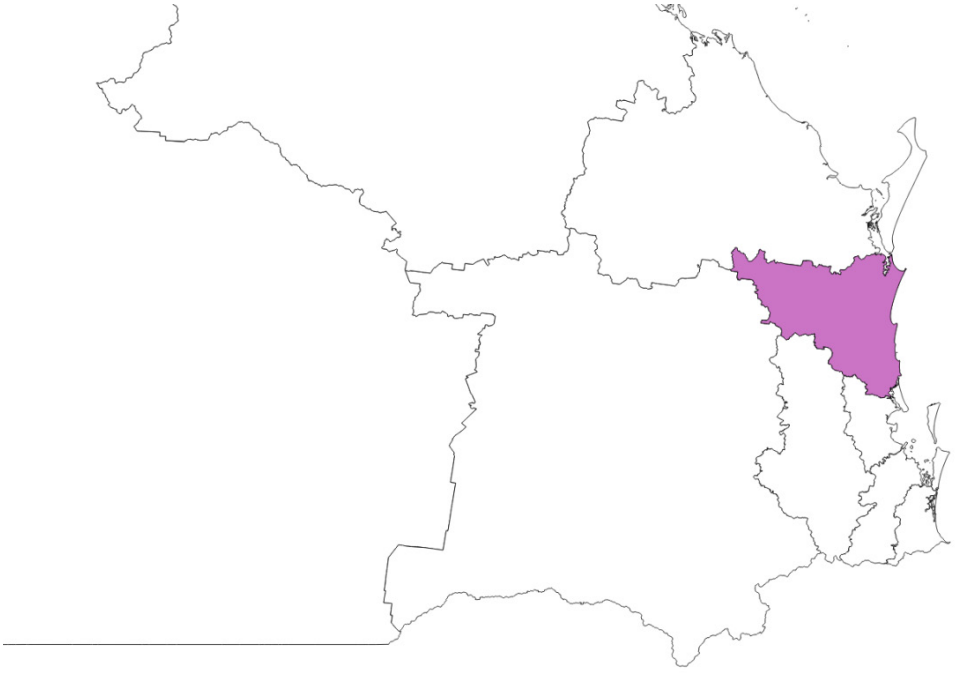


Table 4.13 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Sunshine Coast HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	5	-	-
25–34	13	23.50	0.92
35–44	14	19.78	0.61
45–54	25	32.97	1.06
55–64	23	31.77	1.42
65–74	11	18.62	0.87
75+	20	50.80	1.57
All ages	112	20.56	0.98
ASR = 19.57 Rate Ratio = 0.92 95% CI (0.76 – 1.11)			

FEMALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	3	-	-
25–34	2	-	-
35–44	9	-	-
45–54	7	-	-
55–64	6	-	-
65–74	3	-	-
75+	9	-	-
All ages	40	7.01	1.01
ASR = 6.41 Rate Ratio = 0.92 95% CI (0.67 – 1.28)			

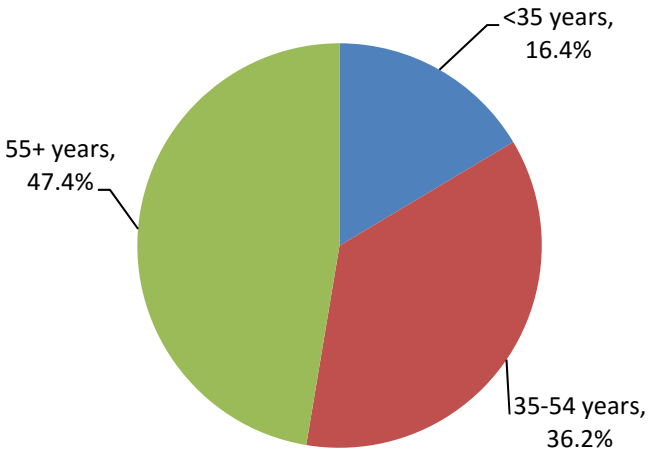
PERSONS	No	Rate*	Rate Ratio**
5–14	2	-	-
15–24	8	-	-
25–34	15	13.20	0.80
35–44	23	15.54	0.70
45–54	32	19.97	1.00
55–64	29	19.32	1.31
65–74	14	11.75	0.82
75+	29	33.01	1.79
All ages	152	13.63	0.98
ASR = 12.65 Rate Ratio = 0.90 95% CI (0.77 – 1.07)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

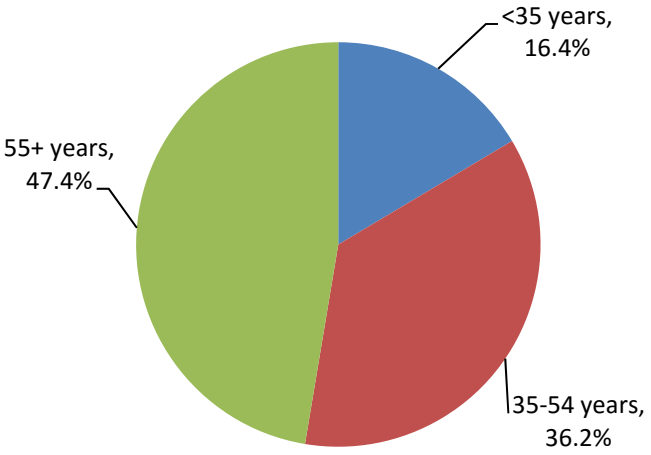
In the Sunshine Coast HHS region, the largest proportion of suicides was observed in people over 55 years of age (47.4%). This is a much higher proportion than was observed for this age group in all other regions. Conversely, Sunshine Coast HHS had the lowest proportion of suicide deaths under 35 (16.4%).

Figure 4.22 Proportion of suicides by broad age group, Sunshine Coast HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Sunshine Coast HHS region (41.4%), but less so than in other regions and in Queensland on average. Poisoning deaths occurred in a proportion larger than that of the state average, and larger than those of other HHS regions (28.3%), and was the most frequently used method of suicide for females (65.0%).

Figure 4.23 Methods used as a proportion of all suicides, Sunshine Coast HHS region, 2011–2013



4.2.9 Metro North HHS

In 2013, the Metro North HHS had a population of 920,769. As part of the greater Brisbane area, it is one of the most populous HHS regions in Queensland. During the period 2011–2013, there were 358 suicides in this region representing an age-standardised suicide rate of 13.1 per 100,000. Males accounted for 265 cases (74.0%) in this region.

Table 4.14 presents suicide mortality rates for the Metro North HHS region by gender and age group. Among males, the highest suicide rates were observed in the 45–54 and over 75 age groups (33.0 and 32.7 per 100,000, respectively). In females, rates of 12.0 and 10.2 per 100,000 were observed in the 35–44 and 45–54 age groups, respectively. No rates were calculated for groups over 65 in females due to low numbers.

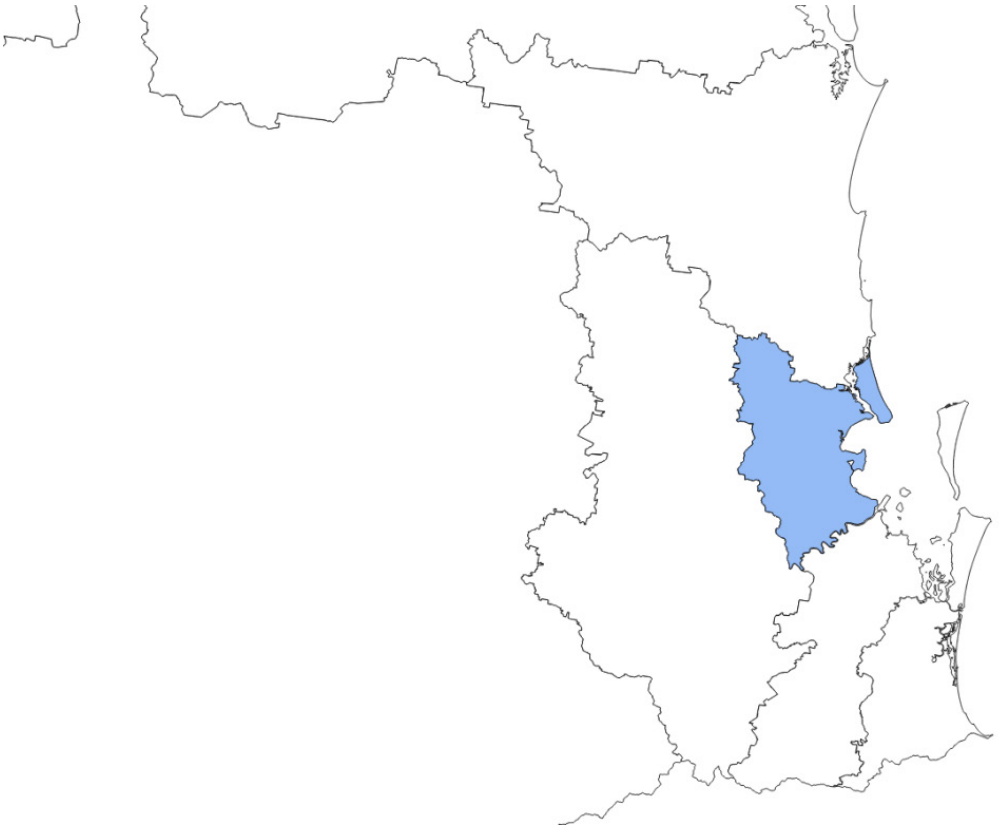


Table 4.14 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Metro North HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	28	13.83	0.71
25–34	50	23.37	0.92
35–44	57	28.88	0.89
45–54	57	33.03	1.06
55–64	32	22.61	1.01
65–74	20	21.32	1.00
75+	20	32.67	1.01
All ages	265	19.73	0.94
ASR = 19.82 Rate Ratio = 0.93 95% CI (0.82 – 1.06)			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	11	5.5	0.7
25–34	20	9.5	1.2
35–44	24	12.0	1.0
45–54	18	10.2	1.1
55–64	11	7.5	1.1
65–74	5	-	-
75+	4	-	-
All ages	93	6.81	0.98
ASR = 6.75 Rate Ratio = 0.97 95% CI (0.78 – 1.21)			

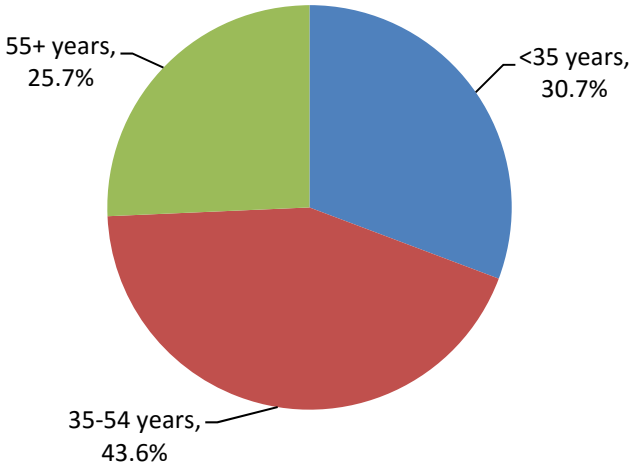
PERSONS	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	39	9.70	0.72
25–34	70	16.51	1.00
35–44	81	20.37	0.92
45–54	75	21.45	1.07
55–64	43	14.94	1.01
65–74	25	13.04	0.91
75+	24	15.99	0.87
All ages	358	13.21	0.95
ASR = 13.10 Rate Ratio = 0.94 95% CI (0.84 – 1.05)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

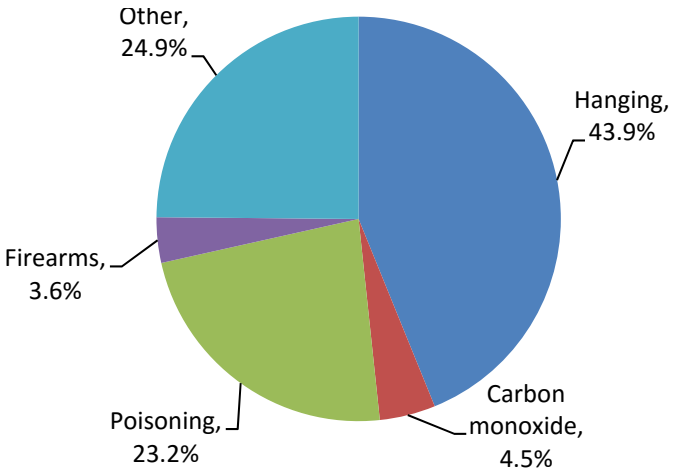
In the Metro North HHS region, the largest proportion of suicides was observed in people between 35 and 54 years of age (43.6%), followed by those under 35 (30.7%) and those over 55 (25.7%). These proportions are reflective of the whole-of-Queensland distribution, expectedly due to the large population in Metro North HHS.

Figure 4.24 Proportion of suicides by broad age group, Metro North HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Metro North HHS region (43.9%), followed by poisoning (23.2%). During 2011–2013, a greater diversity of methods was observed in Metro North HHS compared to more regional areas. As such, suicide methods classed under 'Other' categories comprised nearly a quarter of all suicide deaths in this region. This was seen in both sexes utilising jumping from height, suffocation and cutting as suicide methods, but also comparatively rare methods such as electrocution, domestic gases and fire were observed in Metro North HHS.

Figure 4.25 Methods used as a proportion of all suicides, Metro North HHS region, 2011–2013



4.2.10 Metro South HHS

In 2013, the Metro South HHS had a population of 1,072,114 inhabitants which constitutes the most populous HHS region in Queensland. During the period 2011–2013, there were 370 suicides in this region representing an age-standardised suicide rate of 11.8 per 100,000 which is the lowest in Queensland and significantly lower than that of the rate in all Queensland ($p < 0.05$). Males accounted for 273 cases (73.8%) in this region.

Table 4.15 presents suicide mortality rates for the Metro South HHS region by gender and age group. Among males, the highest suicide rates were observed in the over 75 and 35–44 age groups (32.5 and 28.4 per 100,000, respectively). In females, rates of 9.5 and 8.2 per 100,000 were observed in the 35–44 and 55–64 age groups, respectively.

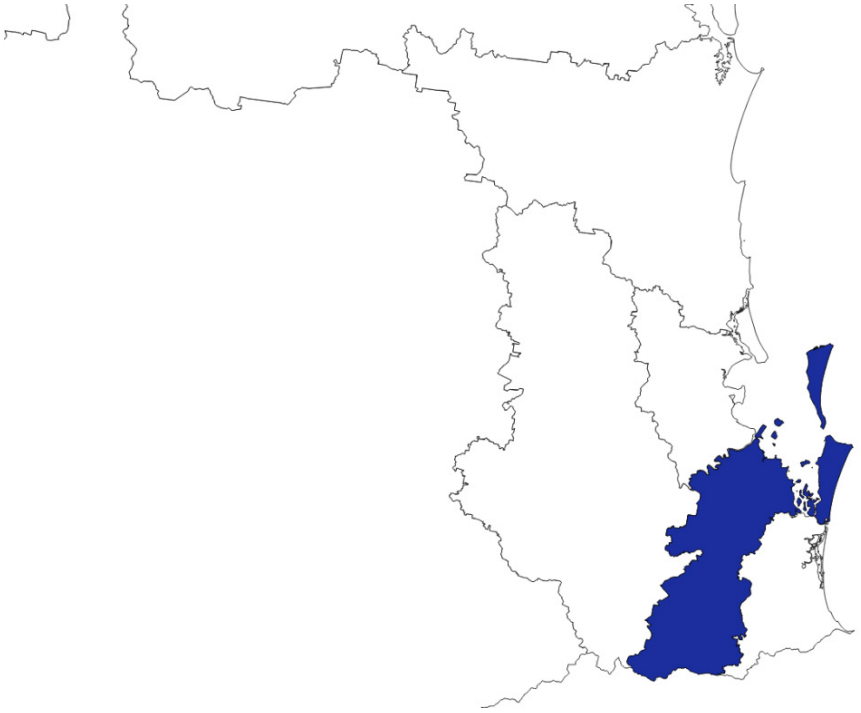


Table 4.15 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Metro South HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	4	-	-
15–24	31	13.01	0.67
25–34	51	20.45	0.80
35–44	74	32.47	1.00
45–54	48	23.50	0.75
55–64	25	15.16	0.68
65–74	22	21.48	1.00
75+	18	28.37	0.88
All ages	273	17.38	0.83
ASR = 17.76 Rate Ratio = 0.83 95% CI (0.73 – 0.95)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	4	-	-
15–24	15	6.54	0.88
25–34	18	7.35	0.96
35–44	22	9.46	0.81
45–54	13	6.17	0.67
55–64	14	8.25	1.16
65–74	6	-	-
75+	5	-	-
All ages	97	6.11	0.88
ASR = 6.03 Rate Ratio = 0.87 95% CI (0.70 – 1.08)			

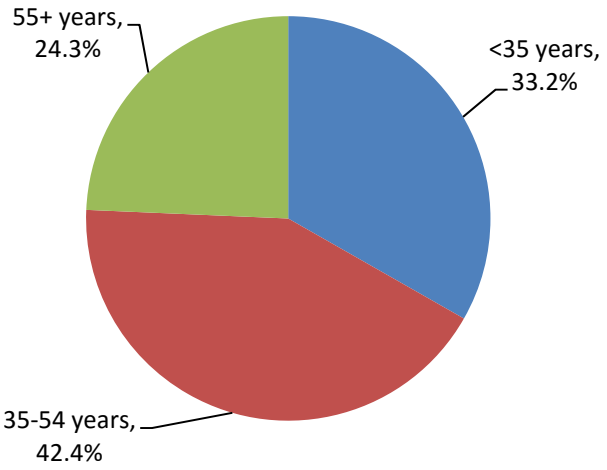
PERSONS	No	Rate*	Rate Ratio**
5–14	8	-	-
15–24	46	9.83	0.73
25–34	69	13.96	0.84
35–44	96	20.85	0.95
45–54	61	14.70	0.73
55–64	39	11.65	0.79
65–74	28	13.56	0.95
75+	23	14.86	0.80
All ages	370	11.72	0.84
ASR = 11.75 Rate Ratio = 0.84 95% CI (0.75 – 0.94)[a]			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

In the Metro South HHS region, the largest proportion of suicides was observed in people between 35 and54 years of age (42.4%), followed by those under 35 (33.2%) and those over 55 (24.3%). Like those observed in Metro North HHS these proportions are reflective of the whole-of-Queensland distribution, expectedly due to the large population in Metro South HHS.

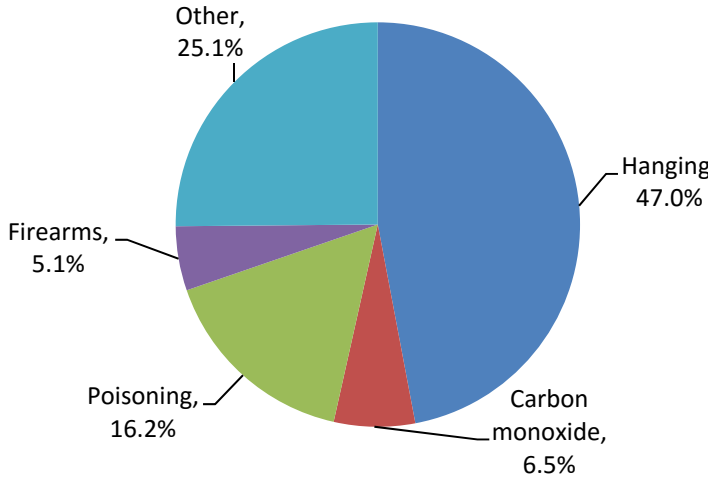
Figure 4.26 Proportion of suicides by broad age group,



Metro South HHS, 2011–2013

Hanging was the most prominent method of suicide used in the Metro South HHS region (47.0%), followed by poisoning (16.2%). The proportion of poisoning used in suicide deaths in Metro South HHS is slightly smaller than that observed in Queensland as a whole (18.0%). As was the case in other areas of higher population, a greater diversity of methods was observed in Metro South HHS compared to areas with fewer inhabitants. As such, suicide methods classed under 'Other' categories comprised 25.1% of all suicide deaths in this region. This was seen predominantly in higher numbers of drowning deaths and jumping from heights. Comparatively rare methods such as electrocution, domestic gases and fire were also observed in Metro South HHS.

Figure 4.27 Methods used as a proportion of all suicides, Metro South HHS region, 2011–2013



4.2.11 Gold Coast HHS

In 2013, the Gold Coast HHS had a population of 551,123 inhabitants. It is the third-most inhabited HHS region in Queensland behind Metro South and Metro North. During the period 2011–2013, there were 225 suicides in this region representing an age-standardised suicide rate of 13.7 per 100,000. Males accounted for 158 cases (70.2%) in this region, which is the second-smallest proportion of male suicides in all Queensland HHS regions.

Table 4.16 presents suicide mortality rates for the Gold Coast HHS region by gender and age group. Among males, the highest suicide rates were observed in the age groups 45–54, followed by 35–44 (36.5 and 32.2 per 100,000, respectively). In females, rates of 15.9 and 14.4 per 100,000 were observed in the 65–74 and 35–44 age groups, respectively. These rates are among the highest age-specific rates for females in all regions of Queensland.

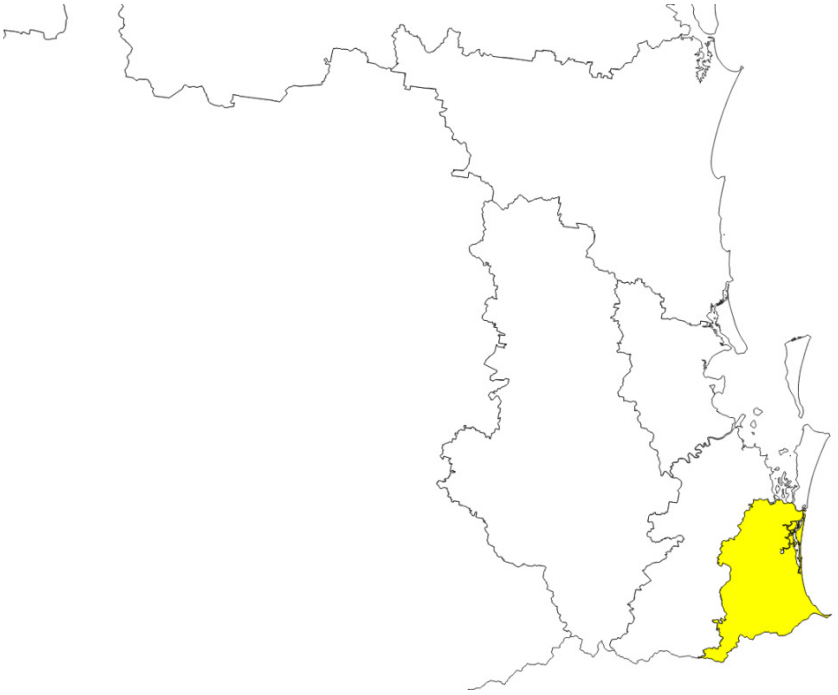


Table 4.16 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Gold Coast HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	2	-	-
15–24	16	14.53	0.75
25–34	24	20.97	0.82
35–44	37	32.21	0.99
45–54	38	36.49	1.17
55–64	16	17.71	0.79
65–74	13	19.32	0.90
75+	12	27.28	0.84
All ages	158	19.83	0.94
ASR = 19.80 Rate Ratio = 0.93 95% CI (0.79 – 1.09)			

FEMALES	No	Rate*	Rate Ratio**
5–14	0	-	-
15–24	6	-	-
25–34	8	-	-
35–44	17	14.38	1.23
45–54	14	12.50	1.37
55–64	6	-	-
65–74	11	15.90	2.20
75+	5	-	-
All ages	67	8.13	1.17
ASR = 8.00 Rate Ratio = 1.15 95% CI (0.89 – 1.49)			

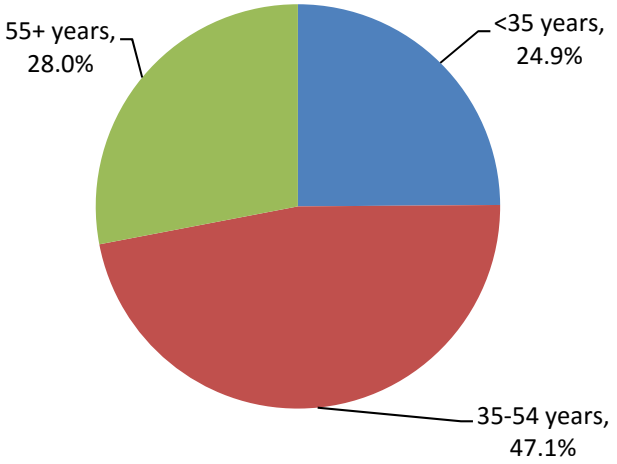
PERSONS	No	Rate*	Rate Ratio**
5–14	2	-	-
15–24	22	9.97	0.74
25–34	32	13.91	0.84
35–44	54	23.16	1.05
45–54	52	24.06	1.20
55–64	22	11.76	0.80
65–74	24	17.58	1.23
75+	17	16.74	0.91
All ages	225	13.89	0.99
ASR = 13.72 Rate Ratio = 0.98 95% CI (0.85 – 1.12)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

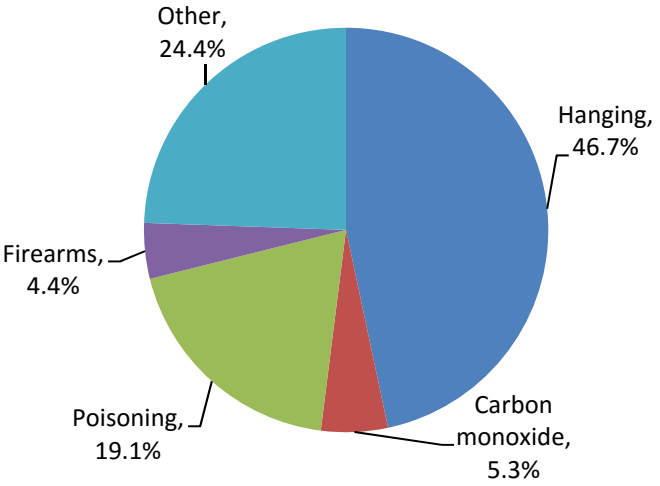
In the Gold Coast HHS region, the largest proportion of suicides was observed in people between 35 and 54 years of age (47.1%). The proportion of suicides over 55 years (28.0%) was slightly higher than observed in the other populous regions.

Figure 4.28 Proportion of suicides by broad age group, Gold Coast HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Gold Coast HHS region (46.7%), followed by poisoning (19.1%). As was the case in other areas of higher population, suicide methods classed under 'Other' categories comprised a relatively high proportion of 24.4% of all suicide deaths.

Figure 4.29 Methods used as a proportion of all suicides, Gold Coast HHS region, 2011–2013



4.2.12 West Moreton HHS

In 2013, the West Moreton HHS had a population of 261,539 inhabitants. During the period 2011–2013, there were 132 suicides in this region representing an age-standardised suicide rate of 18.0 per 100,000, significantly higher than the rate in all Queensland ($p < 0.05$). Males accounted for 101 cases (76.5%) in this region.

Table 4.17 presents suicide mortality rates for the West Moreton HHS region by gender and age group. Age-specific rates from 37.1 to 49.6 per 100,000 were observed among males from ages 35 through 64. In females, no age-specific rates were calculated due to small numbers.

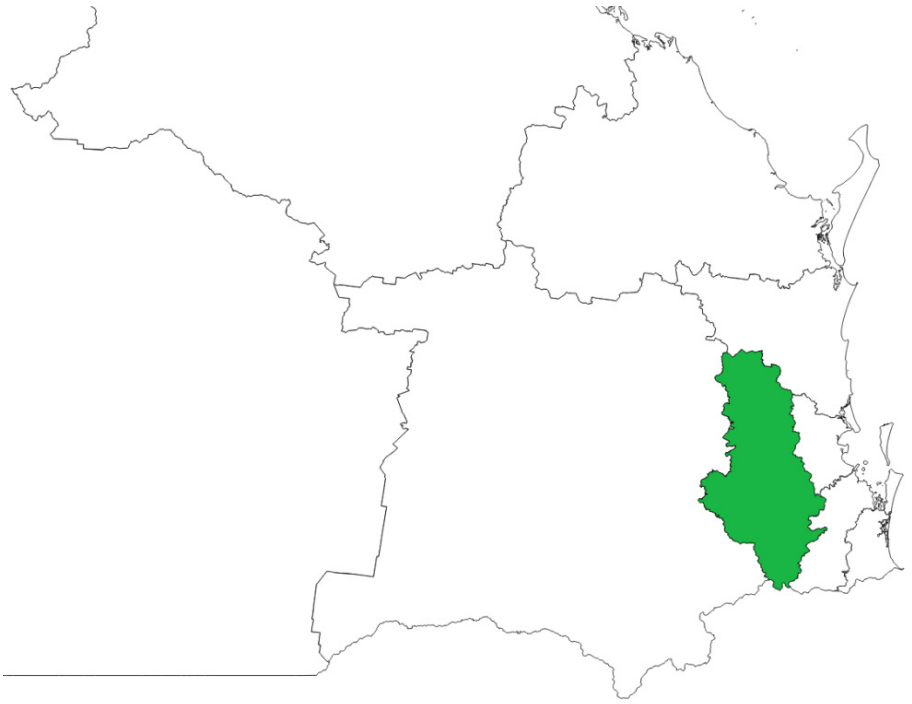


Table 4.17 Suicide numbers, rates, and standardised mortality ratios by gender and age group, West Moreton HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	12	21.68	1.11
25–34	18	34.07	1.34
35–44	26	49.62	1.52
45–54	19	37.90	1.22
55–64	15	37.08	1.66
65–74	6	-	-
75+	4	-	-
All ages	101	26.38	1.25
ASR = 27.54 Rate Ratio = 1.29 95% CI (1.06 – 1.58)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	3	-	-
25–34	7	-	-
35–44	8	-	-
45–54	5	-	-
55–64	5	-	-
65–74	0	-	-
75+	2	-	-
All ages	31	8.14	1.17
ASR = 8.48 Rate Ratio = 1.22 95% CI (0.85 – 1.76)			

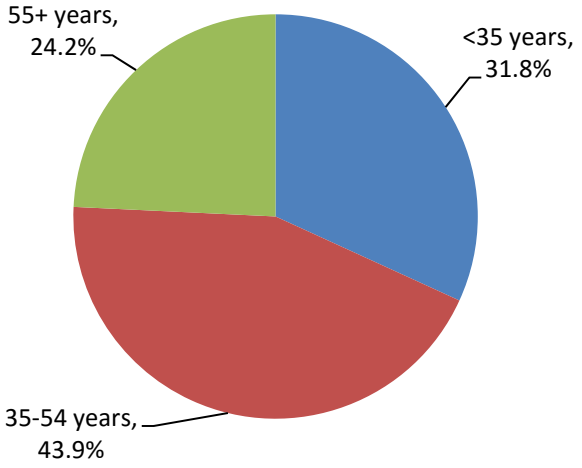
PERSONS	No	Rate*	Rate Ratio**
5–14	2	-	-
15–24	15	13.67	1.01
25–34	25	23.35	1.41
35–44	34	32.18	1.46
45–54	24	24.06	1.20
55–64	20	25.00	1.70
65–74	6	-	-
75+	6	-	-
All ages	132	17.29	1.24
ASR = 18.00 Rate Ratio = 1.29 95% CI (1.08 – 1.53)[a]			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

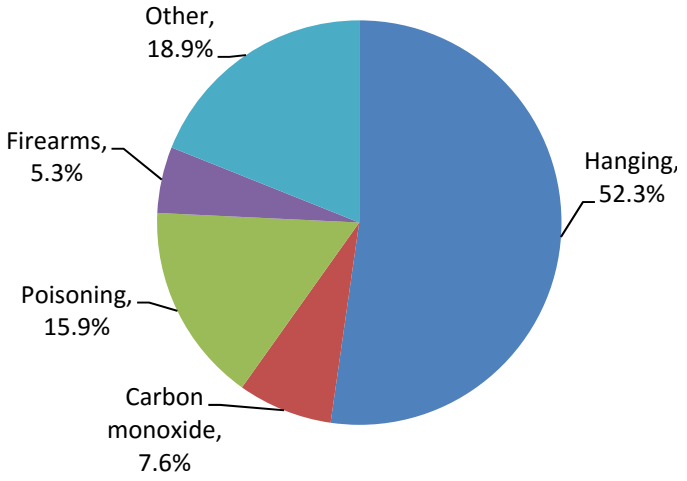
In the West Moreton HHS region, the largest proportion of suicides was observed in people between 35 and 54 years of age (43.9%), followed by those under 35 years of age (31.8%) and over 55 years (24.2%).

Figure 4.30 Proportion of suicides by broad age group, West Moreton HHS, 2011–2013



Hanging was the most prominent method of suicide used in the West Moreton HHS region (52.3%), followed by poisoning (15.9%), compared to 49.0% and 18.4% in Queensland as a whole. Suicide methods classed under 'Other' categories comprised a relatively high proportion of 18.9% of all suicide deaths.

Figure 4.31 Methods used as a proportion of all suicides, West Moreton HHS region, 2011–2013



4.2.13 Darling Downs HHS

In 2013, the Darling Downs HHS had a population of 273,993 inhabitants. During the period 2011–2013, there were 98 suicides in this region representing an age-standardised suicide rate of 12.9 per 100,000). Males accounted for 86 cases (87.8%) in this region, which is the highest proportion of male suicides observed in all HHS regions.

Table 4.18 presents suicide mortality rates for the Darling Downs HHS region by gender and age group. The highest rates were observed in males in age groups 25–34 (43.1 per 100,000), 35–44 (31.9 per 100,000) and 15–24 (30.1 per 100,000). In females, no age-specific rates were calculated due to small numbers.

Table 4.18 Suicide numbers, rates, and standardised mortality ratios by gender and age group, Darling Downs HHS, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	2	-	-
15–24	16	30.06	1.54
25–34	20	43.14	1.70
35–44	16	31.90	0.98
45–54	11	21.17	0.68
55–64	14	28.55	1.27
65–74	4	-	-
75+	3	-	-
All ages	86	21.43	1.02
ASR = 22.89 Rate Ratio = 1.07 95% CI (0.86 – 1.33)			

FEMALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	0	-	-
25–34	4	-	-
35–44	2	-	-
45–54	3	-	-
55–64	1	-	-
65–74	1	-	-
75+	0	-	-
All ages	12	2.93	0.42
ASR = 3.20 Rate Ratio = 0.46 95% CI (0.26 – 0.82)[a]			

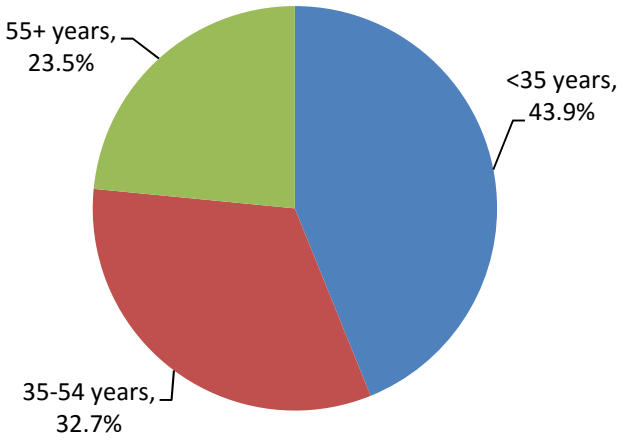
PERSONS	No	Rate*	Rate Ratio**
5–14	3	-	-
15–24	16	15.23	1.12
25–34	24	25.68	1.55
35–44	18	17.57	0.80
45–54	14	13.22	0.66
55–64	15	15.23	1.03
65–74	5	-	-
75+	3	-	-
All ages	98	12.09	0.86
ASR = 12.94 Rate Ratio = 0.92 95% CI (0.75 – 1.13)			

* The crude rate, with no rate calculated where the incidence in the group is less than 10, due to small numbers.

** Rate Ratio – the ratio of the study group rate compared to the rate for the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASR), with a significance level at 0.05 level indicated by [a].

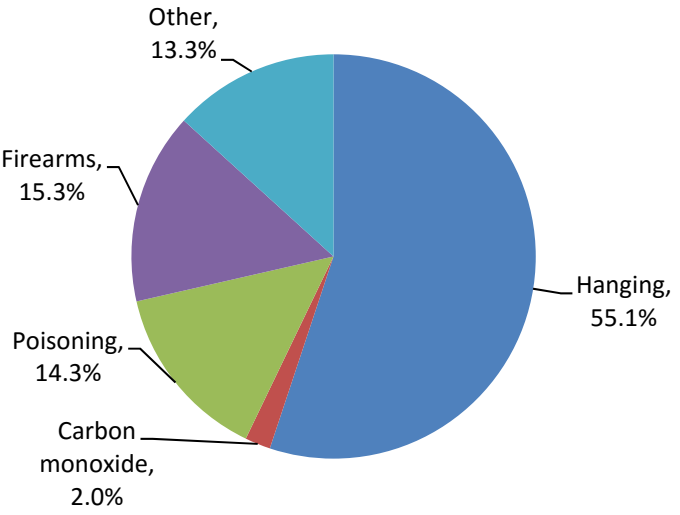
In the Darling Downs HHS region, the largest proportion of suicides was observed in people under 35 years of age (43.9%). The proportion of suicides under 35 is larger in the Darling Downs HHS region than all other regions except Greater Western Queensland. Suicides among the 35–54 and over 55 age groups represented 32.7% and 23.5% of suicide deaths in this region, respectively.

Figure 4.32 Proportion of suicides by broad age group, Darling Downs HHS, 2011–2013



Hanging was the most prominent method of suicide used in the Darling Downs HHS region (55.1%). A larger than average proportion of firearms use was observed in this region (15.3% vs. 6.7% for all Queensland), which had the second-highest proportion of firearms use of all regions. Poisoning was used in 14.3% of suicides in the Darling Downs HHS.

Figure 4.33 Methods used as a proportion of all suicides, Darling Downs HHS region, 2011–2013



4.3 Suicide mortality in Primary Health Networks

4.3.1 Introduction and overview

In 2015 the Australian Government Department of Health established a system of 31 Primary Health Networks (PHN) in Australia to administer and deliver medical services and improve coordination between all levels of health care provision (Australian Government Department of Health, 2015). More detailed information about PHNs and selected data can be accessed through the URL: http://www.health.gov.au/internet/main/publishing.nsf/Content/PHN-About

Figure 4.34 Map of geographic regions used by Primary Health Networks

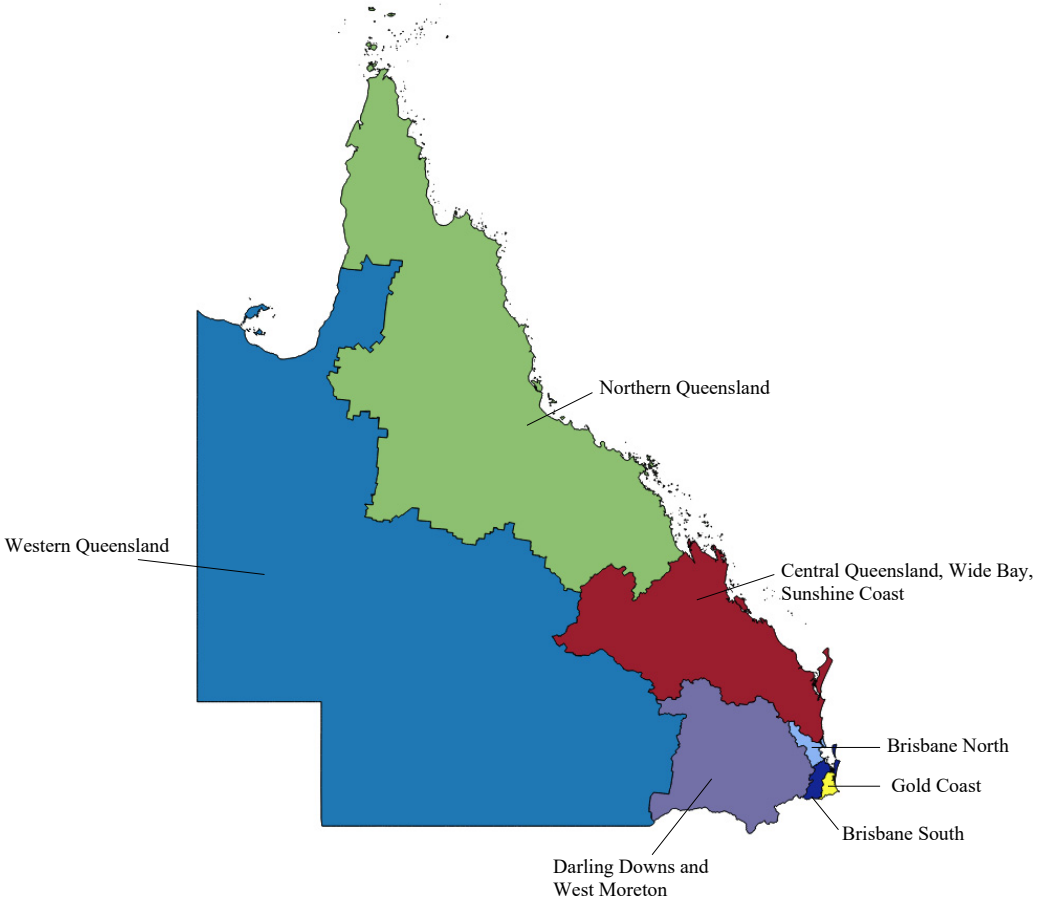
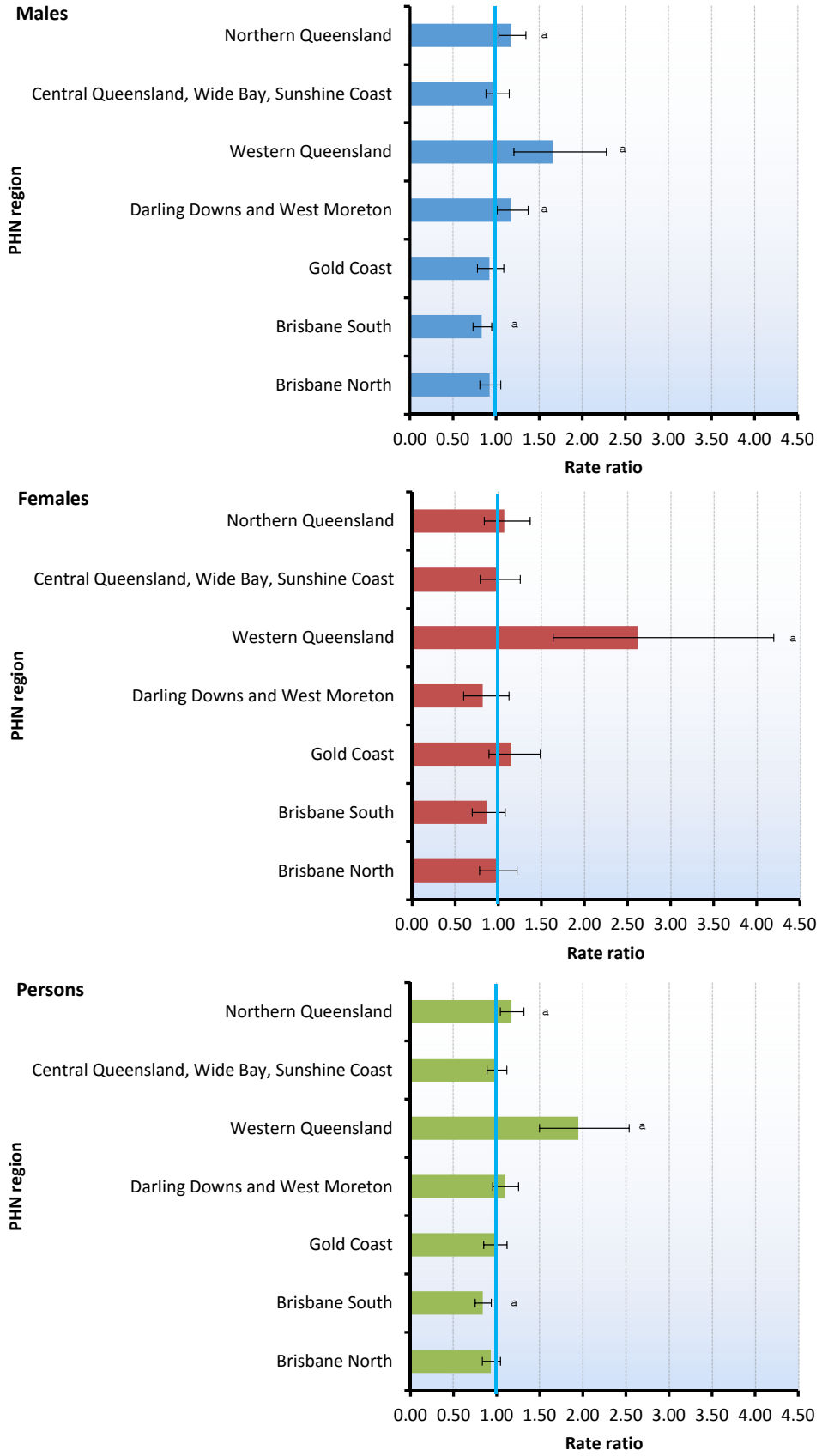


Table 4.19 Age-standardised rates by PHN region and gender, Queensland, 2011–2013

REGION	Males	Females	Persons
Brisbane North	19.72	6.78	13.06
Brisbane South	17.76	6.03	11.75
Gold Coast	19.68	8.00	13.66
Darling Downs and West Moreton	25.10	5.69	15.31
Western Queensland	35.36	18.21	27.31
Central Queensland, Wide Bay, Sunshine Coast	21.50	6.92	13.96
Northern Queensland	25.12	7.44	16.41
Total Queensland	21.32	6.94	14.01

Figure 4.35 Rate ratio of age-standardised suicide rates of PHN regions against total Queensland rate, 2011–2013



* Blue line indicates Queensland level; where the bar crosses the line the suicide rate of that region is higher than the average rate for Queensland, and when it is shorter, the rate is smaller. Statistical significance of 0.05 is indicated by [a]

Table 4.20 Proportion and ratio of male to female suicides in PHN regions, Queensland, 2011–2013

REGION	Gender ratio (male:female)	Proportion of males (%)
Brisbane North	2.8	73.8
Brisbane South	2.8	73.8
Gold Coast	2.3	70.1
Darling Downs and West Moreton	4.5	81.7
Western Queensland	2.2	68.4
Central Queensland, Wide Bay, Sunshine Coast	3.0	75.1
Northern Queensland	3.5	77.7
Total Queensland	3.0	75.1

Table 4.21 Broad age distribution of suicide incidence by PHN region, Queensland, 2011–2013

REGION	<35 years (%)	35–54 years (%)	55+ years (%)
Brisbane North	30.6	43.5	25.9
Brisbane South	33.2	42.4	24.3
Gold Coast	24.6	47.3	28.1
Darling Downs and West Moreton	37.6	38.9	23.6
Western Queensland	54.4	36.8	8.8
Central Queensland, Wide Bay, Sunshine Coast	22.6	38.4	39.0
Northern Queensland	35.4	39.3	25.3
Total	31.3	41.4	27.3
Total Queensland	31.3	41.5	27.2

Table 4.22 Main suicide methods used by PHN region, Queensland, 2011–2013

REGION	Method used (%)				
	Hanging	Carbon monoxide	Poisoning	Firearms	Other
Brisbane North	43.7	4.5	23.4	3.6	24.8
Brisbane South	47.0	6.5	16.2	5.1	25.1
Gold Coast	46.9	5.4	19.2	4.5	24.1
Darling Downs and West Moreton	54.1	5.2	14.4	9.6	16.6
Western Queensland	77.2	0.0	5.3	10.5	7.0
Central Queensland, Wide Bay, Sunshine Coast	43.7	9.1	24.9	8.8	13.5
Northern Queensland	55.8	5.2	12.8	8.5	17.7
Total Queensland	49.0	5.9	18.4	6.7	20.1

Chapter 5.
Suicide in Vulnerable Populations

This chapter focuses on six vulnerable populations, recognised to be at potentially high risk of suicide. These are: Aboriginal and Torres Strait Islander people, Culturally and Linguistically Diverse (CALD) populations, people under psychiatric care (in-patients), people in custody, people identifying as members of the Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) populations, and people under the age of 15 years.

In undertaking the following overview, it is important to note that this report provides an independent source of information and may therefore include data different from those reported in other analyses. AISRAP is limited to the information provided through the data sources outlined in Chapter 1 and does not have formal access to the internal data reporting systems that other governmental departments (e.g., Queensland Health, Queensland Corrective Services, Queensland Family and Child Commission) may use. This has a number of implications for the completeness and accuracy of the information gathered (for more information on this, see Chapter 1). First, because AISRAP relies on the information provided through the coronial system, inclusion of cases in this report depends on the time required for their legal processing. It is possible that some cases of suicide could still be under coronial investigation at the time of the preparation of this report, and thus could not be included in this chapter. This is particularly relevant in reviewing suicides cases under custody or psychiatric care.

Second, the differences in definitions of suicide between different reporting systems could have impacted the outcomes of the analyses presented in this report compared to those available through alternative sources. This report is based on data relating to suicides as defined by the Flowchart in Figure 1.2, including cases with assessed levels of probability that the death occurred due to a suicide as either 'probable' or 'beyond reasonable doubt'.

5.1 Suicides in Aboriginal and Torres Strait Islander populations

In the QSR, ethnicity is recorded as: Caucasian, Aboriginal and Torres Strait Islander, Asian, Other, Unknown or Unknown but not Indigenous. As this information does not allow for differentiation between narrower groups of each descent classification, in this section persons of Aboriginal and Torres Strait Islander (or both) background are combined in one group.

While it has been suggested that Australian Aboriginal and Torres Strait Islander populations have higher rates of suicide than other Australians (e.g. Tatz, 2001), true suicide mortality figures in

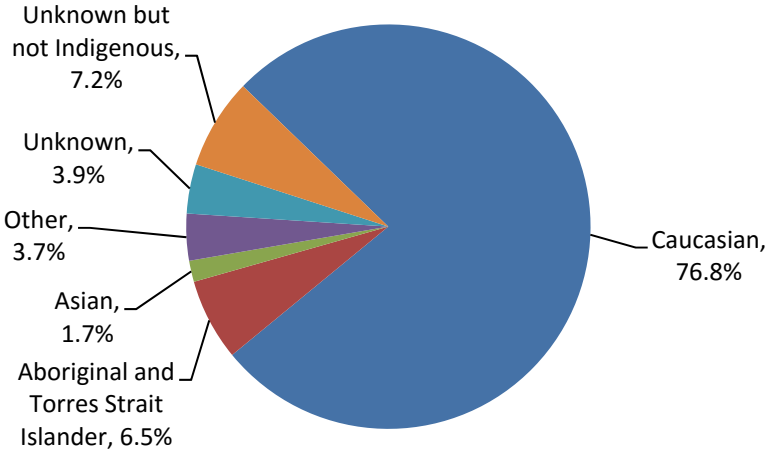
Aboriginal and Torres Strait Islander populations remain poorly understood due to incomplete data collection processes and inaccurate classification systems. Using data from the QSR, De Leo et al. (2011) published the first report on trends of suicide mortality of Aboriginal and Torres Strait Islander persons in Queensland, confirming that, between 1994 and 2007, these populations had suicide rates more than twice that of other Australians.

In Queensland, the inclusion of information regarding the ethnicity or descent of the deceased in the death notification process began in 1998. Prior to 1998, identification of cases of Aboriginal and Torres Strait Islander suicide was based only on informant notification or coronial discretion, which resulted in high percentages of cases labelled as of 'unknown ethnicity'. In 1990–1995, 33.7% of cases collected in the QSR did not include information on ethnicity. This percentage then fell to 16.0% in 1996–1998, rising to 27.0% in 1999–2001, then falling again to 7.7% in 2002–2004 and further to 1.1% in 2005–2007 and 1.9% in 2008–2010. For the 2011–2013 period, 3.9% of cases did not include information on ethnicity. Additional factors that contributed to the lowering of cases with unknown descent were the introduction of the psychological autopsy questionnaire to the police Form 1 (report of a death to the coroner) in 2004 which enquires about the deceased's ethnic background, and utilisation of the National Coroners Information System (NCIS), an electronic database which collects information on all reportable deaths that occurred in Queensland since 2001. Information on ethnic background is often unavailable at the time of death in up to a quarter of cases each year. The relevant variable in NCIS reflects 'Indigenous status', distinguishing between persons of Aboriginal and/or Torres Strait Island background and those that are not. In the period 2011–2013, 3.9% of cases had no available information on ethnic background in either the police Form1 or NCIS.

Figure 5.1 presents the distribution of suicides by ethnicity or descent. This shows that, in Queensland between 2011 and 2013, the majority of suicides was recognised to be of Caucasian ethnicity (76.8%) with the greater part of the 'Unknown but not Indigenous' category (7.2% of the total sample) most likely belonging to this group as well. Persons of Asian background represented 1.7% of all suicides, followed by 3.7% of other ethnicities (such as African, Middle-Eastern, and Maori). No information about ethnicity could be found for 3.9% of cases in 2011–2013.

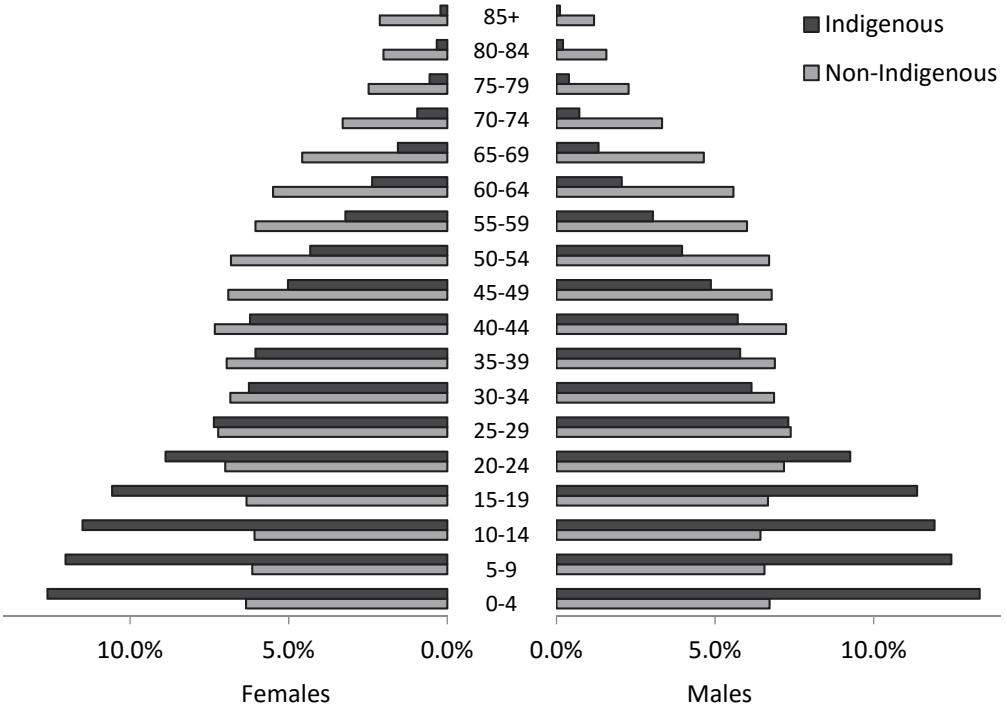
Between 2011 and 2013, 6.5% of all suicide cases were of Aboriginal and/or Torres Strait Islander descent. This percentage is higher than in most previous reports (1990–1995: 3.6%, 1996–1998: 6.0%, 1999–2001: 5.0%, 2002–2004: 5.4%, 2005–2007: 6.9%, 2008–2010: 4.7%).

Figure 5.1 Distribution of suicide by ethnicity or descent, Queensland, 2011–2013



The specific age structure of the Aboriginal and Torres Strait Islander population needs to be considered when interpreting their suicide statistics. Compared to other Australians, the Aboriginal and Torres Strait Islander population has a much larger proportion of persons younger than 15 years (19.1% vs. 36.9%). It was estimated that 54.6% of the total Aboriginal and Torres Strait Islander population was aged 15–54 and only 8.5% was aged 55 years or more for the period 2011–2013 (ABS, 2014). In 2011, the median age for Aboriginal and Torres Strait Islander Australians was 21.8 years, while for non-Indigenous Australians it was 37.6 years (ABS, 2011). The differences in the age structure of both populations can be seen in Figure 5.2.

Figure 5.2 Age distribution in estimated resident population by age, Aboriginal and Torres Strait Islander population and other Australians, Australia, 2011–2013 (ABS,2014)



During the 2011–2013 period, 126 persons of Aboriginal and Torres Strait Islander descent died by suicide in Queensland; 91 were males (72.2%) and 35 were females (27.8%). Distribution of suicide deaths by gender corresponded to gender ratio of 2.6:1, which was lower than that recorded for the total Queensland population (3.0:1).

Table 5.1 presents mortality rates and rate ratios for the Aboriginal and Torres Strait Islander population by gender and age group. Aboriginal and Torres Strait Islander population data were obtained from Aboriginal and Torres Strait Islander Population Projections, State/Territory, 2011 to 2013, Series B (ABS, 2014). Table 5.1 also shows age-standardised rates for Aboriginal and Torres Strait Islander males, females and persons, and the ratios comparing these to the overall ASR rate for Queensland (standardised by using the Australian population age distribution in the year 2001). Reliable rates could not be calculated for several age groups where the number of suicides was less than 10 cases.

In males, the highest suicide rate was recorded in the age groups 35–44 years and 25–34 years (72.1 and 59.1 per 100,000, respectively). Across all ages, Aboriginal and Torres Strait Islander males had an age-standardised suicide rate 1.7-times higher than Queensland overall. In females, the highest incidence of suicides occurred in the 25–34 year-old group, with a rate of 25.2 per 100,000,

which was more than three times the Queensland rate. The age-standardised rate across all ages for females (12.0 per 100,000) is 1.7-times higher than the total Queensland rate. Suicide rates for all persons show a similar pattern to that observed in males, with the younger age groups having the highest rates (15–24: 39.5 per 100,000; 25–34: 42.0 per 100,000; 35–44: 44.9 per 100,000). Across all ages, the age-standardised rate for Aboriginal and Torres Strait Islander persons was 1.7-times higher that of the general Queensland population.

Table 5.1 Suicide numbers, rates and standardised mortality ratios for Aboriginal and Torres Strait Islander people by gender and age group, Queensland, 2011–2013

MALES	No	Rate*	Rate Ratio**
5–14	3	-	-
15–24	32	53.63	2.75
25–34	23	59.10	2.32
35–44	24	72.14	2.21
45-54	3	-	-
55–64	3	-	-
65–74	2	-	-
75+	1	-	-
All ages	91	31.47	1.50
ASR = 35.99 Rate Ratio = 1.69 95% CI (1.37 – 2.09)[a]			

FEMALES	No	Rate*	Rate Ratio**
5–14	1	-	-
15–24	14	24.69	3.34
25–34	10	25.20	3.28
35–44	7	-	-
45–54	2	-	-
55–64	1	-	-
65–74	0	-	-
75+	0	-	-
All ages	35	12.0	1.7
ASR = 11.98 Rate Ratio = 1.73 95% CI (1.22 – 2.43)[a]			

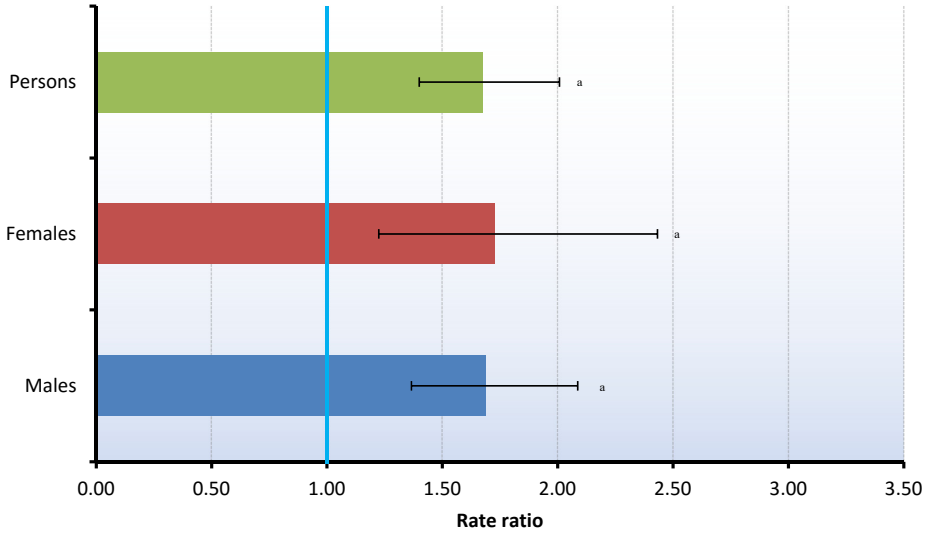
PERSONS	No	Rate*	Rate Ratio**
5–14	4	-	-
15–24	46	39.53	2.92
25–34	33	41.98	2.53
35–44	31	44.91	2.04
45–54	5	-	-
55–64	4	-	-
65–74	2	-	-
75+	1	-	-
All ages	126	21.7	1.6
ASR = 23.48 Rate Ratio = 1.68 95% CI (1.4 – 2.01)[a]			

* Crude rate, with no rate calculated where the incidence in the group is less than 10 due to small numbers.

** Rate Ratio – the ratio of the study group rate to the rate in the whole of Queensland population. Ratios are provided for crude and age-standardised rates (ASRs), with statistical significance of 0.05 indicated by [a].

Calculated age-standardised suicide rates, also shown in Table 5.1, confirm higher rates among Aboriginal and Torres Strait Islander males, females and all persons in comparison to the overall Queensland rates of suicide. Figure 5.3 presents rate ratios of ASRs for Aboriginal and Torres Strait Islander males, females and all persons.

Figure 5.3 Rate ratios of age-standardised suicide rates of Aboriginal and Torres Strait Islander population against Queensland total, 2011–2013



* Blue line indicates Queensland level; where the bar crosses the line the suicide rate of that region is higher than the average rate for Queensland, and when it is shorter, the rate is smaller. Statistical significance of 0.05 is indicated by [a]

Figure 5.4 shows the distribution of suicides among Aboriginal and Torres Strait Islander persons by broad age groups. The majority of suicides in this sub-population were by persons under 35 years of age (65.9%), with the 35–54 year age group accounting for 28.6%, and those 55 years and over accounting for the remaining 5.6% of cases.

Figure 5.4 Proportion of suicide among Aboriginal and Torres Strait Islander population by broad age group, Queensland, 2011–2013

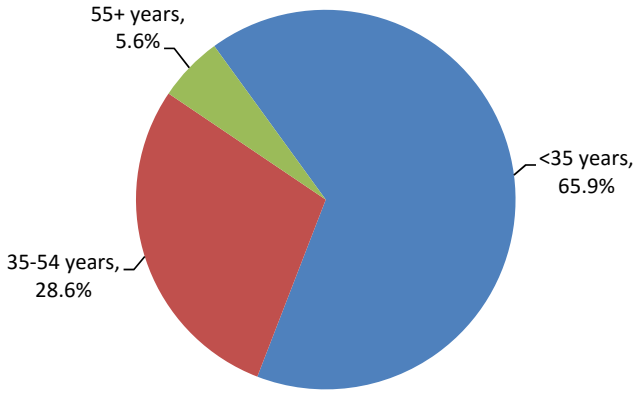


Figure 5.6 shows the distribution of suicide methods in Aboriginal and Torres Strait Islander persons. Hanging was the predominant method, used in 89.7% of all cases, a far greater proportion than across all ethnicities in Queensland (49.0%). The use of other methods had consequently a far lower representation, with poisoning (including drug or medicine overdoses) accounting for 4 deaths

(3.2%), being hit by a car or train for 2 cases (1.6%), carbon monoxide toxicity for 2 cases (1.6%), and use of firearms for 1 case (0.8%).

Figure 5.5 Suicide methods among Aboriginal and Torres Strait Islander population, Queensland, 2011–2013

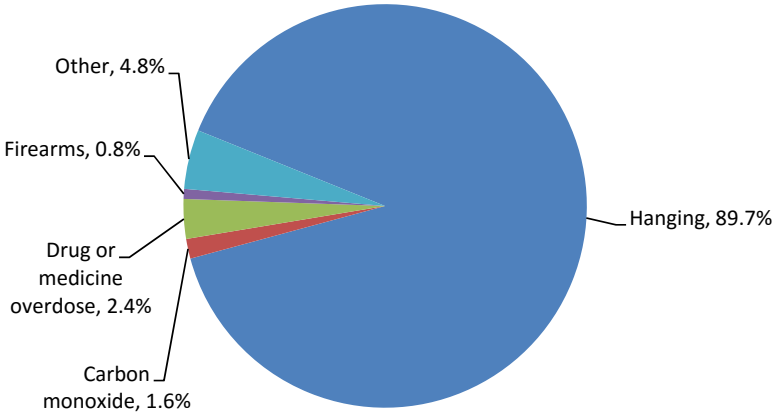
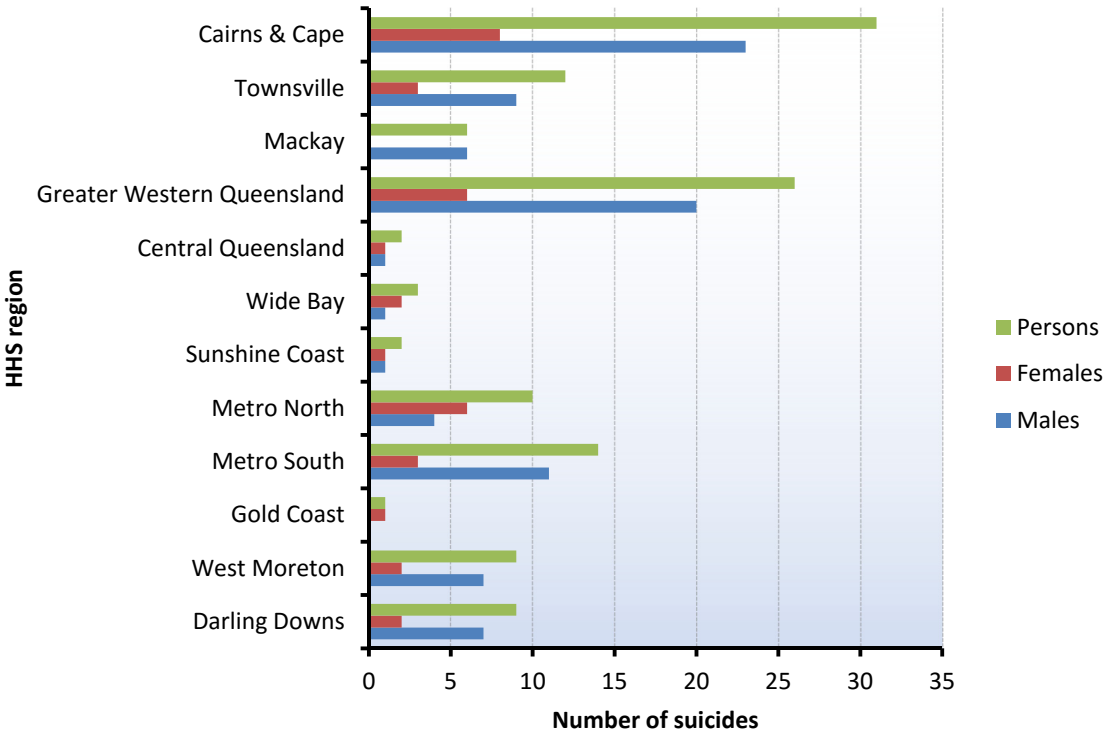


Figure 5.6 shows geographic distribution of Aboriginal and Torres Strait Islander suicides by gender. The highest numbers of suicides by Aboriginal and Torres Islander people were in the Cairns and Cape region in Queensland's North (*n* = 31, 24.8%), Greater Western Queensland (*n* = 26, 20.8%), the Metro South HHS (*n* = 14, 11.2%), and Townsville HHS (*n* = 12, 9.6%).

Figure 5.6 Number of suicides among Aboriginal and Torres Strait Islander population by geographic region, Queensland, 2011–2013



5.2 Suicides in the Culturally and Linguistically Diverse (CALD) population

Persons from Culturally and Linguistically Diverse (CALD) backgrounds have been identified as potentially more vulnerable to issues of mental health and less likely to access available services (QMHC, 2016). The process of adapting to a new culture, the experience of war and trauma, unemployment and social isolation have been identified as potential stressors for persons from CALD backgrounds that may put such persons at risk of suicide (Department of Health and Ageing, 2008).

In 1999, the ABS developed and published Standards for Statistics on Cultural and Language Diversity (Cat. 1289.0) to define personal and population attributes that relate to cultural background, replacing non-English speaking background (NESB) as the primary indicator of cultural and linguistic diversity. This document outlines a Minimum Core Set of characteristics — country of birth, main language other than English spoken at home, proficiency in spoken English and Indigenous status — in identifying CALD persons. A full Standard Set includes additional variables in relation to year of migration, ancestry and other languages (ABS, 1999). Population and Census data released by the ABS primarily uses country of birth as the CALD indicator, such as the percentage of the population born in specific global regions categorised by the Standard Australian Classification of Countries (SACC; ABS, 2011d), or overseas in total.

The QSR records country of birth information where available in Coronial documents. Where omitted from Coronial documents, such information is retrieved through periodic data matching from the Registry of Births, Deaths and Marriages. In the 2011–2013 period there were 389 (20.3%) deaths recorded in the QSR of persons born outside Australia. Of these, 131 (6.8%) were not born in the English-speaking countries of Canada, the Republic of Ireland, New Zealand, South Africa, the United Kingdom and the United States of America.

Within this group, 88 (67.2%) were male and 43 (32.8%) were female. The majority of males in this group were 55 years or older (42 deaths, 47.7%) whereas the majority of female deaths occurred in the 35–54 age group (17 deaths, 39.5%).

The specific non-English speaking countries most represented were Germany (n = 13), the Netherlands (n = 12), China (n = 8), Papua New Guinea and Japan (n = 6, each), and India (n = 5).

Census 2011 data from the National Regional Profile 2009–2013 (ABS, 2015) were used in defining the 2011 proportion of population born overseas for Queensland. Population proportions were not available for non-Census years. In 2011, the crude suicide rate for persons born overseas did not exceed the overall rate for Queensland (8.41 vs. 13.42 per 100,000), or the rate for persons born in Australia (15.12 per 100,000).

The study of suicide in CALD populations longitudinally is confronted by the challenges inherent in accurately measuring characteristics of a rapidly changing population. Australia has seen increasing proportions of migrant and refugee settlers in regional and rural areas and increased numbers of international students and short-term migrant workers (ABS, 2012b). Evidence from previous research suggests that suicide rates in males born overseas is correlated with the suicide rates in their countries of origin and were lower than the rate in other Australian males (Ide et al., 2012). Further it has been shown that second-generation migrants are not at a higher risk compared to other Australians and first-generation migrants (Law et al., 2014).

5.3 Suicides by people under psychiatric care

This section outlines the incidence of suicide by people who were, at the time of their death, hospitalised as psychiatric in-patients or were long-term residents in rehabilitation and psychiatric aged-care facilities. These cases do not include people who have been receiving psychiatric care from outpatient clinics, general practitioners, private hospitals or community care support. It also does not include persons who had died by suicide shortly after discharge from a psychiatric setting. This means that this section only reports on the incidence of suicides in persons who were voluntary or involuntary psychiatric in-patients and who died in the ward, or had temporarily left the ward with permission, or absconded.

Data used for this assessment were mainly obtained from police records and were based on the information provided to the investigating officer by the 'next-of-kin'. In most cases, detailed descriptions of the circumstances of death as described in the medical files of persons under hospital care were not available.

From 2011–2013, there were 18 (13 males, 5 females) suicide cases identified as being under in-patient psychiatric care at the time of death. This number is similar to that reported in period 2008–2010 (20 cases). The majority of these deaths occurred when patients left the premises (n = 12) either absconding or being on permitted leave. The remaining cases died within the facility.

The age range of these suicides was from 19 to 71 years, with the average age of 48.3 years. All cases were reported to be Caucasian, except for one case identified as an Aboriginal and Torres Strait Islander person, and one in which ethnicity was not determined. The most common method of suicide in this group was jumping from height (7 cases), followed by hanging (5 cases). Other methods used were suffocation by plastic bag, hit by a moving object (2 cases each), and medicine overdose and carbon monoxide poisoning (1 case each).

5.4 Suicides of people in custody

A death in custody constitutes a 'reportable death', to be notified to and investigated by a coroner. For the purposes of this section, the term 'custody' refers to any form of detention within the correctional system, including persons awaiting trial ('detainees'), as well as those serving sentences in correctional centres ('prisoners'). Due to the small incidence of suicide mortality in this subpopulation, only a review of the characteristics and circumstances of these cases is presented, but no rates have been calculated.

In the period from 2011 to 2013, there were four (4) suicide deaths registered in Queensland correctional facilities. The sites of death for all recorded cases of suicide in custody were in their cells.

The incidence of suicide in the studied triennium appears lower than for the preceding two triennia. Previous reports identified the following numbers of suicide deaths in custody: 38 cases in 1990–1995, 20 cases in 1996–1998, 19 cases in 1999–2001, 5 cases in both 2002–2004 and 2005–2007, and 10 cases in 2008–2010.

All four cases were males between the ages of 26 and 45 (Mean = 35). One case was identified as Aboriginal or Torres Strait Islander. Hanging was the predominant method, used in three of the four cases; in one case death was by cutting with a razor.

5.5 Suicides in the Lesbian, Gay, Bisexual, Transgender and Intersex populations

In 2010, an Australian Senate Committee report recognised that persons identifying as lesbian, gay, bisexual, transgender and intersex (LGBTI) are at a high risk of suicide and suicidal behaviours (Community Affairs Reference Committee, 2010).

During the 2011-2013 period, there were 20 suicides that were identified as members of the LGBTI community. These figures likely under-represent the true number of suicides, as they rely on overt identification in police or coronial reports, and often by the admissions of family members or friends about the deceased's sexual orientation (Skerrett et al., 2014; Rogers, 2005). Data from the QSR (2000–2009) were used in a deeper analysis of LGBTI suicides, published by Skerrett et al. (2014).

Of the 20 identified cases, 14 were male, 5 were female and one case was female-born and identified as transgender. The age range was from 14 to 64 years with the majority of cases (n = 12) between 25 and 44 years of age. The mean age was 35 years.

The leading method of suicide was hanging (45.0%) followed by jumping from height (20.0%) and poisoning (15.0%).

5.6 Suicides in people under the age of 15

There were 21 suicides by people under the age of 15 years registered in Queensland during 2011–2013. This number is higher than reported in previous publications: 14 in 2002–2004, 16 in 2005–2007 and 6 in 2008–2010.

There were 14 male and 7 female suicides by children under the age of 15. All occurred between the ages of 10 and 14, except one case below 10 years of age. Four of these cases were identified as Aboriginal or Torres Strait Islander persons.

Geographic distribution of suicides in children shows that 8 deaths occurred in the Metro South HHS region, and 3 in Darling Downs HHS. Other suicide deaths under 15 years were distributed across all other geographic areas with one or two deaths each, except for Townsville, Greater Western Queensland and Central Queensland HHS which reported no deaths in this age group.

Most cases of suicide in children under the age of 15 occurred by hanging (n = 18, 85.7%), two by firearms and one by poisoning. The majority of these suicides (n = 17) took place in the person's own residence.

Chapter 6.
Psychosocial profile of suicide cases

This chapter focuses on prevalence of psychosocial factors commonly related to suicide such as marital and employment status, psychiatric disorders, history of suicide attempts, physical health conditions and life events prior to death by suicide. The information about Psychosocial factors in the QSR has been obtained from Form 1 reports and relies on the accuracy of next-of-kin accounts with additional information from coronial investigations and post-mortem and toxicology reports (see Chapter 1 for data sources). Therefore it is likely that some of the factors are underestimated and should be treated with caution.

6.1 Marital status

Research has indicated that suicide rates differ by marital status. Traditionally married people have been found to have lower rates of suicide and people who are separated, widowed, divorced or single to have higher rates (Wyder et al., 2009).

Current analysis is of the distribution of the marital status in the QSR and does not provide information about the rates and risks by different marital status categories. Marital status by Australian Household Census is not directly comparable to the marital status in the QSR as the Census has two categories – Registered Marital Status and Social Martial Status (ABS, 2012a); therefore rates and risks cannot be calculated.

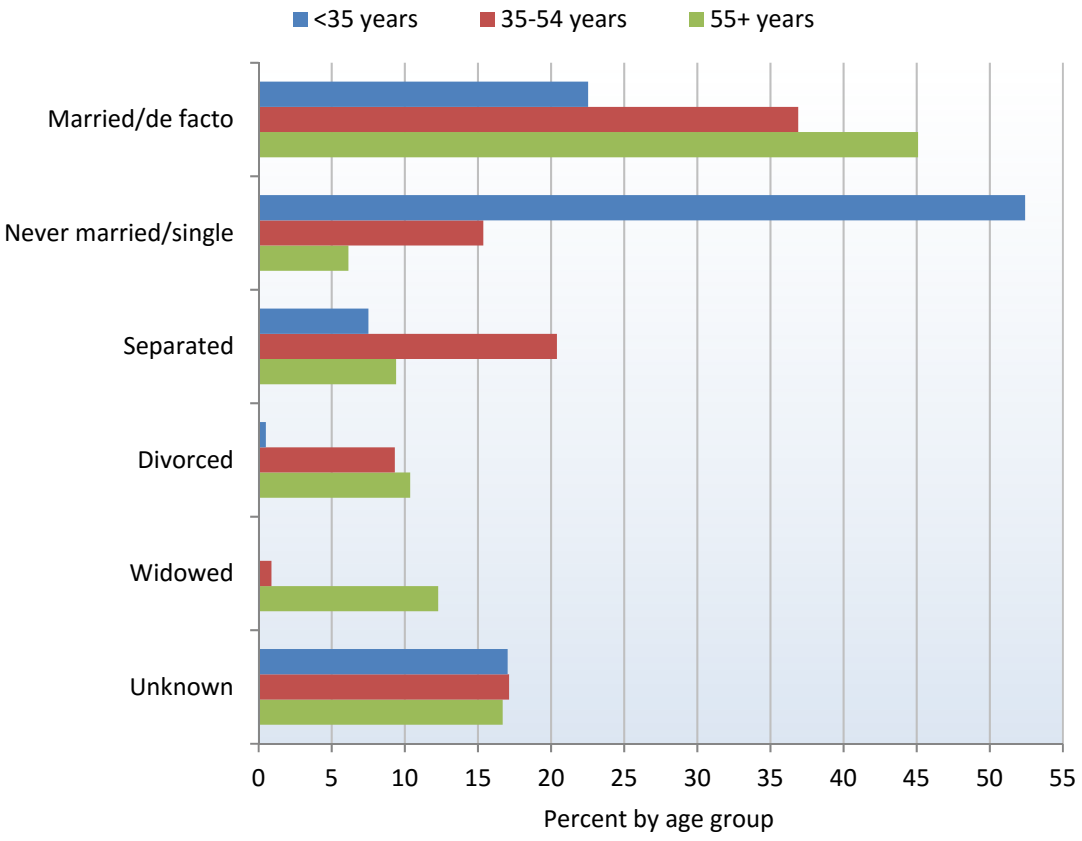
Table 6.1 presents the distribution of number of suicides by marital status and gender in 2011–2013. People who died by suicide were most frequently married/*de facto* (34.6%), followed by never married/single (25.8%), separated (13.4%), divorced (6.8%) and widowed (3.7%). For 17% of suicide cases it was not possible to identify their exact marital status using the materials available. Never married/single were significantly more frequent among males and widowed among females ($p < 0.05$).

Table 6.1 Distribution of suicides by marital status and gender, Queensland, 2011–2013

Marital status	Males		Females		Persons	
	N	%	N	%	N	%
Married/*de facto*	498	34.7	165	34.6	663	34.6
Never married/single	374	26.0	94	19.7	494	25.8
Separated	197	13.7	59	12.4	256	13.4
Divorced	92	6.4	39	8.2	131	6.8
Widowed	37	2.6	34	7.1	71	3.7
Unknown	239	16.6	86	18.0	325	17.0
Total	1437	100	477	100	1914	100

Figure 6.1 shows marital status by age group. People who died by suicide in age groups 35–54 and 55+ years were most frequently married/*de facto*, 36.9% and 45.1% respectively, followed by separated (20.4%) in age group 35–54 years and widowed (12.3%) in age group 55+ years. In age group <35 they were most frequently never married/single (52.4%), followed by married/de facto (22.5%). There were significant differences in all marital categories by age group; there we no significant differences for 'unknown' which had equal proportions for all age groups.

Figure 6.1 Distribution of suicides by marital status and age, Queensland, 2011–2013



6.2 Employment status

Previous research has shown that there are differences in suicide rates by employment status; more specifically unemployed have been shown to have higher rates of suicide compared to people who are employed or economically inactive (Milner et al., 2014).

As with the analysis of the marital status the distribution of employment status in the QSR is presented. In addition, crude suicide rates are calculated in broad employment categories (employed, unemployed, not in the work force) using the 2011 Census of Population and Housing for the population information (ABS, 2012a).

Table 6.2 presents the distribution of suicides by employment status and gender in 2011–2013. People who died by suicide were most frequently employed (31.3%), followed by unemployed (24.9%), retired (14.3%), disabled (5.2%) and other not in labour force (4.8%). For 19.5% of suicide cases it was not possible to identify their exact employment status using the materials available. Employed were significantly more frequently males; disabled, other not in labour force, and 'unknown' were more frequently females who died by suicide ($p < 0.05$).

Table 6.2 Distribution of suicides by employment status and gender, Queensland, 2011–2013

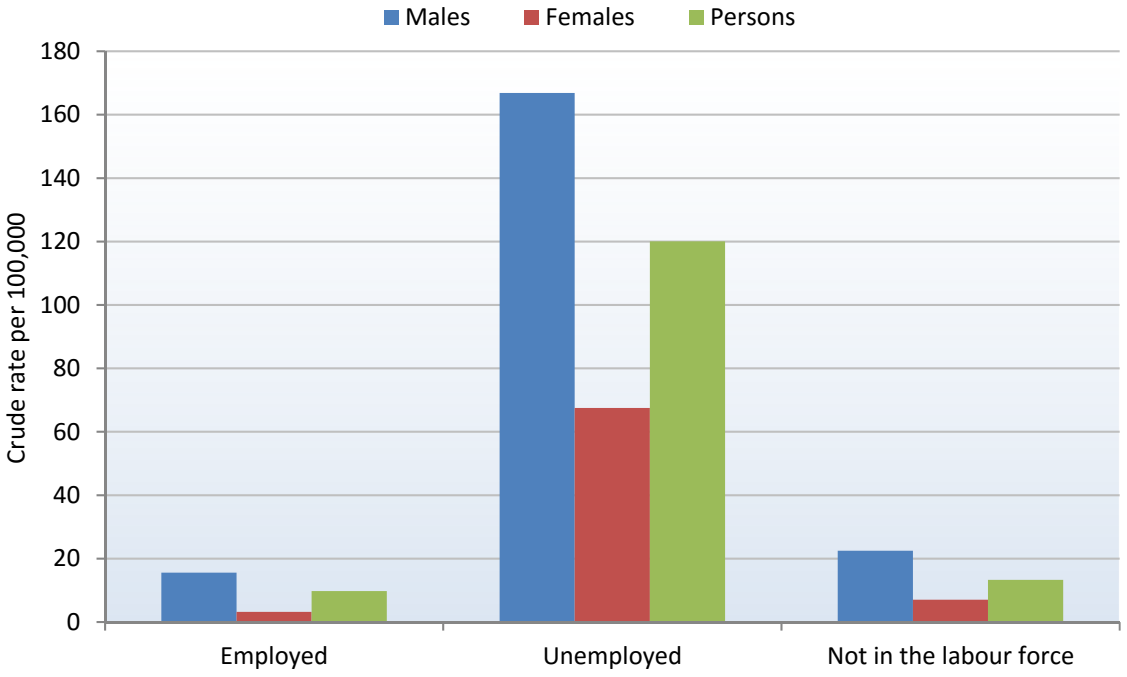
Employment status	Males		Females		Persons	
	N	%	N	%	N	%
Employed	507	35.3	92	19.3	599	31.3
Unemployed	350	24.4	126	26.4	476	24.9
Disabled	64	4.5	36	7.5	100	5.2
Retired	203	14.1	71	14.9	274	14.3
Other not in labour force	52	3.6	40	8.4	92	4.8
Unknown	261	18.2	112	23.5	373	19.5
Total	1437	100	477	100	1914	100

Figure 6.2 shows employment status by age group. People who died by suicide in age groups < 35 and 35–54 years were most frequently employed, 34.7% and 39.2% respectively, followed by unemployed , 32.1% and 28.6% respectively. In age group 55+ they were most frequently retired (51.2%), followed by employed (15.4%). There were significant differences in all employment categories by age group.

Figure 6.2 Distribution of suicides by employment status and age, Queensland, 2011–2013

Crude suicide rates were calculated for 2011–2013 using the 2011 Census of Population and Housing for the population information (ABS, 2012a). The calculations by employment status includes people aged 15 years and over and cases with 'unknown' status are excluded (19.5%). Employment information was not stated for 6% of persons in the 2011 Census of Population and Housing. Therefore rates are underestimates of the real rates in employment categories. Figure 6.3 presents suicide rates in broad employment categories. Suicide rates were the highest in the unemployed (120.0 per 100,000) and the lowest in employed people (9.7 per 100,000).

Figure 6.3 Crude suicide rates by employment status and by gender (15+ years), Queensland, 2011–2013



6.3 Psychiatric disorders

Previous psychological autopsy studies have shown that up to 90% of people who die by suicide had diagnosable psychiatric disorders (Arsenault-Lapierre et al., 2004). However, more recent studies indicate that this might be somewhat of an overestimate (De Leo et al., 2013). Although psychiatric disorders increase the risk of suicide and suicidal behaviour, it is important to consider that the majority of people with psychiatric disorders are not suicidal.

The majority of information about psychiatric disorders in the current analysis has been obtained from Form 1 reports and relies on the accuracy of next-of-kin accounts. In some cases, additional information has been obtained from coronial investigations and post-mortem and toxicology reports. Therefore the real prevalence might be underestimated. It is important to note that psychological autopsy studies include procedures to diagnose psychiatric disorders post-mortem (Arsenault-Lapierre et al., 2004; De Leo et al., 2013), and thus not all suicide cases with a diagnosed disorder received that diagnosis during their lifetime. In addition, this analysis is limited to the lifetime prevalence of psychiatric disorders in people who died by suicide and therefore does not present risk of suicide in people with specific disorders.

In 2011–2013, 47.2% of all suicide cases had at least one psychiatric disorder recorded in the QSR. The prevalence was significantly greater in females than in males (61.6% vs. 42.4%; $p < 0.05$). Prevalence of psychiatric disorder differed significantly ($p < 0.05$) by age group. It was highest in the age group 35–54 years (53.7%), followed by age groups 55+ years (43.6%) and age group <35 years (41.9%).

Table 6.3 presents the prevalence by the six most common psychiatric disorders and by gender; all other psychiatric diagnoses (prevalence below 1.5%) are categorised in the group of 'other or vague disorders'. The most prevalent was unipolar depression (36.3%), followed by anxiety disorders (9.8%), substance use disorders (7.8%), psychotic disorders (5.8%), bipolar depression (5.6%) and personality

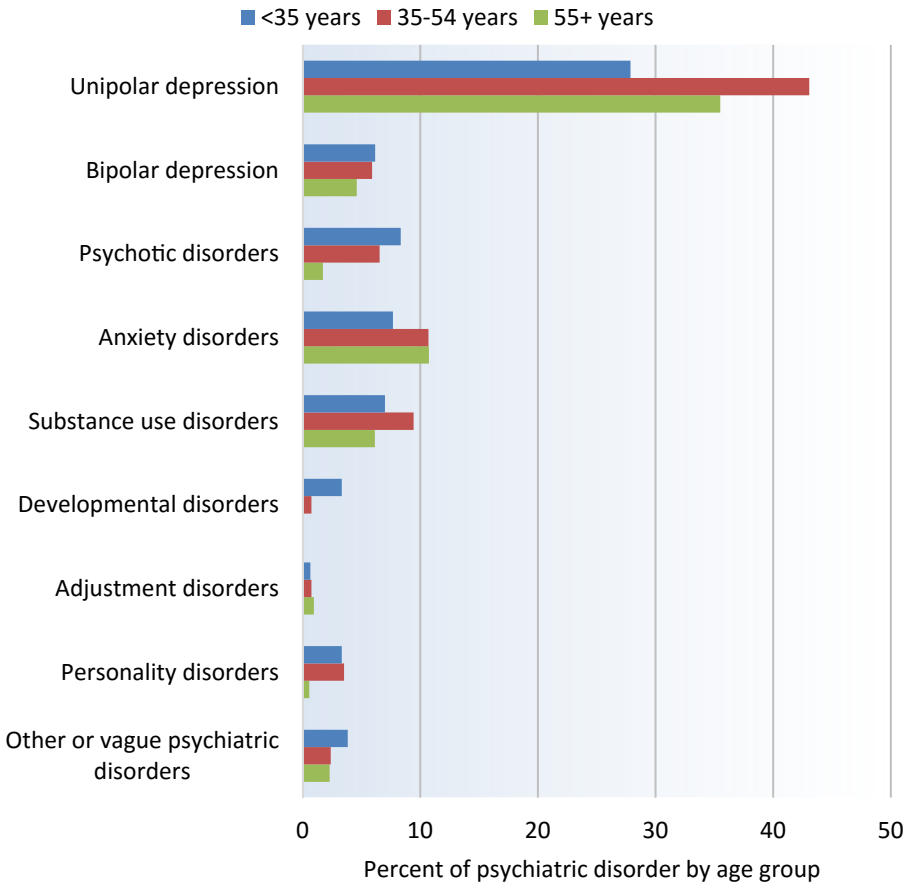
disorders (2.7%). Unipolar depression, anxiety disorders, bipolar depression and personality disorders were significantly more frequent in females ($p < 0.05$).

Table 6.3 Prevalence of psychiatric disorders in suicide cases by gender, Queensland, 2011–2013

Psychiatric diagnosis	Males		Females		Persons	
	N	%	N	%	N	%
Unipolar depression	472	32.8	222	46.5	694	36.3
Bipolar depression	59	4.1	49	10.3	108	5.6
Psychotic disorders	83	5.8	28	5.9	111	5.8
Anxiety disorders	117	8.1	70	14.7	187	9.8
Substance use disorders	106	7.4	43	9.0	149	7.8
Personality disorders	18	1.3	33	6.9	51	2.7
Other or vague psychiatric disorders	70	4.9	21	4.4	91	4.8

Figure 6.4 shows psychiatric disorders by age groups. In all age groups unipolar depression was the most commonly diagnosed psychiatric disorder, being most frequent in the age group 35–54 years (43.1%) followed by age groups 55+ years (35.5%) and <35 years (27.9%). The second most common were anxiety disorders for age groups 35–54 (10.7%) and 55+ years (10.7%) and psychotic disorders for age group <35 years (8.3%). The third most common were substance use disorders for age groups 35–54 (9.4%) and 55+ years (6.1%) and anxiety disorders for age group <35 years (7.7%). Prevalence of unipolar depression and psychotic disorders differed significantly by age group ($p < 0.05$).

Figure 6.4 Prevalence of psychiatric disorders in suicide cases by age groups, Queensland, 2011–2013



6.4 History of previous suicide attempts

Previous suicide attempt has been considered the strongest suicide risk factor (WHO, 2014; Yoshimasu et al., 2008). In 2011–2013, 30.2% of people who died by suicide had a history of previous suicide attempt(s). History of suicide attempt(s) was significantly more frequent in females (38.4% vs. 27.5%; $p < 0.05$). It was more frequently recorded in the age groups 35–54 and <35 years, 32.5% and 32.1% respectively and it was less frequent in age group 55+ years (24.6%).

6.5 Life events

Different life events can be important triggers for suicide (Kolves et al., 2006); some events, such as childhood sexual abuse, can increase the risk of suicide throughout life (Maniglio, 2009). Life events related to socioeconomic problems are considered of particular importance (WHO, 2014) as they can cause harmful substance use, financial stress and relationship/familial problems which could lead to psychiatric disorders and suicidal behaviours.

The QSR includes occurrence of several life events. However, recording of life events relies on the accuracy of next-of-kin accounts in the Form 1 and coronial investigations, and therefore it is likely to be underestimated.

Table 6.4 shows that relationship separation was the most frequently recorded life events (27.0%), followed by relationship conflict (15.5%), financial problems (14.9%), bereavement (13.9%) and familial conflict (10.3%) in people who died by suicide in 2011–2013. There were a number of significant differences by gender ($p < 0.05$); more specifically, relationship problems, financial problems, recent or pending unemployment, pending legal matters, work/school problems were significantly more frequent in males and bereavement, familial conflict, childhood trauma and sexual abuse were significantly more frequent in females who died by suicide.

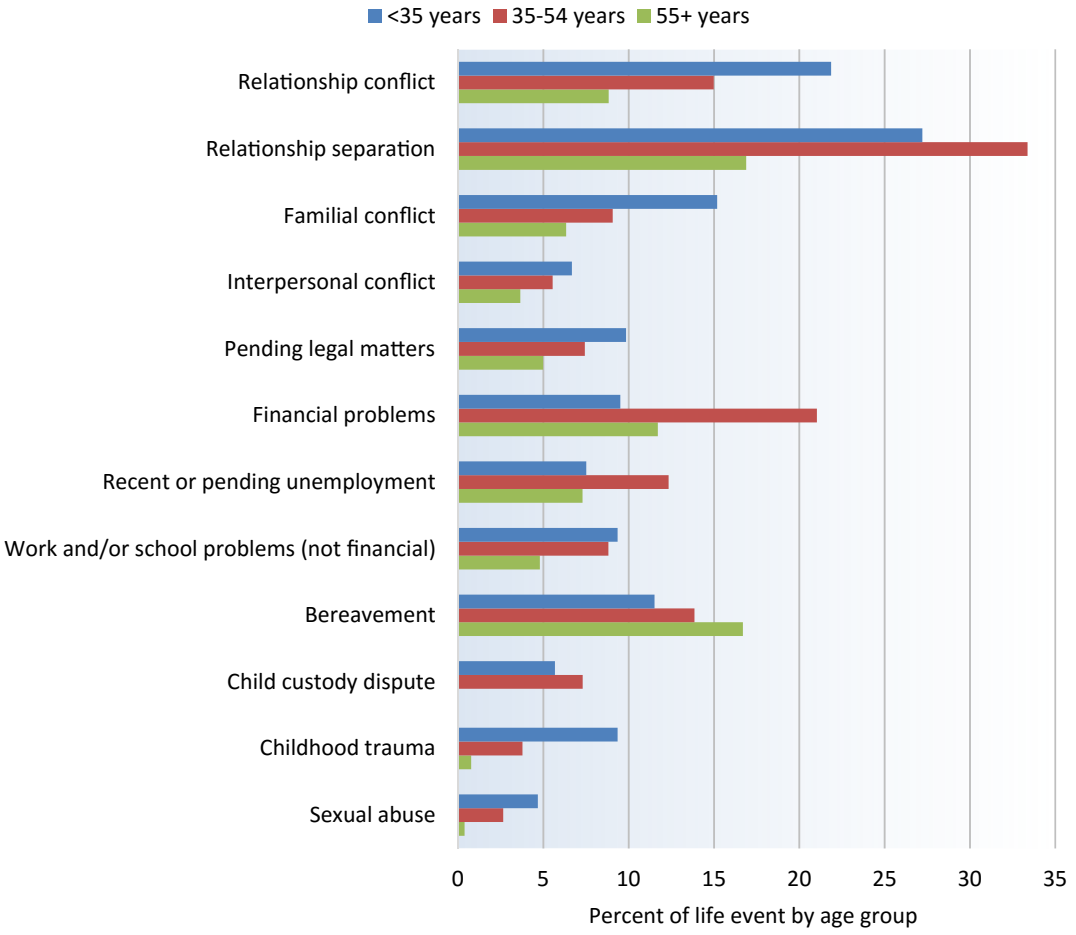
Table 6.4 Prevalence of life events in suicide cases by gender, Queensland, 2011–2013

Life event	Males		Females		Persons	
	N	%	N	%	N	%
Relationship conflict	226	15.7	70	14.7	296	15.5
Relationship separation	406	28.3	110	23.1	516	27.0
Familial conflict	136	9.5	61	12.8	197	10.3
Interpersonal conflict	79	5.5	24	5.0	103	5.4
Pending legal matters	129	9.0	15	3.1	144	7.5
Financial problems	245	17.0	20	4.2	285	14.9
Recent or pending unemployment	151	10.5	30	6.3	181	9.5
Work and/or school problems (not financial)	124	8.6	27	5.7	151	7.9
Bereavement	177	12.3	89	18.7	266	13.9
Child custody dispute	74	5.1	18	3.8	92	4.8
Childhood trauma	52	3.6	38	8.0	90	4.7
Sexual abuse	25	1.7	26	5.5	51	2.7

Figure 6.5 presents prevalence of life events by different age groups. In all age groups relationship

separation was the most commonly recorded life event, being most frequent in the age group 35–54 years (33.4%) followed by age groups <35 years (27.2%) and 55+ years (16.9%). It was followed by relationship conflict (21.9%) and familial conflict (15.2%) for age group <35 years; financial problems (21.0%) and relationship conflict (15.0%) for age group 35–54 years; and bereavement (16.7%) and financial problems (11.7%) for 55+ years. Prevalence of all life events recorded in the QSR except interpersonal conflict differed significantly by age group ($p < 0.05$).

Figure 6.5 Prevalence of life events in suicide cases by age groups, Queensland, 2011–2013



6.6 Physical health conditions

Physical illnesses can be acute or chronic; both have been shown to be linked with mental health problems and suicidal behaviours (Hawgood et al., 2004).

The QSR includes presence of a number of physical health conditions at the time of death. However, recording of physical conditions relies on the information from the Form 1, coronial investigations, post-mortem and toxicology reports, and it is likely that some conditions might be underestimated.

In 2011–2013, a physical health condition of some type was recorded in the QSR in 48.7% of cases; significantly more frequently in females than males (53.5% vs. 53.5%; $p < 0.05$). The age groups were significantly different by prevalence of any physical health condition ($p < 0.05$), being highest in the age group 55+ years (77.4%) followed by age groups 35–54 years (45.5%) and lowest in the age group <35 years (28.2%).

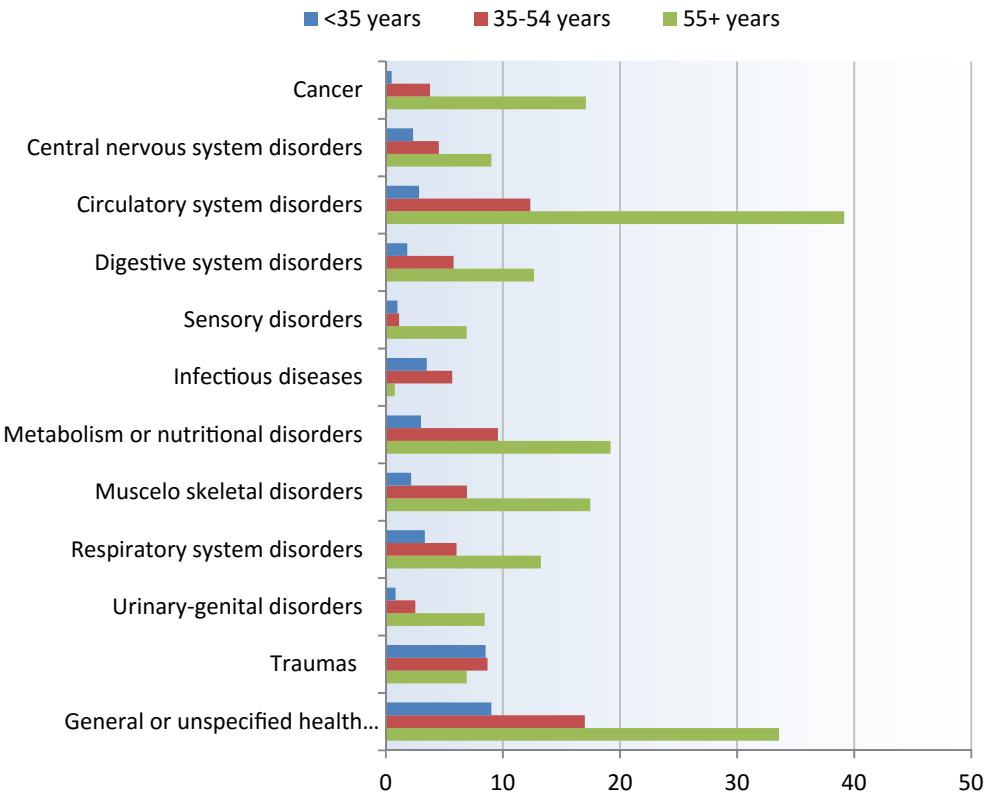
Table 6.5 presents the prevalence of physical health conditions by gender. The most frequent was general or unspecified health problems (19.0%), followed by circulatory system disorders (16.7%) and metabolism or nutritional disorders (10.1%). Digestive system disorders, metabolism or nutritional disorders, musculoskeletal disorders, respiratory system disorders, urinary-genital disorders and traumas (near time of death) were significantly more frequent in females ($p < 0.05$).

Table 6.5 Prevalence of physical health conditions in suicide cases by gender, Queensland, 2011–2013

Physical health condition	Males		Females		Persons	
	N	%	N	%	N	%
Cancer	93	6.5	29	6.1	122	6.4
Central nervous system disorders	67	4.7	30	6.3	97	5.1
Circulatory system disorders	235	16.4	84	17.6	319	16.7
Digestive system disorders	77	5.4	46	9.6	123	6.4
Sensory disorders	35	2.4	16	3.4	51	2.7
Infectious diseases	52	3.6	18	3.8	70	3.7
Metabolism or nutritional disorders	126	8.8	68	14.3	194	10.1
Musculoskeletal disorders	104	7.2	55	11.5	159	8.3
Respiratory system disorders	88	6.1	49	10.3	137	7.2
Urinary-genital disorders	44	3.1	25	5.2	69	3.6
Traumas (near time of death)	104	7.2	52	10.9	156	8.2
General or unspecified health problems	266	18.5	98	20.5	364	19.0

Figure 6.6 shows physical health conditions by age groups. In age groups <35 and 35–54 years general or unspecified health problems were the most common physical health conditions (9.0% and 17.0% respectively), followed by traumas (near time of death) (8.5%) and infectious diseases (3.5%) in age group <35 years, and by circulatory system disorders (12.3%) and metabolism or nutritional disorders (9.6%). In the age group 55+ years circulatory system disorders (39.2%) were the most common followed by general or unspecified health problems (33.6%) and metabolism or nutritional disorders (9.6%). Prevalence of all recorded physical health conditions except traumas differed significantly by age group ($p < 0.05$).

Figure 6.6 Prevalence of physical health conditions in suicide cases by age groups, Queensland, 2011–2013



Chapter 7.
Comparison of findings with past reports and their implications

Summary

- Suicide rates have fallen about 12% over the 10 year period since the first Queensland government legislative initiative on suicide prevention. Attributing the decrease to any single cause, however, is not warranted on the basis of the evidence available. It does provide some encouragement for government intervention, while at the same time indicating the modest magnitude of the changes to date.
- Hanging continues to be the most used method of suicide and among Aboriginal and Torres Strait Islander peoples, accounting for almost 90% of cases. Such a high figure alone warrants renewed efforts to understand the reasons this method is so widely adopted.
- Use of firearms as a method of suicide has fallen in Queensland since the introduction of greater restrictions on firearms in Australia in 1996. Their use as a method continues to be greater in rural and remote compared with metropolitan areas, in all likelihood due to their greater availability. Engagement with rural and remote communities that simultaneously recognises the need for firearms and the value of tighter control may be a useful strategy for suicide reduction in these communities.
- Self-poisoning as a method shows some increase, which raises issues about the sorts of drugs that should be available, from what sorts of retail outlets, and in what amounts.
- There has been an increase in the proportion of suicides in persons aged 55 years and older. Special examination of the circumstances of these suicides is warranted to help identify what measures might be adopted to lessen their frequency. There has also been an increase in the number of cases of suicide under the age of 15 years, from 6 in the previous triennium to 21 in this.
- The differential between the suicide rate in Aboriginal and Torres Strait Islander peoples and that in non-Indigenous people has increased (now two-thirds greater) due largely to an increase in suicides among younger Aboriginal and Torres Strait Islander males.
- There was no evidence to suggest a higher risk of suicide in Culturally and Linguistically Diverse populations than in the wider Queensland population. In 2011, the crude suicide rate for persons born overseas did not exceed the overall rate for Queensland or the rate for persons born in Australia.

- An association between suicide and psychiatric illness was again found, with almost half the number who suicided having a recorded psychiatric illness. However, about the same number had a physical illness, indicating that increased vigilance is warranted not just for those with psychiatric illness.
- About 30% of suicides had a previous record of a suicide attempt. More assertive follow-up of suicide attempts, which has been trialled with some success in some European centres, is suggested by this result.
- The increasing gradient in suicide rates from metropolitan to rural to remote regions found in previous reports is again noted in the present report, with the differential from remote to metropolitan being 2:1 for all persons. In the present report this differential is seen not only in males but in females as well, due to an increase in the suicide rate for rural women. This observation warrants closer examination.

This report continues the series of reports detailing the incidence and trends of suicide mortality in Queensland since the establishment of the QSR in 1990. Although some comparisons with past findings have already been made throughout the report, this chapter provides more systematic comparisons and indicates directions in which the reporting of suicide data should proceed.

7.1 Trends over time

Trends over time are important. When looked at in the context of changes occurring in the society, inferences can be drawn about the success or otherwise of intervention efforts. Table 7.1 collects together suicide rates from the triennial reports, for males, females, and all persons. Inspection of the table indicates that the high point was 1996–1998, with some decease from that period and what would appear to be an increase over the more recent triennia. This increase results from the increased suicide rate for females.

Table 7.1 Age-standardised suicide rates by gender, Queensland, 1990–2013

Triennium	Males	Females	Persons
1990–1995	24.52	6.26	15.18
1996–1998	27.53	6.66	16.92
1999–2001	24.68	6.34	15.35
2002–2004	25.01	6.40	15.47
2005–2007	21.33	6.11	13.60
2008–2010	21.39	6.70	13.89
2011–2013	21.32	6.94	14.01

A finer grain analysis of the rates is possible from Figure 3.1 and Table 3.5 presented earlier in the report that show the yearly variation in the age-standardised suicide rate, since 1990. Inspection of Figure 3.1 indicates a shallow downward trend for male suicides over the 23 year period and an absence of trend for female suicides.

Identifying changes in a series such as shown in Figure 3.1 is difficult for a number of reasons. First,

data points comprising a suicide series are not completely reliable because of factors that influence reporting, such as the difficulty of determining fatal intent, concealment for various reasons, lack of standardised certification procedures, delays in coronial processes, and timing of data compilation. Some of these (e.g., determining fatal intent, lack of standardisation) have been overcome to a great extent in the procedures introduced in recording data in the QSR (see Chapter 2), but others remain.

A second significant reason is that suicide events are part of an open system in which a number of processes can be operating simultaneously, making the determination of cause and effect impossible. For example, government action directed to reducing suicide may occur at times of economic hardship or natural events such as drought or flood that increase suicide in vulnerable groups, or in parallel with other legislative changes that are not directed to suicide but which may have an impact nonetheless (e.g., firearms 'buy back', introduction of catalytic converters on cars). Added to this, the lag time for an intervention to have effect is difficult to specify and, with it, where in a series a change might be expected to be manifest.

Third, any assessment of change depends on the base level from which the change is assessed. With fluctuations over time in suicide rates, there are high and low points and the selection of a high point as a base can produce an apparent fall in the suicide rate and conversely the selection of a low point can produce an apparent rise.

That said, setting targets for reduction in suicide, such as with the shared goal of the Queensland Suicide Prevention Action Plan, invites the monitoring of change. In Queensland, as noted in the Introduction to this report, attempts to reduce the suicide rate began in earnest in 1997. A reduction in rate might therefore be expected after that year. Inspection of Table 3.5 and Figure 3.1 indicates no fall in the average rate for the five years from 1998 on (all persons rate, 15.94 per 100,000) relative to the rate for the five years prior to 1997 (all persons, 15.56), but a 5% fall in the rate for the five years from 2002 (all persons, 14.80) and a 12% fall for the five years from 2007. A five-year block is of course arbitrary, but the observations are consistent with a time-lagged fall in the suicide rate following concerted intervention from 1997.

Attributing the fall observed specifically to government policy in one state is, however, difficult, given that there were changes in other states over this period. Working with ABS data on suicides for the decades before and after 1997, Large and Nielssen (2010) reported that the pooled suicide rate across states for males fell 6% between decades and that for females fell 5%. The fall in rates for Queensland shown in their data was, however, the second largest in the country after the falls in New South Wales. In 1999, the NSW Government released the *NSW Suicide Prevention Strategy – Suicide: We can all make a difference* which provided the first whole of government framework for suicide prevention in that state.

Although it would be reassuring to conclude that concerted efforts by governments were having an impact on suicide rates, there are other factors that must be considered. De Leo et al. (2010) pointed to considerable under-reporting in ABS suicide statistics from 2004. They compared QSR based totals with those published by ABS and found substantial discrepancies in totals, with the QSR indicating higher numbers. ABS has since changed its publication procedures for suicide data so that delays in closing cases in coroners' offices did not lead to under-reporting. These changes and the problems they sought to address may well have biased the findings of Large and Nielssen (2010) and point to the difficulties of cross-state comparisons.

It will be important to continue monitoring variations in the suicide rate, both in terms of their magnitude and sustainability, as the *Queensland Suicide Prevention Action Plan 2015–17* begins to have its full effects. The QSR is an important resource in this regard, given that standard procedures have been used for gathering data for 25 years.

7.2 Suicide methods

Data on suicide methods are significant from the perspective of suicide prevention because means restriction has been shown to be a potent method of reducing suicides (Mann et al., 2005; van der Feltz-Cornelis et al., 2011). The use of suicide methods in Queensland has changed substantially over the preceding 23 years, as the summary in Table 7.2 helps indicate. There was a substantial drop in suicide by firearms in the 1996–98 triennium, which coincides with uniform action on firearms control across the Commonwealth in 1996 (Sarre, 2015). The use of firearms as a suicide method has continued to decrease, with the lowest recorded percentage of methods used in the most recent triennium, 2011–2013.

Firearms were used less frequently by those in rural and remote areas than in the previous reporting period, but this was still a more frequently used method in those areas than in metropolitan areas, probably reflecting their greater accessibility. The need for firearms in country areas must be acknowledged but better regulation of their availability may be possible with community consultation about a package of measures directed to reducing suicides in the region. This might be included by PHNs responsible for rural and remote regions in developing suicide prevention plans.

Opportunities for regulating the other frequently used methods of suicide are less obvious. Means for hanging are widely available in the community and ways of effectively restricting availability have yet to be suggested. This is significant, particularly for suicide among Aboriginal and Torres Strait Islander people, where hanging accounts for almost 90% of suicides. Modeling may be a factor in this, with young men turning to a readily available method used by others like them in similar unhappy circumstances. Tatz (2001) pointed to the possible social and cultural significance of hanging for Aboriginal people, which may point to a way of strategizing about how the use of hanging might be reduced. Further research with Aboriginal and Torres Strait Islander communities on methods is needed.

Carbon monoxide poisoning as a method has continued to decrease in frequency as it has in the previous two triennial reports. Much has already been done to regulate carbon monoxide emissions from vehicle exhausts and this is a likely cause of the decrease in the use of carbon monoxide poisoning as a method. After an apparent decrease in frequency, poisoning as a suicide method has again increased almost reaching the levels seen in 1990–1995. The fact that the most frequent of the poisoning methods involves multiple substances makes regulation of this method more difficult. However more could be done about control one form of self-poisoning and that is with the use of non-prescription painkillers, which are widely available. The effect of greater legislative control in the United Kingdom on the packaging and retailing of paracetamol from analyses to date has been successful in reducing the number of self-poisonings using this substance (Hawton et al., 2001). In Australia, this is primarily a federal government responsibility but lobbying by state governments could raise the importance of issues such as the types of outlets in which drugs of these kinds be sold, the number of tablets that can be sold at the one time, and the types of warnings that should appear on labels.

Table 7.2 Suicide methods as a proportion of all suicides in Queensland, 1990–2013

Method	1990 –1995	1996 –1998	1999 –2001	2002 –2004	2005 –2007	2008 –2010	2011 –2013
Hanging	21.9	39.7	41.8	41.0	46.3	45.7	49.0
Carbon monoxide	16.5	18.4	20.6	16.0	10.5	7.5	5.9
Poisoning	20.4	14.8	14.3	15.9	16.7	18.6	18.4
Firearms	27.4	15.4	11.0	9.6	9.2	9.0	6.7
Other	13.8	11.7	12.2	17.5	17.3	19.2	20.1

7.3 Characteristics of people who died by suicide

The report presents a large amount of information about people who died by suicide in the period 2011–2013 and examines vulnerable groups in some detail. It needs to be constantly borne in mind in reviewing this material that the report is about characteristics of people all of whom have died by suicide. We are not entitled therefore to reason from the characteristic to the suicide. For example, to find that those who have suicided frequently have been diagnosed with mental illness does not permit the inference that mental illness leads to suicide, because we know that many people with psychiatric illness do not suicide. The same is true for all the various characteristics identified in the report. The information is best used to highlight areas where increased vigilance about suicidal behaviour is needed.

The distribution of suicides by broad age group has shown slight changes over the period of investigation. In 2011–2013, 31.3% of suicides occurred in the under 35 age group, which is on a par with that in the preceding triennium but smaller than the proportion prior to that (42.3% in 1999–2001, 38.8% in 2002–2004). This decline in proportion of suicides in younger persons is complemented by an increase in the proportion of suicides in persons aged 55 years and older (from 21.0% in 1999–2001 to 27.2% in 2011–2013). It would be of value to examine the circumstances of suicide in older age groups in more detail to determine if there are features common to these groups that may assist in preventing suicides.

Aboriginal and Torres Strait Islander people had age standardised rates of suicide in excess of those for other Queenslanders. The differential was 1.68, which is greater than that for the previous three year period (1.28), due largely to the rise in the rate for Aboriginal and Torres Strait Islander people (from 17.45 to 23.48), particularly for males. As was the case in the previous period, the majority of suicides were under the age of 35. The federal government's response (Australian Government Department of Health, 2015) to the Contributing Lives Report has identified suicide among Aboriginal and Torres Strait Islander peoples as a major priority for suicide prevention in Australia.

There were 18 suicides among persons in inpatient psychiatric care, the majority by those who had left their facility. Jumping from a high place was the most frequent means of suicide, which was the case according to the report for the previous three year period. Use of jumping has been reported elsewhere as a method for those with psychiatric illness.

The number of cases of suicide by people in custody (4) is lower for this three year period than that (10) for the previous comparable period, which may reflect increased vigilance in these circumstances. One

case was identified as an Aboriginal man, which is the same incidence as in the previous three years.

For those 15 years of age or younger, there were 21 cases of suicide, four of whom were Aboriginal and Torres Strait Islander children. The total number is an increase over the 6 cases noted in the previous report, three of whom were Aboriginal and Torres Strait Islander children. The increase would seem to warrant close attention to this age group and to the factors that may influence reporting.

The report for the present period 2011–2013 includes data not previously reported on, including people in the vulnerable groups of Culturally and Linguistically Diverse based on their country of birth as well as information on psychosocial profiles. It has proved difficult to obtain adequate data on the vulnerable groups and what is included needs to be built on in later reports.

There was no evidence of particular vulnerability for Culturally and Linguistically Diverse peoples using overseas country of birth to define this. Overall crude rates of suicide were lower for this group than the rates in the Australian-born population.

The psychosocial profile data indicated crude rates of suicide were higher in the unemployed than in the employed, consistent with data on employment status. Relationship problems and conflict were the most frequently reported life events associated with suicides for which data were provided. There were differences between males and females in terms of life events, with financial problems and unemployment noted for males and bereavement and childhood trauma and sexual abuse for females. These observations depend critically on the questions asked and the reports of next-of-kin.

For nearly 50% of those who died by suicide there was at least one psychiatric disorder recorded, with the percentage greater in females than males. Almost the same percentage had a physical health condition recorded, again with the percentage higher in females than males. The finding for physical health condition suggests that vigilance with respect to suicidal behaviour should not be limited to those diagnosed with a psychiatric condition and that suicide prevention plans need to recognise the breadth of suicide as a public health issue.

In 30% of cases people who died by suicide had a history of previous suicide attempts. The link between suicides and suicide attempts has been noted repeatedly in the literature on suicide, although it is still not a settled issue as to whether these are one or two populations. The link between the two suggests, however, that systems-wide approaches to suicide prevention that target after care for those who attempt suicide is likely to be an effective approach (*NHMRC Centre of Research Excellence in Suicide Prevention* and Black Dog Institute, 2014).

7.4 Analysis by regions

Table 7.3 shows comparisons of age-standardised suicide rates by gender for the HHS regions addressed in Chapter 4. Comparisons with previous data in this case are more difficult because previous reports used seven major regions rather than HHSs. To the extent that comparisons are possible to the same reporting periods (Table 7.3), there appear to be decreases in the rates for males for Cairns & Cape, Central Queensland and Wide Bay HHS regions. Conversely, the Mackay, Greater Western Queensland and Metro North HHS regions experienced increases in the rates for males.

For female suicides, the highest rates in 2011–2013 were observed in the Greater Western Queensland

region, which had the highest rates recorded across all periods, increasing from 3.4 per 100,000 in 2008–2010 (a decrease compared to previous reports) to 17.6 per 100,000 in 2011–2013. It should be noted that the smaller population in this region makes the suicide rate sensitive to small changes in the number of deaths. For the period 2011–2013, 18 female deaths were reported.

For all persons, the highest rates are seen in the Greater Western Queensland, Cairns & Cape, Mackay and West Moreton HHS regions. While Cairns & Cape and Greater Western Queensland have presented reliably high rates across previous reporting periods, the high rates in Mackay and West Moreton HHS regions are specific to the 2011–2013 period. Notable decreases in suicide rates were observed in the Darling Downs and Wide Bay HHS when compared to the 2008–2010 period.

Table 7.3 Age-standardised suicide rates by HHS region and gender, Queensland, 2002–2013

Gender/Region	2002–2004	2005–2007	2008–2010	2011–2013
MALES				
Cairns & Cape	35.7	33.9	29.9	26.1
Townsville	28.5	26.3	20.4	20.9
Mackay	23.5	18.4	23.7	29.3
Greater Western Queensland	32.2	37.1	32.4	35.8
Central Queensland	26.9	27.1	25.2	21.2
Wide Bay	35.0	23.4	28.9	23.8
Sunshine Coast	27.6	21.8	20.2	19.6
Metro North	22.9	16.7	16.4	19.8
Metro South	23.0	18.1	20.0	17.8
Gold Coast	17.2	19.1	21.5	19.8
West Moreton	21.4	21.4	25.4	27.5
Darling Downs	23.4	24.6	24.7	22.9
FEMALES				
Cairns & Cape	8.4	12.3	8.4	9.0
Townsville	4.1	2.0	9.3	7.6
Mackay	5.0	8.4	5.0	4.8
Greater Western Queensland	8.5	7.4	3.4	17.6
Central Queensland	7.3	6.1	7.2	6.8
Wide Bay	6.5	6.3	9.0	7.6
Sunshine Coast	7.4	6.6	5.3	6.4
Metro North	6.4	5.3	6.0	6.7
Metro South	6.3	5.5	6.7	6.0
Gold Coast	6.6	5.8	7.2	8.0
West Moreton	5.4	5.2	5.4	8.5
Darling Downs	4.7	6.5	7.5	3.2
PERSONS				
Cairns & Cape	22.0	23.1	18.9	17.0
Townsville	16.1	14.3	14.6	13.7
Mackay	14.6	13.4	14.6	17.3
Greater Western Queensland	20.8	22.8	18.1	25.8
Central Queensland	17.3	16.8	16.2	14.0
Wide Bay	20.5	14.6	18.6	15.0
Sunshine Coast	17.2	13.8	12.4	12.6
Metro North	14.3	10.8	11.1	13.1
Metro South	14.3	11.6	13.1	11.6
Gold Coast	11.7	12.4	14.1	13.4
West Moreton	13.2	13.3	15.1	17.7
Darling Downs	13.8	15.4	15.9	13.0

A comparison of suicide rates across the metropolitan, rural and remote areas over the last three periods of investigation is summarised in Table 7.4.

Unlike static administrative boundaries such as those used by the Hospital and Health Services, the remoteness index is revised with each Census to reflect the current states of accessibility and remoteness in Australia as they change with developments in regional infrastructure and industry. QSR cases are geocoded based on the relevant ARIA revision for the year of death. The rates for the 2002–2004 report are based on the 1999 index. Those for 2005–2007 and 2008–2010 utilised the 2006 index, and the 2011–2013 rates are based on the 2011 index.

Compared to the period 2008–2010, an increase in the rates for remote areas was observed in 2011–2013, for both genders. A slight increase was observed in Metropolitan areas, and for regional areas the age-standardised suicide rates decreased in 2011–2013.

Table 7.4 Suicide rates by gender and remoteness area, Queensland, 2002–2013

Gender/Remoteness	2002–2004[(a)]	2005–2007[(b)]	2008–2010[(b)]*	2011–2013[(c)]
MALES				
Metropolitan	20.4	17.3	18.6	19.4
Regional	24.2	22.4	25.5	23.3
Remote	29.1	35.3	30.7	37.7
FEMALES				
Metropolitan	6.1	5.4	6.0	6.8
Regional	5.9	5.9	7.9	6.5
Remote	7.8	8.9	8.6	14.4
PERSONS				
Metropolitan	13.1	11.3	12.1	12.9
Regional	15.1	14.2	16.6	14.9
Remote	19.1	28.8	20.1	26.8

* Revised since previous report.

a. Regional delineation based on ARIA, 1999.

b. Regional delineation based on ARIA, 2006.

c. Regional delineation based on ARIA, 2011.

7.5 Postscript

This is the sixth triennial report on suicide in Queensland based on the QSR and the seventh report based on the database since it was first originated. There have been considerable changes over those years in suicide research, in the audience for it, and in methods of communication. The *Queensland Suicide Prevention Action Plan 2015–17*, for example, has as one of its priority areas a 'stronger more accessible evidence base' and it includes reference to the QSR as an example of good practice in this regard. There is of course room for improvement and this is necessary to assist with renewed approaches to suicide prevention at the state and national levels. This section outlines some of those changes.

At several points in the report the lack of relevant data has been noted. One source of this is information missing from the Form 1 completed by police at the scene of a possible suicide or from the coroner's report. Competing priorities may well explain missing information when the main purpose of these investigations is not the compilation of suicide statistics. Background briefings of police officers and streamlining of information requests may well enhance the quality of the information that is obtained

and that is critical for the usefulness of the QSR.

Links between the QSR and other databases held in Queensland would improve the comprehensiveness of the profiles of those who suicide. This is foreshadowed in the Queensland Action Plan for Suicide Prevention in the form of the Data Sharing and Information Network. Links with QPrime, the Queensland Police Service database, would provide information about the histories of some currently in the QSR. Queensland Health has databases on patients, such as the Queensland Hospital Admitted Patient Data Collection, Queensland Perinatal Data Collection, Emergency Department Information System, and Community Integrated Mental Health Application that could provide valuable information in reviewing suicide cases. As well, there are the registers of births and deaths managed by the Registrar General, which are currently used to some extent already in compiling statistics on suicide. There are clearly issues of privacy to be negotiated in this respect, but effective use of these additional databases would strengthen the available evidence base on suicide.

A third area that is currently receiving attention is the extent to which qualitative analyses can supplement the quantitative analyses that have been the basis of the triennial reports to date. Again this issue has been foreshadowed in the Action Plan. Qualitative analyses of reports for a 12 month period have been trialled and although the procedures have been time consuming there have been some useful data forthcoming about the circumstances of suicide deaths. Algorithms to computerise the procedures in the interests of making them more efficient need to be developed and trialled against manual analysis.

One of the difficulties with the present form of report is that it is retrospective and its reference period is considerably removed (three years) from the present. All reports on suicides are necessarily retrospective but they can be more timely. Since 2011, a database (the interim QSR or iQSR) has been run in parallel with the QSR to attempt to provide more up-to-date information about suicides in Queensland. The purpose is to provide reports over periods six months rather than three years removed from the present. The limitation is that only information from the Form 1 is used rather than the full range of information available after the coroner's investigation is complete. There is thus a trade-off between the quality of the information and its timeliness. Work continues on comparisons between the QSR and the iQSR to better understand the usefulness and limitations of a more rapid system of reporting.

There is a further issue about the form in which data on suicide can be reported and to which audiences. Suicide is an important social issue of interest to a wide audience but it is a sensitive matter and one that can cause alarm, and possibly misadventure, if not treated cautiously. There are, for example, guidelines on press reporting of suicide prepared by *Mindframe*, the National Media Initiative of the federal government, that aims to encourage responsible, accurate and sensitive representation of mental illness and suicide in the Australian mass media[1]. These guidelines are in the main respected by the media in Australia (Suicide Prevention Australia, 2014). As well as public interest there are communities that have a right to know about suicide and the factors that might be affected it. This community interest can be the basis for action by HHSs and PHNs who have responsibilities for promoting mental health and reducing suicide. A framework needs to be developed that helps specify what sorts of information can be released to what sorts of audiences and in what forms, if the QSR is to continue assisting the conversation about suicide in Queensland and nationally.

1 http://www.mindframe-media.info/home/about-mindframe

APPENDIX A. Australian Suicide Rates

The following figures provide details of age-specific suicide rates from 1964–2013. Source: ABS (2016).

Figure A.1 Suicide rates by gender, 15–24 years, Australia, 1964–2013

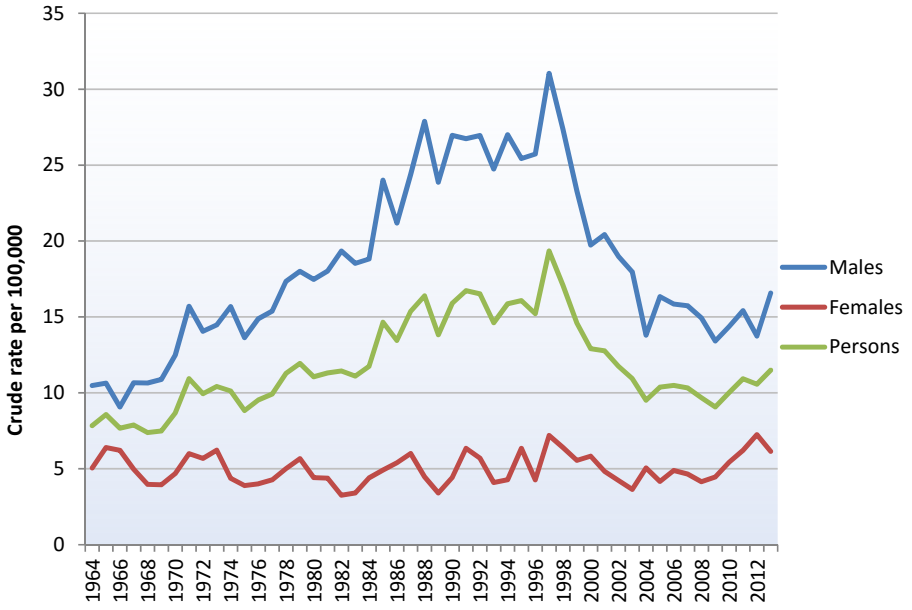


Figure A.2 Suicide rates by gender, 25–34 years, Australia, 1964–2013

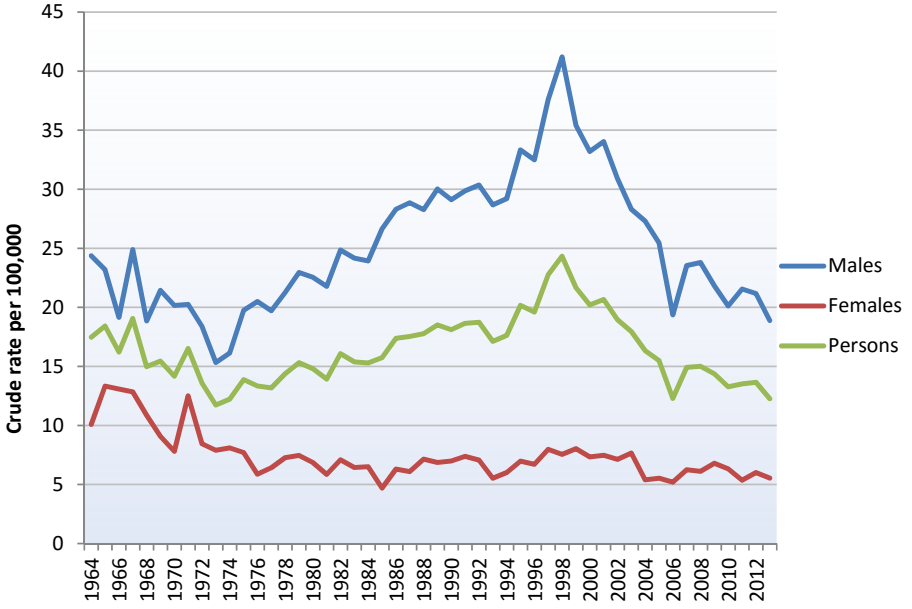


Figure A.3 Suicide rates by gender, 35–44 years, Australia, 1964–2013

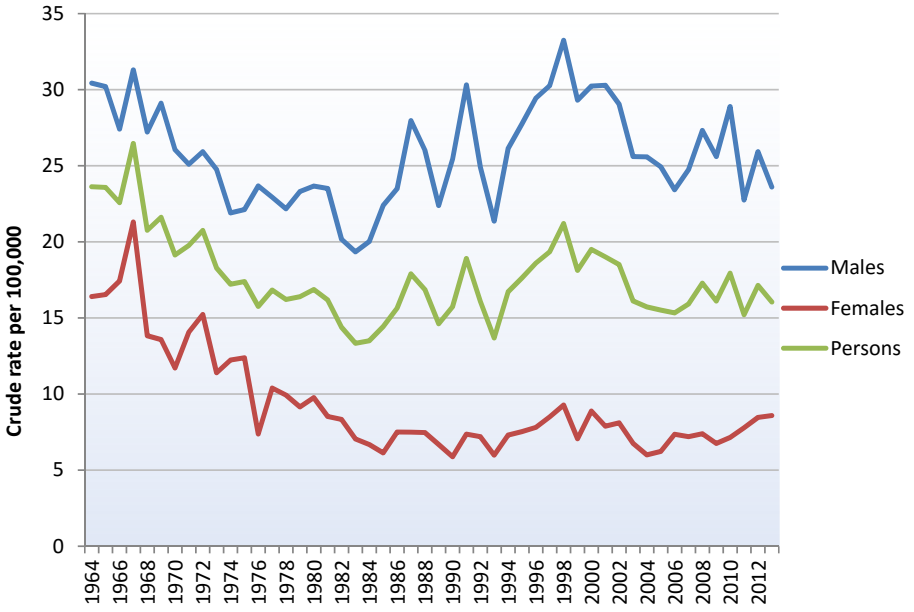


Figure A.4 Suicide rates by gender, 45–54 years, Australia, 1964–2013

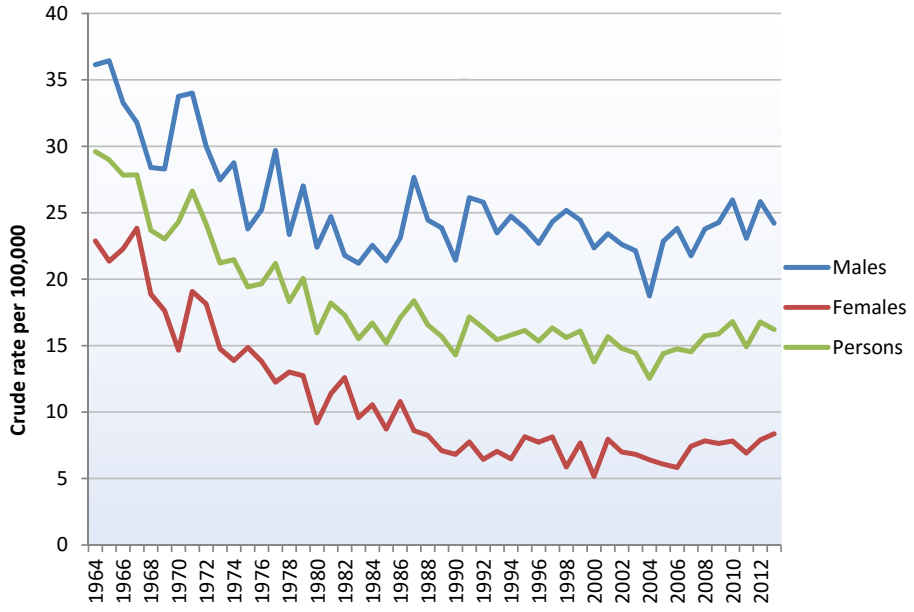
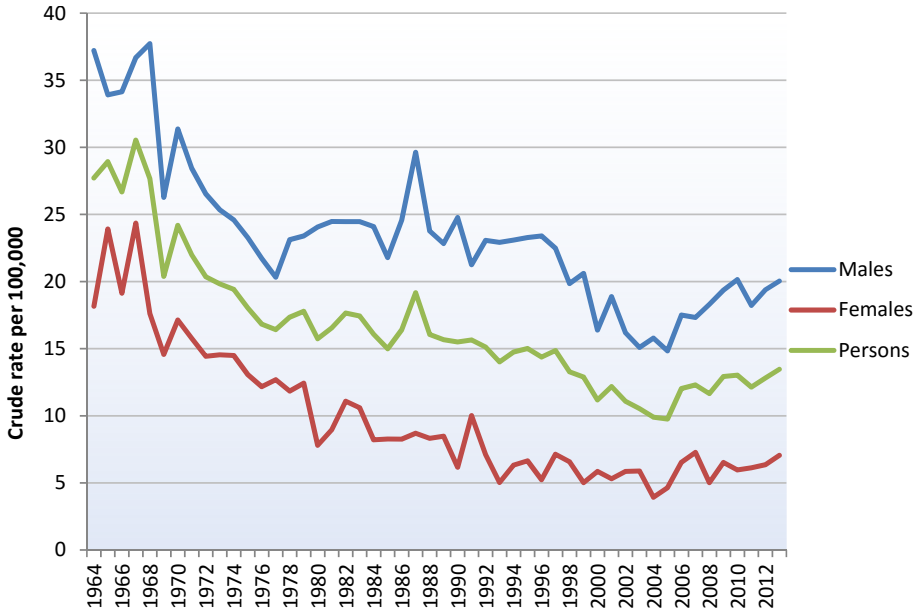


Figure A.5 Suicide rates by gender, 55–64 years, Australia, 1964–2013



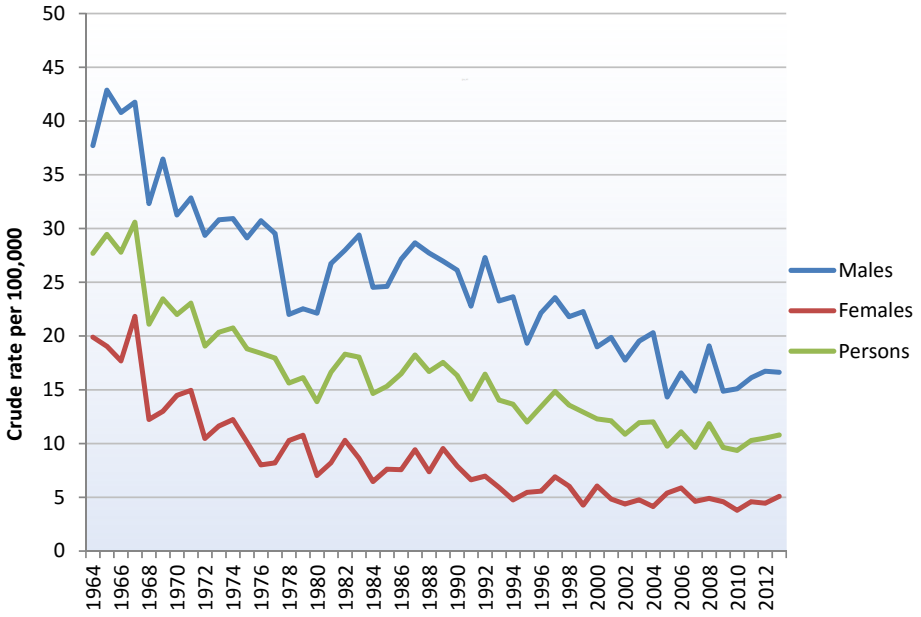
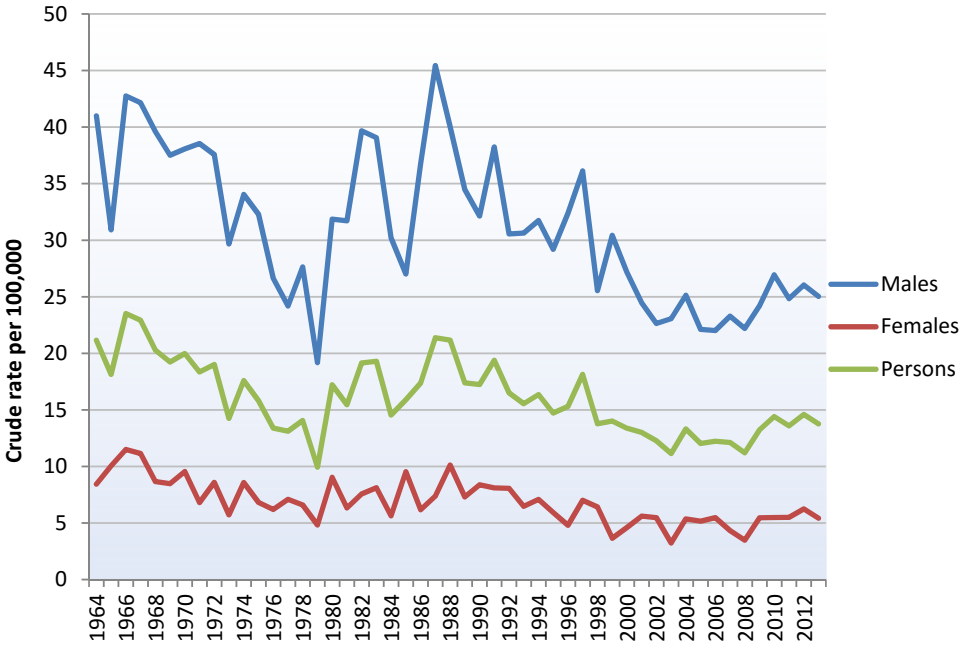


Figure A.6 Suicide rates by gender, 65–74 years, Australia, 1964–2013

Figure A.7 Suicide rates by gender, 75 years and over, Australia, 1964–2013



APPENDIX B: Classification schemes for regional statistics

The boundaries for each set of regional statistics are based on the 2011 Australian Statistical Geography Standard (ASGS; ABS, 2011). The ASGS is a hierarchical classification system, providing a common framework of statistical geography and thereby enabling the production of statistics which are comparable and can be spatially integrated. The ASGS main structure has a hierarchy of aggregate spatial units: States and Territories, Statistical Areas (1 through 4), and Mesh Blocks. At any hierarchical level, spatial units collectively cover all of Australia, without gaps or overlaps.

Each case of in the QSR is geocoded with ASGS and Remoteness Structure classifications. Cases for the 2011–2013 period were coded according to the 2011 revisions of these classifications.

Metropolitan/regional/remote

To calculate metropolitan, regional and remote suicide mortality rates, Queensland was divided using the Accessibility and Remoteness Index of Australia (ARIA). ARIA is the standard Australian Bureau of Statistics-endorsed measure of remoteness, and forms the basis for the ABS "Remoteness Structure" component of the Australian Standard Geographical Classification. It is a continuous index with values ranging from 0 (high accessibility) to 15 (high remoteness), and is based on road distance measurements from over 12,000 populated localities to the nearest service centres in five size categories, based on population size (Australian Population and Migration Research Centre, 2011).

Each area in Queensland corresponds to one of five categories of remoteness: Major Cities, Inner Regional, Outer Regional, Remote, and Very Remote, following the categorisation below:

- Major Cities: ARIA scores between 0 and 0.20
- Inner Regional: ARIA scores greater than 0.20 and less than or equal to 2.40
- Outer Regional: ARIA score greater than 2.40 and less than or equal to 5.92
- Remote: ARIA score greater than 5.92 and less than or equal to 10.53
- Very Remote: ARIA score greater than 10.53

For the purpose of this report, Metropolitan areas are those categorised as Major Cities, Regional areas are those categorised as Inner Regional and Outer Regional, and Remote areas are those categorised as Remote and Very Remote.

Geographic region

The geographic regions presented in this report (see Figure 4.8) are comprised of one or more Hospital and Health Services (HHS). The administrative boundaries of each HHS comprise an aggregate of Statistical Area 2 (SA2) regions of the ASGS.

Additional information on each HHS can be found at http://www.qld.gov.au/health/services/

Detailed information on the structure and purpose of the ASGS is available in the ABS publication *Australian Statistical Geography Standard* (ABS, 2011).

Detailed information on the structure of the classifications of the ARIA index is available from the Australian Population and Migration Research Centre at the University of Adelaide — https://www.adelaide.edu.au/apmrc/research/projects/category/about_aria.html

Mortality rates for each region were calculated using the number of identified deaths from the QSR and *Estimated Resident Population (ERP) by Region, Age and Sex* (ABS, 2014).

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