



MENTAL HEALTH IN REMOTE AND RURAL COMMUNITIES

Lara Bishop, Andy Ransom, Martin Laverty, Lauren Gale



Acknowledgments

This report has been prepared by the Royal Flying Doctor Service (RFDS) Research and Policy Unit using data and evidence from multiple sources. Data were extrapolated from service information provided by RFDS Sections and Operations and analysed by Operational Research in Health Limited and internally. The report has benefited from review by academic experts and a number of RFDS staff. We are grateful for their assistance and would like to acknowledge the external experts and internal staff.

External reference group and/or reviewers

Mr Eddie Bartnik, National Disability Insurance Agency
Dr Phillip Batterham, Centre for Mental Health Research, Australian National University
Dr Peggy Brown, National Mental Health Commission
Mr David Butt, National Rural Health Alliance
Mr Stephen Carbone, beyondblue
Mr Josh Fear, Mental Health Australia
Professor Kathy Griffiths, Centre for Mental Health Research, Australian National University
Ms Irene Krauss, Department of the Prime Minister and Cabinet
Mr David Meldrum, Mental Illness Fellowship of Australia
Mr Frank Quinlan, Mental Health Australia
Professor Michael Reid, RFDS National Board

Internal staff

Dr Kathleen Atkinson
Ms Karen Croker
Mr Trent Dean
Dr Randall Greenberg
Ms Lynne Halliday
Mr John Hannan
Mr Mal Hatcher
Mr John Kirwan
Dr Stephen Langford
Ms Vanessa Latham
Ms Lana Mitchell
Ms Margaret Kuhne
Ms Cassie Moore
Ms Allira Power
Dr Greg Sam
Mr Tony Vaughan
Dr Oscar Whitehead
Dr John Woodall

Published by
Royal Flying Doctor Service of Australia
Level 2, 10–12 Brisbane Avenue
Barton ACT 2600
Australia

ABN 74 438 059 643
Tel: (02) 6269 5500

Suggested citation: Bishop, L., Ransom, A., Lavery, M., & Gale, L. (2017). Mental health in remote and rural communities. Canberra: Royal Flying Doctor Service of Australia.

© 2017 Royal Flying Doctor Service of Australia

Commitment to Indigenous Reconciliation

The RFDS has developed a Reconciliation Action Plan (RAP),¹ which commenced in 2016. The RAP proposes, among other things, to use research and policy to improve Indigenous health outcomes. RFDS research and policy reports include Indigenous data as part of a broader effort to improve health outcomes and access to health services for Indigenous Australians as a contribution to the 'Close the Gap' campaign. This research and policy report contributes to the aims of the RAP.

Royal Flying Doctor Service Research and Policy Unit

In mid-2015, the RFDS established a new Research and Policy Unit, located in Canberra. The Unit's role is to gather evidence about, and recommend solutions to, overcoming barriers to poor health outcomes and limited health service access for patients and communities cared for by RFDS programs. The Research and Policy Unit can be contacted by phone on (02) 6269 5500 or by email at enquiries@rfd.org.au.

Notes about this report

Use of the term 'Indigenous'

The term 'Aboriginal and Torres Strait Islander peoples' is preferred in RFDS publications when referring to the separate Indigenous peoples of Australia. However, the term 'Indigenous Australians' is used interchangeably with 'Aboriginal and Torres Strait Islander peoples' in order to assist readability. The use of the term 'Indigenous' to describe Australia's Aboriginal and Torres Strait Islander peoples follows the Australian Institute of Health and Welfare's use of the term in their publication, *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples* (Australian Institute of Health and Welfare, 2015b, p. 37).

Throughout this publication, the term 'Indigenous Australians' refers to all persons who identify as being of Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander origin.

Data limitations

Data in this report come from a number of different administrative datasets and surveys, all of which have limitations that should be considered when interpreting the results. There are also deficiencies within the RFDS dataset. Indigenous status, age, and gender are missing for some cases in the RFDS dataset. However, all cases have been included in the analyses undertaken for the current report.

¹ The RFDS Reconciliation Action Plan can be viewed here: https://www.flyingdoctor.org.au/assets/files/RN013_RAP_P1_low-res.pdf.

Contents

Acknowledgments.....	2
Commitment to Indigenous Reconciliation.....	3
Royal Flying Doctor Service Research and Policy Unit.....	3
Notes about this report.....	3
Tables.....	6
Figures.....	6
Abbreviations.....	7
Foreword	9
1.0 Introduction and background.....	14
1.1 Purpose statement.....	16
2.0 Mental health, mental disorders and suicide.....	18
2.1 Mental health.....	18
2.2 Mental disorders.....	18
2.2.1 Classifying mental disorders.....	19
2.2.2 Social determinants of mental health.....	19
2.2.3 Risk factors for mental disorders.....	19
2.2.4 Treatments for mental disorders.....	20
2.2.5 Stigma and discrimination.....	20
2.3 Suicide.....	20
2.4 Global mental health.....	21
2.4.1 Mental disorders.....	21
2.4.2 Suicide.....	21
2.5 National Mental health.....	22
2.5.1 Mental disorders.....	22
2.5.1.1 Mental disorders and comorbidities.....	24
2.5.1.2 The cost of mental disorders in Australia.....	24
2.5.2 Suicide.....	25
2.5.2.1 The cost of suicide in Australia.....	25
2.6 Remote and rural mental health.....	26
2.6.1 Mental disorders.....	26
2.6.2 Suicide.....	26
2.6.3 Indigenous mental health and suicide.....	28
2.6.4 Farmer mental health and suicide.....	30
2.6.5 Younger male mental health and suicide.....	30
2.6.6. Older people, mental health, and suicide.....	31
2.7 Summary.....	31
3.0 The RFDS in remote and rural Australia.....	32
3.1 Structure of the RFDS.....	32
3.2 Services provided by the RFDS.....	32
3.2.1 Aeromedical retrievals.....	32
3.2.2 RFDS primary healthcare services in remote and rural Australia.....	32
3.2.3 Telehealth.....	34
3.2.4 Ground transport services.....	34

3.2.5 Other services.....	34
3.2.6 Mental health and SEWB services provided by the RFDS.....	34
3.2.7 Case Study—RFDS mental health and SEWB services in Central Australia.....	40
3.2.8 Case Study—RFDS mental health and SEWB services in Queensland.....	42
4.0 Aeromedical retrievals of Australians with mental disorders in remote and rural Australia.....	46
4.1 Aeromedical retrievals.....	46
4.2 RFDS tasking and retrieval process.....	47
4.2.1 The RFDS fleet.....	49
4.3 RFDS data collection and coding.....	49
4.3.1 Data analyses.....	51
4.4 Results.....	52
4.4.1 Aeromedical retrievals for mental disorders by Indigenous status.....	53
4.4.2 Types of mental disorders patients were retrieved for.....	56
4.4.3 Age-standardised and age-specific aeromedical retrieval rates.....	57
4.4.4 Demand for aeromedical retrievals.....	58
4.5 Discussion.....	60
4.6 Future opportunities—RFDS data.....	61
4.7 Summary.....	61
5.0 Recommendations to improve mental health and reduce the impacts of mental disorders and suicide in remote and rural Australia.....	64
5.1 Mental health.....	64
5.2 Suicide.....	67
5.3 Summary.....	70
6.0 Conclusion.....	71
References.....	72

Tables

Table 3.1. RFDS mental health and SEWB programs.....	36
Table 3.2. Statistical summary of changes in AUDIT, SDS and IRIS scores.....	43
Table 3.3. Community-level changes.....	45
Table 4.1. ICD-10-AM Chapter 5—Mental and behavioural disorders.....	50
Table 4.2. Demographic data for non-Indigenous and Indigenous Australians who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016.....	53
Table 5.1. Actions to improve mental health and SEWB in remote and rural Australia.....	66

Figures

Figure 2.1. Suicide rates, by remoteness area of residence, Australia, 2001–2002 to 2010–2011.....	27
Figure 3.1. RFDS primary healthcare clinics, by ASGS remoteness areas, 2014–2015.....	33
Figure 4.1. RFDS national aeromedical footprint.....	47
Figure 4.2. Gender of Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016.....	53
Figure 4.3. Gender of non-Indigenous Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder. July 2013 aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016.....	55
Figure 4.4. Gender of Indigenous Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016.....	55
Figure 4.5. Subcategory clinical diagnoses (by proportion) for patients retrieved from SA and the NT for a mental disorder, July 2013–June 2016.....	57
Figure 4.6. Age-specific aeromedical retrieval rates by the RFDS for mental and behavioural disorders, by Indigenous status, and ratio of Indigenous to non-Indigenous patients, July 2013–June 2016 (retrievals per 1,000 population).....	58
Figure 4.7. Demand for aeromedical retrievals for mental disorders by non-Indigenous Australians, July 2013–June 2016.....	59
Figure 4.8. Demand for aeromedical retrievals for mental disorders by Indigenous Australians, July 2013–June 2016.....	59
Figure 5.1. Key risk factors for suicide aligned with relevant interventions.....	68
Figure 5.2. Summary of Australia’s current suicide prevention performance.....	69

Abbreviations

AACo	Australian Agricultural Company
ABDS	Australian Burden of Disease Study
ACCHO	Aboriginal Community Controlled Health Organisation
ACCHS	Aboriginal Community Controlled Health Service
ADHD	Attention deficit hyperactivity disorder
AIHW	Australian Institute of Health and Welfare
AOD	Alcohol and drug
ACYHC	Apunipima Cape York Health Council
ASGS	Australian Statistical Geography Standard
AUDIT	Alcohol Use Disorders Identification Test
BEACH	Bettering the Evaluation and Care of Health
CEG	Community Employment Group
CFA	Country Fire Authority
CJG	Community Justice Group
CRG	Community Ranger Group
CVD	Cardiovascular disease
CWA	Country Women's Association
CYPPPs	Cape York Partnerships Parenting Programs
DAFF	Department of Agriculture and Fisheries
DSM	Diagnostic and Statistical Manual of Mental Disorders
DSS	Department of Social Security
GBD	Global Burden of Disease
GP	General practitioner
HHS	Hospital and health service
HoNOS	Health of the Nation Outcome Scale
ICD	International Statistical Classification of Diseases and Related Health Problems
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australia Modification
IHT	Inter-hospital transfer
IRIS	Indigenous Risk Impact Screen
K10	Kessler Psychological Distress Scale
MBS	Medical Benefits Schedule
MHL	Mental health literacy
MHSRRA	Mental Health Services in Rural and Remote Areas
MNS	Mental, neurological and substance use
NETS	Newborn paediatric Emergency Transport Services
NDIS	National Disability Insurance Scheme
NICE	National Institute for Health and Care Excellence
NSMHW	National Survey of Mental Health and Wellbeing
NSW	New South Wales
NT	Northern Territory
OCD	Obsessive compulsive disorder
ORH	Operational Research in Health Ltd
PCYC	Police Citizens Youth Club
PE	Primary evacuation
PHaMS	Personal Helpers and Mentors Service
PHN	Primary health network
PMC	Prime Minister and Cabinet
PTSD	Post-traumatic stress disorder
Qld	Queensland
QH	Queensland Health
QHMH	Queensland Health Mental Health
QPS	Queensland Police Service

RAP	Reconciliation Action Plan
RFDS	Royal Flying Doctor Service
SA	South Australia
SAAS	South Australia Ambulance Service
SDS	Severity Dependence Scale
SE	South Eastern
SEWB	Social and emotional wellbeing
Tas	Tasmania
UDRH	University Department of Rural Health
US	United States
VFF	Victorian Farmers Federation
Vic	Victoria
WA	Western Australia
WBC	Wellbeing Centre
WHO	World Health Organization
YLD	Years of life lost to disability
24/7	24-hour, seven-days-a-week

Foreword

Dr Peggy Brown



Over the past 30 years, I have worked as a clinician and a health administrator, and held mental health leadership and advocacy roles. My experience working across the clinical and policy environments has afforded me a deep understanding of the many challenges facing people with mental disorders. For people living in remote and rural Australia, these challenges may be compounded by a lack of availability of mental health services and professionals, as well as the vast distances they have to travel to access mental health services.

Although Australians living in remote and rural areas are impacted by mental disorders at the same rate as people living in major cities, they experience several unique barriers to receiving care, aside from poor service availability and access. These include a reluctance to seek help, concerns about stigma, high costs associated with accessing services, and cultural barriers in service access. With poorer service access, remote and rural health services are less able to intervene in response to signs of known risk factors. One possible consequence of this is that suicide rates in remote and rural Australia are significantly higher than those in major cities.

Regardless of where people live, timely and accessible mental health care is vital if we are to improve mental health and reduce suicide rates for people in the bush. The Royal Flying Doctor Service (RFDS) plays a valuable role in providing this care through their primary healthcare program, specialised mental health and social and emotional wellbeing programs, and aeromedical retrieval service.

I commend the RFDS on producing this report on the mental health of remote and rural Australians served by the RFDS, and for making their mental health data available, for the first time. I would highlight key findings in the report, that actions to improve mental health outcomes of remote and rural Australians require:

1. Stronger recognition in the Fifth National Mental Health Plan of the significant barriers and challenges, including the large geographic and travel distances, that are faced by those in remote and rural areas when seeking to access comprehensive mental health services, as well as consideration of how these can be overcome;
2. Implementation of innovative service models, including consideration of further use of RFDS infrastructure to deliver necessary, appropriate, and more comprehensive mental health and suicide prevention services, more often; and
3. Appropriate resourcing by all levels of governments, to provide more long-term funding certainty.

This report contributes new data on remote and rural mental health. I strongly encourage all levels of government to consider the findings from this report when developing policies and program initiatives to address mental health, social and emotional wellbeing, and suicide prevention for people in the bush.

A handwritten signature in black ink, appearing to be 'Peggy Brown'.

Dr Peggy Brown

Chief Executive Officer

National Mental Health Commission

Executive summary

Each year, around one in five, or 960,000, remote and rural Australians experience a mental disorder. The prevalence of mental disorders in remote and rural Australia is the same as that in major cities, making mental disorders one of the few illnesses that does not have higher prevalence rates in country Australia compared to city areas.

Yet suicide and self-harm rates are higher in remote and rural Australia than in major cities, with residents of very remote areas twice as likely to die from suicide as city residents. Farmers, young men, older people, and Aboriginal and Torres Strait Islander (Indigenous) Australians face the greatest risk of suicide.

The RFDS delivers mental health services to many remote and rural Australians experiencing mental disorders and collects data on the services it provides. The current report presents these data for the first time. When considered alongside data from other providers of mental health services, these data can be used to inform the development of evidence-based solutions to improve health outcomes for remote and rural Australians experiencing mental disorders.

A number of factors exacerbate mental health acuity in remote and rural Australia, including: poor access to primary and acute care; limited numbers of mental health services and mental health professionals; reluctance to seek help; concerns about stigma; distance and cost; and cultural barriers in service access. In combination, these factors may have a detrimental impact on the mental health of remote and rural Australians, resulting in the need for an aeromedical retrieval to receive emergency hospital treatment for a mental disorder, in the most extreme circumstances.

Several risk factors have been identified that may give rise to the onset and progression of a person's mental disorder. These risk factors comprise family history, stressful events, physical health problems, substance use, personality factors, and changes in the brain. An additional set of risk factors have been identified as heightening the risk of suicide in remote and rural areas, including: economic hardship; easier access to means of death; social isolation; less help seeking; and reduced access to support services. With poorer service access that results in people in very remote areas accessing mental health services at about one-fifth of the rate of people in major cities, remote and rural health services are less able to intervene in response to signs of known risk factors.

The mental health of Indigenous Australians living in remote and rural areas warrants particular attention. Many Indigenous Australians conceptualise mental health differently to non-Indigenous Australians—they take a holistic view of overall health, with cultural, spiritual, and social wellbeing acknowledged as integral components of overall health. The term 'social and emotional wellbeing' (SEWB) is the framework through which mental health of Indigenous Australians is often described. Indigenous Australians are 1.2 times as likely to die from mental disorders than non-Indigenous Australians, and are 1.7 times as likely to be hospitalised for mental disorders. Indigenous young people aged 12–24 years are three times as likely to be hospitalised with a mental disorder as a non-Indigenous young person of the same age.

Mental disorders are also associated with other illnesses, such as cardiovascular disease (CVD), diabetes, cancer and preventable injury. People with mental disorders also experience disproportionately higher rates of disability than people without mental disorders and these rates are even higher in remote areas of Australia.

The RFDS has provided an extensive emergency and primary health care service across remote, rural, and now metropolitan Australia, for almost 90 years. During this period, its primary care services have cared for large numbers of patients with mental disorders, and continue to do so. The RFDS also operates 13 separate and specific mental health and SEWB programs across Australia (summarised in Table i), that provide treatment services to remote and rural Australians with

mental disorders or assist in improving mental health and SEWB. All of the programs are delivered in partnership, including with other health services, community organisations, federal and state/territory governments, Indigenous organisations, schools, universities, and/or research organisations.

Table i. Mental health and SEWB services provided by the RFDS in 2016

Program name	Service model	Area serviced	Services provided
Look Over the Farm Gate	Health promotion	Rural Victoria (Vic)	Health promotion, communications and education
Unnamed at present	Drive-in drive-out/ telehealth hybrid	Far East Gippsland	Psychology, community engagement, health promotion, education
Mental Health Services in Rural and Remote Areas (MHSRRA), alcohol and other drug (AOD) project	Fly-in fly-out face-to-face primary health service. Telehealth, email and video-link in between clinics	Run out of Broken Hill RFDS base—services far west New South Wales (NSW), south-west Queensland (Qld), north-west South Australia (SA)	Individual client therapies, school-based education, community groups/activities, screening, case management, education to other health staff
MHSRRA	Drive-in drive-out, telephone consults, fly-in fly-out (Lake Nash)	Central/Alice Springs Region, Lake Nash	Primary mental healthcare
Wellbeing Centres (WBCs)	Fly-in fly-out weekly	Cape York—visits Coen, Aurukun, Hope Vale, Mossman Gorge	Mental health and SEWB
SEWB Program	Fly-in fly-out weekly	Cape York and Western Tablelands/Gulf—visits Lockhart River, Napranum, Kowanyama, Normanton, Einesleigh, Croydon, Greenvale, Georgetown and some smaller towns in the same region	Mental health and SEWB
Personal Helpers and Mentors Service (PHaMS)	Fly-in fly-out weekly	Cape York—Aurukun	Capacity building to enable independent living
Men's Shed	Fly-in fly-out weekly	Cape York—Aurukun	Community and individual resilience building, vocational skills including work for the dole
Headspace	Cairns office-based service	Cairns	Youth service for the under-25s with RFDS carrying the auspice for the Cairns office
SEWB Program	Hub and spoke model, drive-in drive-out to regional communities	Longreach and surrounding districts, Mount Isa	Mental health and SEWB
Drought Wellbeing Service	Hub and spoke model, driving to various regional communities	Run out of Townsville—visits Townsville, Hughenden, Richmond, Pentland, Charters Towers, Ravenswood and Greenvale	Mental health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and mental health literacy (MHL) building
Drought Wellbeing Service	Hub and spoke model, drive-in drive-out to regional communities	Run out of Brisbane—covers the South West Hospital and Health Service (HHS) and Darling Downs HHS regions including Charleville, Thargomindah, Augathella, Jundah, Eulo, Quilpie, Cunnamulla, St George, Roma	Mental health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and MHL building
Drought Wellbeing Service	Hub and spoke model, drive-in drive-out to regional communities	Run out of Mt Isa —visits Gregory Downes, Adels Grove, Urandangi Bouilla, Bedourie, Dajarra, Camooweal, Burketown	Mental health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and MHL building

The RFDS also provides aeromedical retrievals of patients from remote and rural areas who experience an acute episode of a mental disorder. This research and policy paper presents, for the first time, aeromedical retrieval data of mental health patients cared for by the RFDS in the period from 1 July 2013 to 30 June 2016. During this three-year period, 89,053 aeromedical retrievals were conducted—of these, 2,567 were for mental disorders.

Analysis of the 2,567 RFDS patient records for people retrieved for mental and behavioural disorders by the RFDS revealed:

- > Males (n=1,568, 61.1%) were 1.6 times as likely as females (n=998, 38.9%) to require an aeromedical retrieval for a mental disorder;
- > Retrieved patients ranged in age from less than 4 years of age to 85 years of age or older;
- > One in every two retrievals (47.8%) for a mental disorder was for a person aged 20–39 years;
- > The mean age at which patients were retrieved was 35–39 years (non-Indigenous Australians mean age 40–44 years; Indigenous Australians mean age 25–29 years);
- > Males were more likely to undergo an aeromedical retrieval than females for all age groups except 10–14 years and 60–64 years, when females were more likely to be retrieved than males of the same age group; and
- > 2.2% of retrievals for mental disorders were for children under the age of 15.

Age-specific aeromedical retrieval rates were calculated and were higher among Indigenous Australians than non-Indigenous Australians. Indigenous Australians of all age groups were between 3.5 times and 40.6 times as likely as non-Indigenous Australians to be retrieved for a mental disorder. The age-specific retrieval rate was highest in Indigenous Australians aged 35–39 years (3.25 per 1,000 population), closely followed by Indigenous Australians aged 25–29 years (2.57 per 1,000 population) and 30–34 years (2.24 per 1,000 population). Age-specific aeromedical retrieval rates for non-Indigenous Australians ranged from less than 0.01 retrievals per 1,000 population (non-Indigenous children under 10 years of age) to 0.12 retrievals per 1,000 population (non-Indigenous Australians aged 20–24 years, 30–34 years and 40–44 years).

The three main diagnoses that triggered a patient's aeromedical retrieval for a mental illness were:

1. Schizophrenic psychosis;
2. Depressive disorders; and
3. Drug psychosis.

Actions to improve mental health outcomes of remote and rural Australians require:

- > Stronger recognition in the Fifth National Mental Health Plan of the significant barriers and challenges, including the large geographic and travel distances, that are faced by those in remote and rural areas when seeking to access comprehensive mental health services, as well as consideration of how these can be overcome;
- > Implementation of innovative service models, including consideration of further use of RFDS infrastructure to deliver necessary, appropriate, and more comprehensive mental health and suicide prevention services more often; and
- > Appropriate resourcing by all levels of governments, to provide more long-term funding certainty.

Finally, mental health and SEWB programs in remote and rural Australia need to incorporate ten key components. Programs should:

1. Be provided in identified areas of need;
2. Focus on prevention and early intervention;
3. Be evidence-based and evaluated;
4. Be locally relevant, address community risk factors and include input from the community, consumers, carers and Indigenous Australians in decisions about new services;
5. Take a social determinants of health approach and be holistic;
6. Be implemented in collaboration with other organisations delivering mental health and SEWB services;
7. Be implemented in collaboration with consumers, families and carers;
8. Be culturally appropriate and safe;
9. Be provided with a comprehensive primary health approach; and
10. Facilitate access by all members of the local community.

1.0 Introduction and background

The Royal Flying Doctor Service (RFDS) plays an important role in the provision of services to remote and rural² Australians experiencing mental disorders.³ The RFDS collects data on the mental health services it provides, and the demographics of the population who receive these services.

The current report presents these data for the first time. The addition of RFDS data to other national data will provide a more accurate and complete picture of the mental health needs of remote and rural Australians. This knowledge will enable governments, policymakers and service delivery organisations to better target early intervention and prevention services. Along with other data from remote and rural Australia, RFDS service data can be used to underpin the development of evidence-based solutions to improve health outcomes for remote and rural Australians experiencing mental disorders.

The RFDS delivers mental health and social and emotional wellbeing (SEWB) services through its primary healthcare program, specialist mental health programs, and emergency aeromedical retrieval service. The RFDS is committed to providing evidence-based and effective mental health care and programs to facilitate good mental health for all Australians living in remote and rural areas served by the RFDS. Good mental health is important for everyone, and while people living in country Australia are often characterised as being naturally resilient, like all Australians, they can experience tough times (Royal Flying Doctor Service, 2016b).

Mental health describes a positive state of wellbeing that includes feeling good and functioning well (mindhealthconnect, 2014; World Health Organization, 2014a). When a person has high levels of mental health, they are able to cope with normal life stresses, work productively, contribute to their community and realise their potential (mindhealthconnect, 2014; World Health Organization, 2014a). High levels of mental health are associated with confidence and self-esteem, increased learning, creativity, improved physical health and life expectancy, and enable people to enjoy and appreciate other people, day-to-day life and their environment (beyondblue, 2016; Government of Western Australia, 2010).

Conversely, lower levels of mental health can cause distress and may affect a person's thinking, mood, and behaviour (beyondblue, 2016). This can lead to adverse impacts on day-to-day functioning, relationships, and physical health, and is a risk factor for premature death (beyondblue, 2016). A person with a clinically diagnosable condition related to their mental health is said to be experiencing a mental disorder, mental illness or mental or behavioural disorder⁴—these terms are often used interchangeably (Slade, Johnston, Teesson, Whiteford, Burgess, Pirkis, & Saw, 2009).

Each year, one in five (20%) Australians aged 16–85 years experiences a mental disorder, and almost half (45%) of all Australians will experience a mental disorder at some point during their lifetime (Australian Bureau of Statistics, 2008). Having a mental disorder is also a risk factor for suicide,⁵ which is the main cause of premature death among people with a mental disorder (Australian Bureau of Statistics, 2008).

² The term 'remote and rural' is used to encompass all areas outside Australia's major cities. This includes areas classified as inner regional (RA2), outer regional (RA3), remote (RA4) and very remote (RA5) under the Australian Statistical Geography Standard (ASGS). For more information on how the RFDS defines remote and rural Australia, go to <https://www.flyingdoctor.org.au/what-we-do/research/defining-rural-remote/>.

³ Diseases and injuries are classified under one of 22 chapter headings in the *International Statistical Classification of Diseases and Related Health Problems* (ICD). 'Mental and behavioural disorders' refers to the disorders described in Chapter V of the ICD.

⁴ The terms 'mental disorder,' 'mental illness' and 'mental and behavioural disorder' are used interchangeably throughout this report.

⁵ Suicide refers to "the act of deliberately killing oneself"; suicide attempt is used to mean any "non-fatal suicidal behaviour" and refers to intentional self-inflicted poisoning, injury or self-harm which may or may not have a fatal intent or outcome (World Health Organization, 2014b, p. 12). The terms suicide and intentional self-harm are used interchangeably throughout this report.

The evidence suggests that the prevalence of mental disorders in remote and rural Australia is similar to that in major cities (Australian Bureau of Statistics, 2008). Around 960,000 people in remote and rural Australia experience a mental disorder each year (Garvan Research Foundation, 2015). Although people living in rural areas score better on indicators for happiness (Australian Unity & Deakin University, 2015), and report higher levels of civic participation, social cohesion, social capital, volunteering and informal support from friends, neighbours and the community (National Rural Health Alliance Inc, 2016), they experience unique circumstances that may impact on their health and wellbeing, including, for example, flood, fire, drought and economic variability, and these increase with increasing remoteness (Garvan Research Foundation, 2015).

While the prevalence of mental disorders is similar throughout Australia, rates of suicide and self-harm are higher in remote and rural areas, and increase with increasing remoteness (Harrison & Henley, 2014). Farmers, young men, older people, and Aboriginal and Torres Strait Islander (Indigenous) Australians in remote areas are at greatest risk of completing suicide (Arnautovska, McPhedran, & De Leo, 2015; Harrison & Henley, 2014). In 2010–2011, residents in very remote areas were almost twice as likely as those in major cities to die from suicide (Harrison & Henley, 2014). The increasing rates of suicide with remoteness suggest that there are significant mental health issues that need to be addressed in remote and rural Australia (National Rural Health Alliance Inc, 2016).

There are several factors that may exacerbate mental health issues and contribute to higher suicide rates in remote and rural Australia, including, for example: poor availability of, and access to, primary healthcare and hospital services; limited supply of specialist professionals and mental health services, including fewer psychiatrists, psychologists and mental health nurses per head of population; a reluctance to seek help for mental disorders; concerns about stigma; distance and cost associated with travel to access services; perceived relative importance of other events, such as harvest time; and cultural barriers (Garvan Research Foundation, 2015; National Rural Health Alliance Inc, 2016; Rural Doctors Association of Australia, 2016). The National Mental Health Commission identified that,

“at a population level mental illness disproportionately affects those who already experience some level of disadvantage and who are often those with the least access to mental health support. Those living in rural, regional and remote communities have lower access to support for health problems compared with metropolitan areas” (National Mental Health Commission, 2014b, p. 7).

It is clear that timely and accessible health care is crucial for remote and rural Australians experiencing mental disorders. This includes the provision and delivery of appropriate prevention and early intervention services, primary healthcare services and specialist mental health services, including those delivered by organisations such as the RFDS. The RFDS emergency aeromedical retrieval service is also important in facilitating access to mental health services. When a person living in remote and rural Australia experiences an acute mental health crisis, they may require emergency treatment in a tertiary hospital. Where road transportation is not appropriate or possible, other methods of transporting a patient experiencing a mental disorder may be required. In these cases, the RFDS fixed-wing, long-distance aeromedical retrieval service may be tasked with transporting a patient to a major tertiary hospital to receive definitive care⁶ for their mental or behavioural disorder (Margolis & Ypinazar, 2009). Given its role as a provider of primary, specialist and emergency mental health services in parts of remote and rural Australia, the RFDS has firsthand experience of the impacts of mental disorders on remote and rural Australians.

Accordingly, the RFDS produced this research and policy paper to describe the impact of mental disorders on remote and rural Australians that receive services from the RFDS. RFDS aeromedical retrieval data around mental disorders is presented for the first time in the current research and policy paper. The paper presents both quantitative data about remote and rural

⁶ Definitive care: care that is provided in a medical facility equipped to handle a patient with a serious illness or injury (<https://www.flyingdoctor.org.au/nswact/our-services/>).

Australians who are transported by the RFDS to receive medical care in a tertiary hospital for a mental disorder, and descriptive and quantitative data around the other mental health services provided by the RFDS. It presents key statistics around international, national and remote and rural mental health and suicide. It considers options to address mental disorders, and provides the platform for discussions between service delivery organisations, researchers, policymakers, corporate and private sectors, and philanthropic organisations, to identify collaborative and innovative approaches to improving the health status of remote and rural Australians experiencing mental disorders.

To achieve this, the research and policy paper comprises six chapters. The current chapter introduces the report and describes its purpose. Chapter two describes the concepts of mental health, mental disorders, and suicide. It presents previously published international, national, and remote and rural mental health and suicide data. Chapter three briefly outlines the role of the RFDS in remote and rural Australia and describes the breadth of healthcare services it provides. It also details the mental health services provided by the RFDS through its primary healthcare platform and specific mental health programs. Chapter four presents detailed RFDS aeromedical retrieval data for remote and rural Australians transported to a tertiary hospital to receive medical care for a mental disorder, including data around the number of patients transported, their gender, Indigenous status, age and the state from which they were transported. Chapter five outlines best practice principles that underpin effective mental health service delivery and provides examples of the types of services that could be implemented in remote and rural Australia to improve mental health outcomes. Chapter six concludes the report.

1.1 Purpose statement

The RFDS provides health care, such as aeromedical retrievals, primary healthcare services, mental health services, telehealth,⁷ oral health services, and medical chests to around 300,000 Australians annually (Royal Flying Doctor Service of Australia, 2016a). Clinical data around these services are routinely collected by the RFDS, but until recently, have not been publicly reported.

In mid-2015, the RFDS established a Research and Policy Unit, whose role is to gather evidence about, and recommend solutions to, overcoming barriers to poor health outcomes and limited health service access for patients and communities cared for by RFDS programs. The Unit is committed to giving voice to, and responding to, health outcome and clinical service needs of country Australians. An important method of communicating our findings is through the development and dissemination of research and policy reports, informed by RFDS clinical data, and other sourced evidence. The current research paper contributes to these aims by providing, for the first time, a consolidated description of the different ways mental health services are delivered by the RFDS and presenting RFDS service data around aeromedical retrievals for mental disorders, also for the first time.

Reporting RFDS mental health aeromedical retrieval service data confers an additional benefit of providing a more comprehensive and complete picture of the mental health of remote and rural Australians. This data, along with other national data, can be used to inform the implementation of appropriate mental health services in areas served by the RFDS.

Although the outcomes for remote and rural Australians who arrive at hospital via an aeromedical retrieval are captured in national hospital statistics, not all components of care are captured in national data. For example, the number of RFDS patients transported via an aeromedical retrieval for mental disorders, and patient demographic data, have not previously been reported. Consequently, the data presented in the current report will enable governments and policymakers to facilitate the development of evidence-based solutions to improving health outcomes for remote and rural Australians experiencing a mental disorder.

⁷ The term telehealth refers to telephone consultations between RFDS clinicians and other clinicians, first aiders or patients.

RFDS research and policy reports also include Indigenous data as part of a broader effort to improve health outcomes and access to health services for Indigenous Australians as a contribution to the 'Close the Gap' campaign. The RFDS formalised this commitment through the development and implementation of its Reconciliation Action Plan (RAP),⁸ which commenced in 2016. Given that around one-third of face-to-face RFDS primary healthcare services, and more than one-quarter of aeromedical retrievals, are to Indigenous Australians, this is vital (The Centre for International Economics, 2015).

The RFDS has a mature dataset around aeromedical retrievals for mental and behavioural disorders and these quantitative data underpin the current report. Quantitative data around mental health services delivered through the RFDS's primary healthcare platform are not currently consistent across all of the remote and rural areas serviced by the RFDS. Consequently, comprehensive quantitative primary healthcare data are not presented in the current report. However, descriptive information around primary healthcare services and quantitative and descriptive data around specific mental health programs delivered by the RFDS are presented. A future report will present quantitative data around RFDS primary healthcare services delivered to remote and rural Australians.

The current paper was also developed for internal use, including to: facilitate better targeting of the RFDS primary healthcare programs; facilitate service planning for future mental health programs to ensure these are delivered in areas of greatest need; identify areas where the RFDS could implement targeted preventative strategies to reduce the impacts of mental disorders and suicide; identify regions in remote and rural Australia where early intervention programs could be implemented by the RFDS, or by the RFDS in partnership with other organisations serving these areas; review aeromedical retrieval data to identify where services are being delivered in accordance with best practice, where there are any gaps in service provision, and what, if any, improvements in service provision should be implemented; and identify areas for improvement in the reporting and collection of mental health service data.

Finally, the research paper will serve as a platform for creating new, and strengthening existing, partnerships between the RFDS, Indigenous health organisations, such as the Aboriginal Community Controlled Health Organisations (ACCHOs), and other organisations delivering mental healthcare to Australians in remote and rural Australia.

⁸ The RFDS Reconciliation Action Plan can be viewed here: https://www.flyingdoctor.org.au/assets/files/RN013_RAP_P1_low-res.pdf.

2.0 Mental health, mental disorders and suicide

2.1 Mental health

Mental health describes a positive state of wellbeing that includes feeling good and functioning well (mindhealthconnect, 2014; World Health Organization, 2014a).

The World Health Organization defines mental health as:

“a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community ... [Mental health is] related to the promotion of well-being, the prevention of mental disorders, and the treatment and rehabilitation of people affected by mental disorders” (World Health Organization, 2014a).

Mental health is about being cognitively, emotionally and socially healthy (beyondblue, 2016). People with high levels of mental health are able to realise their abilities, cope with the normal stresses of life, work productively and fruitfully, and better contribute to the community (World Health Organization, 2014a).

Lower levels of mental health can cause distress and may affect a person’s thinking, mood, and behaviour (beyondblue, 2016). This can lead to adverse impacts on day-to-day functioning, relationships, and physical health, and is a risk factor for premature death (beyondblue, 2016).

Indigenous Australians conceptualise and define mental health and illness differently to non-Indigenous Australians (Balaratnasingam, Anderson, Janca, & Lee, 2015). Indigenous Australians take a holistic view of life and health, with cultural, spiritual and social wellbeing being integral to their health (Australian Institute of Health and Welfare & Australian Institute of Family Studies, 2013). The term ‘social and emotional wellbeing’ (SEWB) is preferred by Indigenous Australians and is synonymous with mental health and wellbeing (Australian Institute of Health and Welfare & Australian Institute of Family Studies, 2013). Specifically, SEWB describes

“a positive state of wellbeing in which the individual can cope with the normal stress of life and reach his or her potential in work and community life in the context of family, community, culture and broader society” (Department of Health and Ageing, 2004, p. 3).

2.2 Mental disorders

When an individual has a clinically diagnosable disorder that significantly interferes with their cognitive, emotional or social abilities, they are said to have a mental illness, mental or behavioural disorder, or a mental disorder—these terms are often used interchangeably (Slade et al., 2009). Mental illness refers to a spectrum of disorders that vary in their severity and duration (Australian Institute of Health and Welfare, 2016e). They may be episodic in nature, or chronic and long-term (Australian Institute of Health and Welfare, 2016b).

2.2.1 Classifying mental disorders

Mental disorders are classified using two principal resources—the Diagnostic and Statistical Manual of Mental Disorders (DSM) from the American Psychiatry Association (latest version DSM-5)—and the *International Statistical Classification of Diseases and Related Health Problems* or ICD maintained by the World Health Organization (WHO) (latest version ICD-10) (Victoria Institute of Strategic Economic Studies, 2016; World Health Organization, 1994). RFDS data presented in the current paper were classified using the ICD-10-Australian Modification (ICD-10-AM), which is further described in Chapter Four.

2.2.2 Social determinants of mental health

A range of social determinants are associated with mental disorders, including:

- > Demographic factors such as age—prevalence rates of the most common mental disorders are highest in the early adult years, gender—women have higher rates of anxiety and depression than men, and ethnicity;
- > Socioeconomic status such as low income, unemployment, income inequality, low education, low social support;
- > Neighbourhood factors such as inadequate housing, over-crowding, neighbourhood violence;
- > Environmental events such as natural disasters, war, conflict, climate change, and migration;
- > Social change associated with changes in income, urbanisation, and environmental degradation; and
- > For Indigenous Australians, day-to-day and systemic racism and discrimination, disempowerment, cultural stresses, and inhibited access to country (Australian Health Ministers, 2009; Australian Institute of Health and Welfare, 2016e; beyondblue, 2015; Dudgeon, Calma, & Holland, 2015; Patel, Chisholm, Parikh, Charlson, Degenhardt, Dua, Ferrari, Hyman, Laxminarayan, Levin, Lund, Medina Mora, Petersen, Scott, Shidhaye, Vijayakumar, Thornicroft, & Whiteford, 2016, p. 1673).

The social determinants of health demonstrate a cyclical pattern—while many of the social determinants are risk factors for mental disorders (social causation pathway), having a mental disorder can also increase the likelihood of being impacted by the social determinants (social drift pathway) (Patel et al., 2016).

2.2.3 Risk factors for mental disorders

In addition to the social determinants of health, there are several other factors that may contribute to the development of mental disorders. In general, mental disorders do not result from a single event, but are likely the result of a number of events as well as longer-term or personal factors (beyondblue, 2015). beyondblue (2015) describes a number of risk factors for mental disorders, including:

- > A family history of mental disorders;
- > Ongoing stressful events—such as abuse or trauma, job stress, pregnancy and birth, death or loss of a loved one etc.;
- > Physical health problems—continuing physical health problems like asthma, diabetes or heart disease can trigger or complicate the management of a mental disorder;
- > Substance use—heavy or long-term use of substances such as alcohol, cannabis, amphetamines or sedatives;
- > Personality factors—for example, people who are perfectionists, like to be in control, or lack self-esteem; and
- > Changes in the brain—leading to faulty mood regulation.

It is important to note that not all people who have risk factors for mental disorders go on to develop a mental disorder (beyondblue, 2015). Additionally, it is not always possible to identify the cause of a mental disorder (beyondblue, 2015).

2.2.4 Treatments for mental disorders

It is beyond the scope of the current paper to list treatments for mental disorders. However, there are evidence-based resources that describe the range of effective psychological, medical, complementary and lifestyle interventions that may be employed by people experiencing mental disorders. For example, beyondblue, in collaboration with a number of researchers, has published *A guide to what works for depression* (Jorm, Allen, Morgan, Ryan, & Purcell, 2013) and *A guide to what works for anxiety* (Reavley, Allen, Jorm, Morgan, Ryan, & Purcell, 2013). Other examples of evidence-based resources include the National Institute for Health and Care Excellence (NICE) guidelines on *Psychosis and schizophrenia in adults: prevention and management* (National Institute for Health and Care Excellence, 2014).

These resources comprehensively detail treatments and rate their effectiveness based on clinical evidence.

2.2.5 Stigma and discrimination

Mental disorders not only impact individuals, but may impact families and society as a whole (Australian Institute of Health and Welfare, 2016e). People with mental disorders may experience problems such as isolation, discrimination and stigma (Australian Institute of Health and Welfare, 2016e). Stigma against seeking help for suicidal behaviour and mental disorders continues to exist and can be one of the greatest barriers to receiving appropriate help or treatment (World Health Organization, 2014b).

“Stigma can also discourage the friends and families of vulnerable people from providing them with the support they might need or even from acknowledging their situation. Stigma plays a key role in the resistance to change and implementation of suicide prevention responses” (World Health Organization, 2014b, p. 32).

2.3 Suicide

Mental disorders have also been linked to suicide (World Health Organization, 2014b). Suicide is a major public health issue in Australia and overseas (Cheung, Spittal, Pirkis, & Yip, 2012; Department of Health and Ageing, 2008) with more years of potential life lost to suicide than any other cause of death (ConNetica, 2016). Significantly, a prior suicide attempt is the single most important risk factor for suicide in the general population (World Health Organization, 2014b).

People of all ages and from all backgrounds take their own life (Department of Health and Ageing, 2008). Despite ongoing research into suicide and suicide prevention, it is still not possible

“to predict reliably whether a person is likely to take their own life; or to be sure which interventions are the most effective to prevent people from taking their own life. For some, suicide may be an impulsive and irrational act. For others it may be a carefully considered choice—particularly where the person believes that his or her death will benefit others. Some people take their own life or harm themselves apparently without warning. Some give an indication of suicidal intent, especially to friends and loved ones and to professionals” (Department of Health and Ageing, 2008, p. 14).

Suicidal behaviour is a complex phenomenon, most likely influenced by multiple interacting factors, including psychological, personal, social, cultural, biological and environmental factors (World Health Organization, 2014b). For example, suicide may result from a

“complex mix of adverse life events, social and geographical isolation, cultural and family background, socio-economic disadvantage, genetic makeup, mental and physical health, the extent of support of family and friends, and the ability of a person to manage life events and bounce back from adversity” (Department of Health and Ageing, 2008, p. 10).

Although suicide can be a direct result of a mental disorder, many people who experience a mental disorder do not have suicidal thoughts or behaviours. Similarly, not everyone who completes suicide has a mental disorder (Department of Health and Ageing, 2008).

2.4 Global mental health

2.4.1 Mental disorders

Mental disorders are highly prevalent throughout the world. Globally, around 350 million people are affected by depression, which is more prevalent amongst females than males (World Health Organization, 2016c). Between 1990 and 2013, the number of people suffering from depression and/or anxiety increased by nearly 50%, from 416 million to 615 million (World Health Organization, 2016b). Approximately 60 million people throughout the world are affected by bipolar disorder and 21 million people are affected by schizophrenia (World Health Organization, 2016c).

Results from the Global Burden of Disease Study 2010 (GBD 2010), demonstrated that mental, neurological and substance use (MNS) disorders⁹ contributed to a significant proportion of disease burden in high, middle and low income countries (Whiteford, Ferrari, Degenhardt, Feigin, & Vos, 2016). According to GBD 2010, mental and substance use disorders were one of the leading causes of disease burden and were responsible for 7.4% of global disability-adjusted life years (DALYs)¹⁰ and 22.9% of global years of life lost to disability (YLDs) (Whiteford et al., 2016). In GBD 2010, mental and substance use disorders were the fifth leading cause of DALYs and the leading cause of YLDs (Whiteford, Degenhardt, Rehm, Baxter, Ferrari, Erskine, Charlson, Norman, Flaxman, Johns, Burstein, Murray, & Vos, 2013). Between 1990 and 2010 the burden of MNS disorders increased by 41%, and now accounts for one in every 10 lost years of health globally (Patel et al., 2016).

A recent global return on investment analysis quantified the economic and health benefits that would result from scaling up treatments and interventions for depression and anxiety in 36 countries between 2016 and 2030 (Chisholm, Sweeny, Sheehan, Rasmussen, Smit, Cuijpers, & Saxena, 2016). The analysis suggests that the investment needed to scale up effective treatment coverage for depression and anxiety disorders would be substantial, but that the returns on investment would also be substantial, with benefit to cost ratios of 3.3–5.7 regarding the economic and health benefits (Chisholm et al., 2016). Specifically, the researchers estimated that every United States (US)\$1 invested in scaling up treatments for anxiety and depression would yield a return of US\$4 in economic and health benefits, such as better health and ability to work (Chisholm et al., 2016).

2.4.2 Suicide

Globally, more than 800,000 people die by suicide each year, equivalent to one person every 40 seconds (World Health Organization, 2014b).

The global age-standardised suicide rate for 2012 was 11.4 deaths per 100,000 people—15.0 for males and 8.0 for females (World Health Organization, 2014b). However, suicide rates vary between and within countries, with higher rates among low and middle income countries and among those who are minorities or experience discrimination (World Health Organization, 2014b).

People aged over 70 and young people are disproportionately impacted by suicide, which is the second leading cause of death for those aged between 15 and 29 years (World Health Organization, 2014b). Throughout the world, suicides account for 50% of all violent deaths in males and 71% in females (World Health Organization, 2014b). The most common methods of suicide include hanging, firearms and the ingestion of pesticide, however the choice of method often varies according to population group (World Health Organization, 2014b).

For every suicide, many more suicide attempts are made (World Health Organization, 2014b). For example, for every suicide in the United States of America, 25 people attempt suicide (American Foundation for Suicide Prevention, 2016) and for every suicide in Australia, 20 people attempt suicide with females disproportionately represented in suicide attempts (Australian Bureau of Statistics, 2008).

⁹ MNS disorders are a “heterogeneous range of disorders that owe their origin to a complex array of genetic, biological, psychological, and social factors” (Patel et al., 2016, p. 1672). All MNS disorders owe their symptoms and impairments to some degree of brain dysfunction (Patel et al., 2016).

¹⁰ The DALY is a health metric that expresses years of life lost (YLL) to premature death and years lived with a disability (YLD) of known severity and duration (Murray & Lopez 1996). One DALY represents one lost year of healthy life (Murray & Lopez 1996).

2.5 National Mental health

Mental health has been identified as one of Australia's nine national health priority areas because it contributes significantly to the burden of illness and injury in the Australian community (Australian Institute of Health and Welfare, 2016g) and is a "growing challenge for Australia" (Medibank Private Limited & Nous Group, 2013, p. 4).

In April 1992, Australian governments endorsed a national mental health strategy "to improve the lives of people with a mental illness" (Department of Health, 2014). The strategy has been reaffirmed by the health ministers several times since 1992 (Department of Health, 2014). Since then, four national mental health plans have been developed. The Fourth National Mental Health Plan (Australian Health Ministers, 2009), which was released in November 2009, expired in 2014. A draft Fifth National Mental Health Plan has been developed and the Australian Government is currently seeking feedback this plan.

In addition to an updated mental health plan, there have been, and continue to be, a number of external reforms in mental health, including whole of system reforms as well as those targeted at specific levels of severity of illness (Medibank Private Limited & Nous Group, 2013). These include, for example, the implementation of the National Disability Insurance Scheme (NDIS), the establishment of Primary Health Networks (PHNs), and the associated regional commissioning of mental health services.

The NDIS is a national system of support focused on the needs and choices of people with disability, including mental disorders (NSW Department of Health, 2015). The NDIS uses the term "psychosocial disability" to describe the disabilities that may arise from mental disorders or mental health issues (National Disability Insurance Scheme, 2016). The NDIS provides flexible and individualised support for eligible people with psychosocial disability, including disability support funding, to enable them to purchase the services they need (NSW Department of Health, 2015). The National Disability Insurance Agency implements the NDIS and is responsible for assessing eligibility and working with participants to develop support plans to meet their needs (NSW Department of Health, 2015). National roll-out of the NDIS commenced in 2016.

The implementation of the NDIS will impact on a range of federally funded, mental health-related, disability programs for people in all remoteness areas. For example, the Personal Helpers and Mentors Service (PHaMS), which provides practical assistance for people aged 16 years and over, whose lives are severely affected by their mental illness, by helping them overcome social isolation and increase their connections to the community, is transitioning to the NDIS (Department of Social Services, 2016). To participate in PHaMS under the NDIS, people with mental disorders will need to meet the eligibility criteria for the NDIS (Department of Social Services, 2016).

In 2015, the Australian Government established 31 PHNs, which are independent organisations closely aligned with state and territory local health networks or their equivalent (Booth, Hill, Moore, Dalla, Moore, & Messenger, 2016). Mental health was identified as one of six priorities for the PHNs, underscoring its importance for all Australians (Department of Health, 2015). The PHNs replaced 61 Medicare Locals "to reduce fragmentation of care by integrating and coordinating health services, supporting the role of general practice, and leveraging and administering health program funding" (Booth et al., 2016, p. 1). The two main objectives of the PHNs are to "increase the efficiency and effectiveness of medical services, and improve coordination of care to ensure patients receive the right care in the right place at the right time" (Booth et al., 2016, p. 1). PHNs have a small amount of core funding for their corporate activities, as well as a larger amount of flexible funding to enable them to meet their two main objectives (Booth et al., 2016). PHNs conduct regional needs assessments to identify the specific health needs of the populations within their regions and undertake commissioning of appropriate services to address these health needs (Booth et al., 2016).

2.5.1 Mental disorders

Although many Australians experience good mental health, the 2007 National Survey of Mental Health and Wellbeing (NSMHW) demonstrated that 20% of Australians aged 16–85 years had

experienced an anxiety, affective, or substance use disorder (or more than one of these disorders) in the 12 months prior to the survey (Australian Bureau of Statistics, 2008; Australian Institute of Health and Welfare, 2016b). Furthermore, the NSMHW determined that almost half (45%) of all Australians aged 16–85 years were likely to experience a high prevalence mental disorder, such as anxiety or depression, at some point in their lives (Australian Bureau of Statistics, 2008; Australian Institute of Health and Welfare, 2016b). This suggests that around 7.3 million Australians experience an anxiety, affective or substance use disorder each year (Australian Institute of Health and Welfare, 2016f).

In 2015, 273,438 Australians presented to hospital emergency departments for a mental or behavioural disorder (Australian Institute of Health and Welfare, 2016d). Of these patients, 87,383 (32%) were subsequently admitted (Australian Institute of Health and Welfare, 2016d).

The Australian Burden of Disease Study (ABDS), which was conducted in 2011, identified the main diseases and illnesses that contributed to the burden of disease amongst the Australian population (Australian Institute of Health and Welfare, 2016c). Results from the ABDS demonstrated that mental and substance use disorders accounted for 12.1% of the disease burden in Australia and were the third leading cause of disease burden after cancer (18.5%) and cardiovascular disease (CVD) (14.6%) (Australian Institute of Health and Welfare, 2016c). The burden from mental and substance use disorders was largely non-fatal (97.0%) (Australian Institute of Health and Welfare, 2016c). Mental and behavioural disorders were the main cause of disease burden for late childhood, adolescence and adulthood to age 49 years (Australian Institute of Health and Welfare, 2016c). From ages 15–44, injuries (suicide and self-inflicted injuries, road traffic injuries—motor vehicle occupants and poisoning) and mental and substance use disorders (drug and alcohol use disorders, depressive disorders and anxiety) were the major contributors of burden in males, while anxiety and depressive disorders were the major contributors in females (Australian Institute of Health and Welfare, 2016c). Age-standardised data demonstrated that males had more than twice the rate of fatal burden for injuries and mental and substance use disorders than females (Australian Institute of Health and Welfare, 2016c).

The 2010 National Survey of Psychosis measured the number of people aged 18–65 years who were in contact with public specialised mental health services in any one year for a psychotic illness (Morgan, Waterreus, Jablensky, Mackinnon, McGrath, Carr, Bush, Castle, Cohen, Harvey, Galletly, Stain, Neil, McGorry, Hocking, Shah, & Saw, 2011). The data demonstrated that 3.1 people per 1,000 population were in contact with public specialised mental health services—when scaled to a national level, around 64,000 people are estimated to be in contact with public specialised mental health services in any one year for a psychotic illness (Morgan et al., 2011). The survey demonstrated that: psychotic disorders were more prevalent amongst males (3.7 per 1,000 population) than females (2.4 per 1,000 population); males aged 25–34 years recorded the highest rates of psychotic illness (5.2 per 1,000 population); schizophrenia (47% of cases) was the most common psychotic disorder; two-thirds (64.8%) of people experienced their first episode before the age of 25 years; approximately three-fifths (57.6%) of people with psychosis were aged 35–64 years; and alcohol abuse and rates of lifetime use of cannabis or other illicit drugs were high amongst Australians with a psychotic disorder (63.2% of males and 41.7% of females compared to 12.0% of males and 5.8% of females in the general population) (Morgan et al., 2011).

The Second Australian Child and Adolescent Survey of Mental Health and Wellbeing, which was conducted in 2013–2014 with parents and carers of 4–17-year-olds in the general population and 11–17-year-olds themselves, demonstrated that 13.9% of 4–17-year-olds were assessed as having a mental disorder in the previous 12 months—equivalent to 560,000 Australian children and adolescents (Lawrence, Johnson, Hafekost, Boterhoven De Haan, Sawyer, Ainley, & Zubrick, 2015). Based on prevalence rates, it is estimated that in the previous 12 months, 298,000 (7.4%) of Australian children had attention deficit hyperactivity disorder (ADHD), 278,000 (6.9%) had an anxiety disorder, 112,000 had a major depressive disorder (2.8%) and 83,600 had a conduct disorder (2.1%) (Lawrence et al., 2015). The survey demonstrated that males (16.3%) were more likely than females (11.9%) to have a mental disorder (Lawrence et al., 2015).

2.5.1.1 Mental disorders and comorbidities

Comorbidity studies have demonstrated that mental disorders such as anxiety, depression and substance use disorders frequently co-occur (Lai, Cleary, Sitharthan, & Hunt, 2015). The 2007 NSMHW provided information on the extent of comorbidities among people with anxiety, affective and substance use disorders in Australia and demonstrated, for example, that for people with anxiety, an affective disorder is present in 25.4% of cases and for those with an affective disorder, anxiety is present 58.5% of the time (Australian Bureau of Statistics, 2008; Victoria Institute of Strategic Economic Studies, 2016).

Mental disorders are also associated with a number of other physical illnesses and diseases, as well as unintentional and intentional injury (Baxter, Ferrari, Erskine, Charlson, Degenhardt, & Whiteford, 2014; Victoria Institute of Strategic Economic Studies, 2016). For example, suicide, comorbid diseases such as CVD, and infectious diseases contribute to excess deaths in major depressive disorder; suicide, CVD and diabetes contribute to excess deaths in schizophrenia; comorbid disease such as CVD and neoplasms, suicide and unintentional injuries contribute to excess deaths in anxiety disorders; comorbid disease such as CVD and suicide contribute to excess deaths in bipolar disorder; and comorbid disease including cancer, mental, neurological, and substance use disorders, CVD, liver and pancreas diseases, epilepsy, injuries, and infectious disease contribute to excess deaths in alcohol use disorders (Patel et al., 2016).

Data from the 2007 NSMHW demonstrated that 11.7% of people with a 12-month mental disorder also experienced one physical condition and 5.3% reported two or more physical conditions (Australian Bureau of Statistics, 2008). Similarly, people with psychotic illnesses reported physical health comorbidities—28.6% of respondents to the 2010 survey of people living with a psychotic illness had heart or circulatory disorders (compared with 16.3% in the general population), 20.5% had diabetes (compared with 6.2% of the general population) and 7.3% had epilepsy (compared with 0.8% of the general population) (Australian Institute of Health and Welfare, 2016f; Morgan et al., 2011).

In addition, people with mental disorders experience disproportionately higher rates of disability and mortality than the general population. For example,

“persons with major depression and schizophrenia have a 40% to 60% greater chance of dying prematurely than the general population, owing to physical health problems that are often left unattended (such as cancers, cardiovascular diseases, diabetes and HIV infection) and suicide” (World Health Organization, 2013, p. 7).

2.5.1.2 The cost of mental disorders in Australia

It can be difficult to estimate the true cost of mental disorders in Australia as there are multiple direct and indirect human, social and economic cost components that need to be considered (ConNetica, 2016). Examples of direct health costs arising from the treatment of mental disorders include: the costs of consultations with different health professionals; community care; ambulance transport; inpatient care and hospital costs; costs of psychotropic medication; and other accommodation (Victoria Institute of Strategic Economic Studies, 2016). Examples of indirect costs include: loss in economic activity for reduced workforce participation, increased absenteeism for people in the workforce; and the impact on family, friends and the community (Blackman, Franklin, Rossetto, & Gray, 2015; Victoria Institute of Strategic Economic Studies, 2016).

According to a report by Medibank Private Limited and Nous Group (2013), Australia spends at least A\$28.6 billion per year supporting people with a mental illness (excluding capital expenditure), with direct health expenditure of at least A\$13.8 billion and indirect non-health expenditure of A\$14.8 billion. This is equivalent to 2.2% of Australia's gross domestic product (Medibank Private Limited & Nous Group, 2013).

The estimated cost of psychosis alone was calculated for 2014 by Victoria Institute of Strategic Economic Studies (2016). To estimate the cost of psychosis, the researchers extrapolated prevalence rates based on prevalence rates of psychosis reported by Morgan et al. (2011) and considered the distribution of different types of psychosis from the study by Morgan et al. (2011). They found that “the estimated annual costs of psychosis for the Australian population in 2014 are approximately A\$3.86 billion from a government perspective and A\$6.21 billion from a societal perspective” (Victoria Institute of Strategic Economic Studies, 2016, p. 24).

Despite the significant expenditure on mental illness, prevalence rates of mental disorders remain high and stable, large numbers of people do not seek or receive appropriate treatment for their disorder, and those who do seek help are less satisfied with the help they receive than consumers of other health services (Medibank Private Limited & Nous Group, 2013).

2.5.2 Suicide

“Suicide and intentional self-harm are significant public health problems in Australia” (Harrison & Henley, 2014, p. 1).

In 2015, 3,027 Australians (eight per day) died as a result of intentional self-harm making suicide the 13th leading cause of death in Australia (Australian Bureau of Statistics, 2016b). Between 2012 and 2014 there was a 22% increase in the number of suicide deaths in Australia (ConNetica, 2016). However, suicide rates may be 20%–30% higher than the official rates given that suicide is implicated in many poisonings, falls and motor vehicle accidents (ConNetica, 2016).

The age-standardised death rate was 12.6 deaths per 100,000 people in 2015—with males (19.3 deaths per 100,000 population) more than three times as likely as females (6.1 deaths per 100,000 population) to complete suicide (Australian Bureau of Statistics, 2016b). Suicide accounted for 1.9% of all deaths in Australia in 2015, but was responsible for a higher proportion of deaths among younger people—one-third of deaths (33.9%) among people 15–24 years of age, and more than one-quarter of deaths (27.7%) among people aged 25–34 years (Australian Bureau of Statistics, 2016b). For people aged 35–44 years, 16.9% of deaths were due to intentional self-harm (Australian Bureau of Statistics, 2016b). The proportion of deaths due to suicide decreased among older age groups, as the likelihood of dying from natural causes of death increased (Australian Bureau of Statistics, 2016b).

For every suicide in Australia, more than 20 people attempt suicide, with females much more likely to plan or attempt suicide than males (Australian Bureau of Statistics, 2008).

2.5.2.1 The cost of suicide in Australia

A study which sought to quantify the economic cost of suicide in Australia in 2012 estimated the cost at A\$1.7 billion (KPMG, 2013). This figure comprised direct costs related to coronial inquiries, police and ambulance services, and counselling and support provided to family and friends, and indirect costs, such as the lost economic contribution of an individual due to premature mortality (KPMG, 2013). The researchers demonstrated that 90% of the economic cost of suicide was attributable to male suicide due to the increased number of suicides by males, the younger average age for male suicide (40.5 years) compared to female suicide (44.3 years) and the higher income and employment rates for males (KPMG, 2013).

2.6 Remote and rural mental health

2.6.1 Mental disorders

Remote and rural Australians generally experience poorer health than people living in major cities. They have reduced access to health care, travel greater distances to receive medical services, experience higher rates of ill health, and demonstrate higher levels of mortality, morbidity and health and disease risk factors, such as smoking, overweight and obesity, and alcohol and drug misuse, than people living in major cities (Australian Institute of Health and Welfare, 2014a). Despite the fact that remote and rural Australians generally experience poorer health outcomes than people living in major cities, the prevalence of mental disorders is similar across all remoteness areas—around 20% (Australian Bureau of Statistics, 2008)—with approximately 960,000 remote and rural Australians experiencing a mental disorder each year (Garvan Research Foundation, 2015). However, access to Medical Benefit Schedule (MBS) services for mental health services by remote and rural Australians is low. In 2011–2012, for example, 7.6% of city residents accessed MBS mental health services in cities, compared to 3.0% in remote areas and just 1.5% in very remote areas—indicating that very remote residents accessed mental health services at only one-fifth of the rate of major city residents (The Centre for International Economics, 2015).

There has been significant interest in the mental health of remote and rural Australians by researchers, clinicians and consumers. Despite greater exposure to some mental health risk factors, such as socioeconomic disadvantage; poor access to mental health services; high-risk occupations such as farming; and exposure to environmental adversity etc., research has failed to consistently demonstrate higher rates of mental disorders amongst remote and rural Australians (Inder, Berry, & Kelly, 2011). However, even though rates of mental disorders are similar across all remoteness areas, rates of suicide and self-harm are significantly higher in remote and rural areas, and increase with increasing remoteness (Harrison & Henley, 2014), suggesting that there “are very significant mental health issues to be addressed in rural and remote areas” (National Rural Health Alliance Inc, 2016, p. 1).

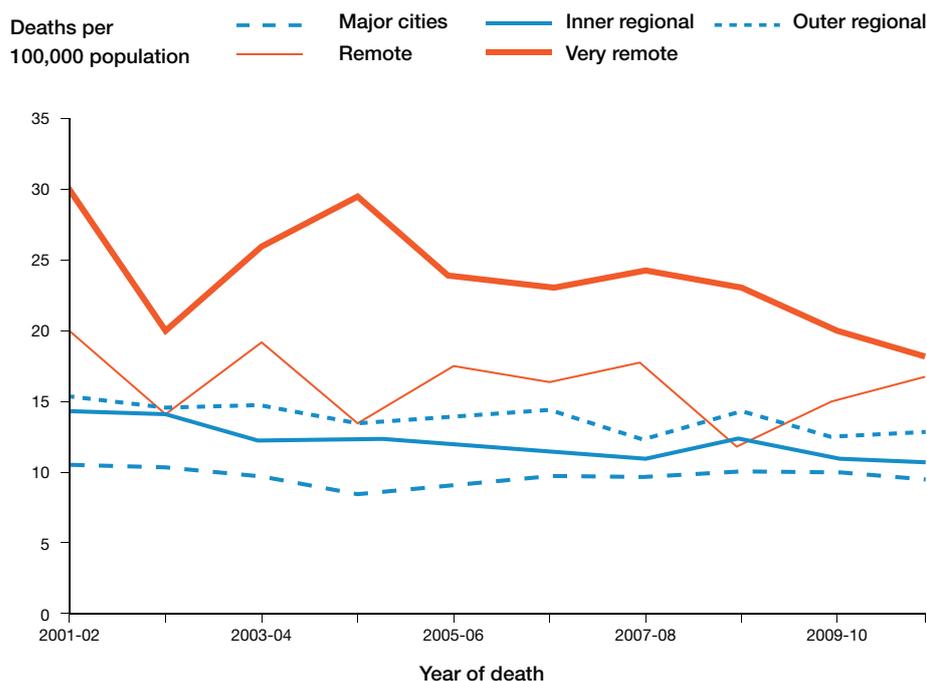
2.6.2 Suicide

Farmers, young men, older people, and Indigenous Australians in remote areas are at greatest risk of completing suicide (Arnautovska et al., 2015; Harrison & Henley, 2014). In 2010–2011, residents in very remote areas were almost twice as likely as those in major cities to die from suicide (Harrison & Henley, 2014). In 2015, residents living outside greater capital cities (16.2 deaths per 100,000 population) were 1.5 times as likely as residents of capital cities (10.8 deaths per 100,000 population) to die from suicide (Australian Bureau of Statistics, 2016b). Residents of the Northern Territory (NT) (19.4 deaths per 100,000 population) recorded the highest rate of deaths from suicide of all Australians (Australian Bureau of Statistics, 2016b).

This metropolitan-rural-remote differential was also identified by Cheung et al. (2012) who conducted a spatial analysis of suicide mortality in Australia. The researchers found that males in remote and rural areas demonstrated higher rates of suicide than males in major cities, and that the rate of suicide amongst males increased with increasing remoteness (Cheung et al., 2012). In contrast to the pattern for men, the overall differences in suicide rates for females in remote and rural areas compared to those in major cities, were not significant (Cheung et al., 2012).

Between 2001 and 2011 suicide rates were consistently higher in all remoteness areas compared with major cities (Figure 2.1). The greatest difference in suicide rates was observed between very remote areas and major cities—suicide rates in remote areas were generally between two and three times higher than suicide rates in major cities between 2001 and 2011 (Harrison & Henley, 2014).

Figure 2.1. Suicide rates, by remoteness area of residence, Australia, 2001–2002 to 2010–2011



Note: Rates not shown prior to 2001–2002 since comparable population data for remoteness areas was not available. Data sourced from Australian Institute of Health and Welfare (AIHW) National Mortality Database.

Source: Harrison and Henley (2014, p. 49).

Risk factors for suicide in remote and rural communities include:

- > Economic and financial hardship—related to climatic events such as drought/floods as well as changes in the economy. These can result in unemployment and financial problems which may be associated with depression, substance abuse, gambling or relationship problems etc. and are risk factors for suicide (Department of Health and Ageing, 2007);
- > Easier access to means that lead to immediate death—including firearms or pesticides for example (Department of Health and Ageing, 2007);
- > Social isolation—from friends, family or other support networks (Department of Health and Ageing, 2007);
- > Less help seeking—strong sense of self-sufficiency amongst remote and rural residents can discourage them from seeking help (Department of Health and Ageing, 2007);
- > Reduced access to support services—including mental health services and the internet. Remote and rural Australians may need to travel long distances to receive appropriate services (Department of Health and Ageing, 2007). In 2014, the number of psychiatrists, mental health nurses, and psychologists in regional and remote areas was significantly lower than major cities (National Rural Health Alliance Inc, 2016). For example, in 2014 there were 16.6 employed psychiatrists per 100,000 population in major cities, but only 3.0 per 100,000 population in remote/very remote areas (Australian Institute of Health and Welfare, 2014b). Similarly there were 92.4 employed psychologists per 100,000 population in major cities and 29.6 per 100,000 population in remote/very remote areas (Australian Institute of Health and Welfare, 2014b);
- > Combinations of suicide risk factors—multiple risk factors for suicide may exist in some communities, including Indigenous communities. When combined, these social, psychological and environmental risk factors increase the risk of suicide (Department of Health and Ageing, 2007); and
- > A prior suicide attempt—this is the single most important risk factor for suicide in the general population (World Health Organization, 2014b).

2.6.3 Indigenous mental health and suicide

The relationship of remoteness to health is particularly important for Indigenous Australians, who are overrepresented in remote and rural Australia (Australian Institute of Health and Welfare, 2014a). The National Mental Health Commission (2014a, p. 19) identified that “the mental health needs of Aboriginal and Torres Strait Islander people are significantly higher than those of other Australians.”

Data from the 2011 Australian Census demonstrated that 669,881 Australians, or 3% of the population, identified as Indigenous (Australian Bureau of Statistics, 2013b), and that 142,900 Indigenous Australians, or 21% of the Indigenous population, lived in remote and very remote areas (Australian Institute of Aboriginal and Torres Strait Islander Studies, 2014). Around 45% of people in very remote Australia (91,600 people), and 16% of people in remote Australia (51,300 people) were Indigenous (Australian Bureau of Statistics, 2013b; Australian Institute of Aboriginal and Torres Strait Islander Studies, 2014).

In 2011–2012 around one-third (30%) of Indigenous adults reported high or very high levels of psychological distress—almost three times the rate for non-Indigenous Australians (Australian Bureau of Statistics, 2014).

In 2008–2012, in NSW, Queensland (Qld), WA, SA and the NT, there were 347 Indigenous deaths¹¹ from mental health-related conditions (Australian Institute of Health and Welfare, 2015a). Specifically, age-standardised death data demonstrated that Indigenous Australians (49 per 100,000 population) were 1.2 times as likely as non-Indigenous Australians (40 per 100,000 population) to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a). Age-standardised deaths from mental and behavioural disorders increased with increasing age in both Indigenous and non-Indigenous Australians in 2008–2012. Very few Indigenous and non-Indigenous Australians under the age of 35 years died as result of mental and behavioural disorders in 2008–2012. However, Indigenous Australians aged 35 years or older were more likely to die from mental and behavioural disorders than non-Indigenous Australians in 2008–2012. Specifically, Indigenous Australians (7.2 per 100,000 population) aged 35–44 years were 5.7 times as likely as non-Indigenous Australians (1.3 per 100,000 population) to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a). In 2008–2012, Indigenous Australians (14.7 per 100,000 population) aged 45–54 years were 4.9 times as likely as non-Indigenous Australians (3.0 per 100,000 population) to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a). In 2008–2012, Indigenous Australians (18.3 per 100,000 population) aged 55–64 years were 2.7 times as likely as non-Indigenous Australians (6.9 per 100,000 population) to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a). In 2008–2012, Indigenous Australians (91.2 per 100,000 population) aged 65–74 years were 2.9 times as likely as non-Indigenous Australians (31.3 per 100,000 population) to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a).

Further exploration of death data from mental and behavioural disorders illustrates the significant impact of psychoactive substance use (ICD-10-AM codes F10–F19) on Indigenous mortality (Australian Institute of Health and Welfare, 2015a). In 2008–2012, 29.1% of Indigenous deaths due to mental and behavioural disorders were the result of psychoactive substance use, such as alcohol, opioids, cannabinoids, sedative hypnotics, cocaine, other stimulants such as caffeine, hallucinogens, tobacco, volatile solvents, or multiple drug use. During this period, Indigenous Australians (7.3 per 100,000 population) were 4.8 times as likely as non-Indigenous Australians to die as a result of psychoactive substance use (Australian Institute of Health and Welfare, 2015a).

Similarly, in 2006–2010, there were 312 Indigenous deaths from mental health-related conditions (Australian Institute of Health and Welfare, 2013a). Indigenous Australians living in NSW, Qld, WA, SA and the NT were 1.5 times as likely as non-Indigenous Australians to die from mental and behavioural disorders in 2006–2010 (Australian Institute of Health and Welfare, 2013a).

¹¹ Deaths from mental and behavioural disorders do not include deaths from intentional self-harm (suicide). Intentional self-harm is coded under ICD-10-AM Chapter 19—Injury, poisoning and certain other consequences of external causes.

Age-standardised death data demonstrated that Indigenous males (49 per 100,000 population) were 1.7 times as likely as non-Indigenous males to die from mental and behavioural disorders. Indigenous females were 1.3 times as likely as non-Indigenous females to die from mental and behavioural disorders (Australian Institute of Health and Welfare, 2013a).

The greater number of deaths from mental and behavioural disorders with age may also represent the impact of conditions associated with ageing, such as dementia. For example, in 2014, Indigenous Australians (50.7 per 100,000 population) in NSW, Qld, SA, WA and the NT were 1.1 times as likely as non-Indigenous Australians (45.3 per 100,000 population) to die from dementia (including Alzheimer disease) (Australian Bureau of Statistics, 2016a).

In 2014–2015, Indigenous Australians (28.3 per 1,000 population) were 1.7 times as likely as non-Indigenous Australians (16.3 per 1,000 population) to be hospitalised for mental and behavioural disorders (Australian Institute of Health and Welfare, 2016a).

In 2011–2013, 4.2% of Indigenous hospitalisations were for mental and behavioural disorders (Australian Institute of Health and Welfare, 2015a). Age-standardised data demonstrated that Indigenous Australians (27.7 per 1,000 population) were twice as likely as non-Indigenous Australians (14.2 per 1,000 population) to be hospitalised for mental and behavioural disorders in 2011–2013 (Australian Institute of Health and Welfare, 2015a).

In 2008–2009, Indigenous young people aged 12–24 years (2,535 per 100,000 population) were three times as likely to be hospitalised for mental and behavioural disorders than non-Indigenous young people (Australian Institute of Health and Welfare, 2011). The leading causes of hospitalisation for mental and behavioural disorders amongst Indigenous young people were schizophrenia (306 per 100,000 population), alcohol misuse (348 per 100,000 population) and reactions to severe stress (266 per 100,000 population) (Australian Institute of Health and Welfare, 2011).

A preliminary clinical survey of 170 Aboriginal and Torres Strait Islander Australians in Cape York and the Torres Strait, aged 17–65 years, with a diagnosis of a psychotic disorder, was undertaken to describe the prevalence and characteristics of psychotic disorders in this population (Hunter, Gynther, Anderson, Onnis, Groves, & Nelson, 2011). Researchers found that: 62% of the sample had a diagnosis of schizophrenia, 24% had substance-related psychoses, 8% had affective psychoses, 3% had organic psychoses and 3% had brief reactive psychoses; Indigenous Australians aged 30–39 years were overrepresented in the psychosis sample compared to their representation in the population (37% of sample versus 29% of population) with slightly lower proportions in the 15–29 years and 40 years and older age groups; almost three-quarters (73%) of the sample were male (versus 51% for the Indigenous population as a whole); Aboriginal males (63% in the sample compared to 46% for the region as a whole) were overrepresented; a higher proportion of males (42%) than females (5%), and Aboriginal (44%) than Torres Strait Islander patients (10%) had a lifetime history of incarceration; comorbid intellectual disability was identified for 27% of patients, with a higher proportion for males compared to females (29% versus 20%) and Aboriginal compared to Torres Strait Islander patients (38% versus 7%); and alcohol misuse (47%) and cannabis use (52%) were believed to have had a major role in the onset of psychosis (Hunter et al., 2011).

In 2015, Indigenous Australians (25.5 deaths per 100,000 population) in Qld, SA, NT, NSW and WA were twice as likely as non-Indigenous Australians (12.5 deaths per 100,000 population) to die from suicide (Australian Bureau of Statistics, 2016b). In their spatial analysis of suicide, Cheung et al. (2012) concluded that higher rates of suicide in the NT and in some remote areas could be explained by the large numbers of Indigenous Australians living in these areas, who demonstrate higher levels of suicide compared with the general population.

The poorer mental health of remote and rural Indigenous Australians is also impacted by the social determinants of Indigenous health, which are well recognised nationally and internationally. These relate to the loss of language and connection to the land, environmental deprivation, spiritual, emotional and mental disconnectedness, a lack of cultural respect, lack of opportunities for self-determination, poor educational attainment, reduced opportunities for employment, poor housing, and negative interactions with government systems (King, Smith, & Gracey, 2009; Osborne, Baum, & Brown, 2013).

2.6.4 Farmer mental health and suicide

Although rates of mental disorders for farmers are similar to those of the general population, Australian farmers, like other remote and rural residents, are more likely to complete suicide than the general population (Booth, Briscoe, & Powell, 2000; Brew, Inder, Allen, Thomas, & Kelly, 2016). Male farmers, in particular, demonstrate high levels of suicide (Judd, Jackson, Fraser, Murray, Robins, & Komiti, 2006; Kőlves, Milner, McKay, & De Leo, 2012).

Some researchers have suggested that the 'rural masculinist paradigm,' whereby rural males are 'made' to be physically and emotionally tough and strong and are able to solve any problem as 'no obstacle can beat them', has been normalised, even though it is not an accurate representation of rural men (Kőlves et al., 2012). "The suicidal vulnerabilities attached to the rural masculinist paradigm are suicide risk factors which research has more uniquely linked to farmers," such as the unrelenting workload associated with running a farm, difficult financial and living conditions, and a perceived lack of control over factors linked with success, such as weather or government policy (Kőlves et al., 2012, p. 12). Such factors can contribute to feelings of powerlessness amongst farmers, and suicide may be perceived as the action required to solve the negative emotions (Kőlves et al., 2012).

Several reasons have been suggested to explain the higher suicide rates amongst farmers, including: farmers having greater access to means of suicide (Booth et al., 2000; Brew et al., 2016); farmers being less likely to acknowledge mental disorders and seek help (Brew et al., 2016; Judd et al., 2006); farmers having a lower threshold for suicide in the face of psychological stress than other people (Brew et al., 2016; Judd et al., 2006); and inequality in the healthcare system resulting in less access to services (Brew et al., 2016).

A recent study that investigated the characteristics of farm managers and farm labourers who completed suicide in Qld found that suicide risk among farm labourers was associated with being younger, single or divorced/separated, living alone, and using alcohol and drugs more often than older farmers, as well as experiencing factors that may affect their integration into the community, such as job insecurity (Arnautovska et al., 2015). Suicide risk amongst farm managers was associated with different factors, including physical and mental illness (Arnautovska et al., 2015).

2.6.5 Younger male mental health and suicide

Young males aged 15–29 years in remote and rural areas are almost twice as likely as males in major cities to complete suicide (National Rural Health Alliance Inc, 2016). Several factors have been identified as risk factors for younger male suicide including, for example: high use of drugs and alcohol; pressure to conform to specific patterns of behaviour; pessimism about future prospects; unemployment; relationship issues; a sense of having 'nothing to do'; greater availability of lethal means; social isolation; and a lack of available services (National Rural Health Alliance Inc, 2016).

2.6.6. Older people, mental health, and suicide

There are multiple factors that affect older people in remote and rural areas, including a greater likelihood to be living with a chronic condition and/or chronic pain or disability, challenges around mobility, social isolation and lack of access to services to assist with these conditions (National Rural Health Alliance Inc, 2016).

In 2015, the age-specific suicide rate in males aged 85 or above (39.3 deaths per 100,000 males) was the highest of all age groups (Australian Bureau of Statistics, 2016b). Males aged 85 or older living in remote and rural areas are twice as likely as males in major cities to complete suicide (National Rural Health Alliance Inc, 2016).

2.7 Summary

Mental disorders impact Australians in all remoteness areas. However, people in remote and rural Australia are disproportionately impacted by suicide, especially Indigenous Australians, farmers, older people and younger men.

Poor access to appropriate health services is common in remote and rural areas and is one of the risk factors for mental disorders and suicide. Poor access to services is attenuated in some remote and rural areas by the services provided by the RFDS. The following chapter (Chapter three) outlines the general services provided by the RFDS as well as the specific mental health services provided to remote and rural Australians. Chapter four then describes the role of the RFDS aeromedical retrieval service for remote and rural Australian with mental disorders.

3.0 The RFDS in remote and rural Australia

The RFDS is one of the largest and most comprehensive aeromedical organisations in the world. Using the latest in aviation, medical and communications technology, the RFDS delivers extensive primary health care and 24-hour emergency service to those who live, work and travel throughout Australia.

3.1 Structure of the RFDS

The RFDS is a federated health charity. Services are delivered through RFDS ‘Sections’ and ‘Operations,’ comprising RFDS Central Operations (includes SA and the NT), RFDS Qld Section, RFDS South Eastern (SE) Section¹² (includes NSW), RFDS Tasmanian (Tas) Section, RFDS Victorian (Vic) Section, and RFDS Western Operations (includes WA). Each of the RFDS Sections and Operations have responsibility for the delivery of health services to the communities they serve through the establishment of effective systems and maintenance of efficient operations. The Sections and Operations are coordinated at a national level by the RFDS of Australia—Federation Company, Canberra.

3.2 Services provided by the RFDS

3.2.1 Aeromedical retrievals

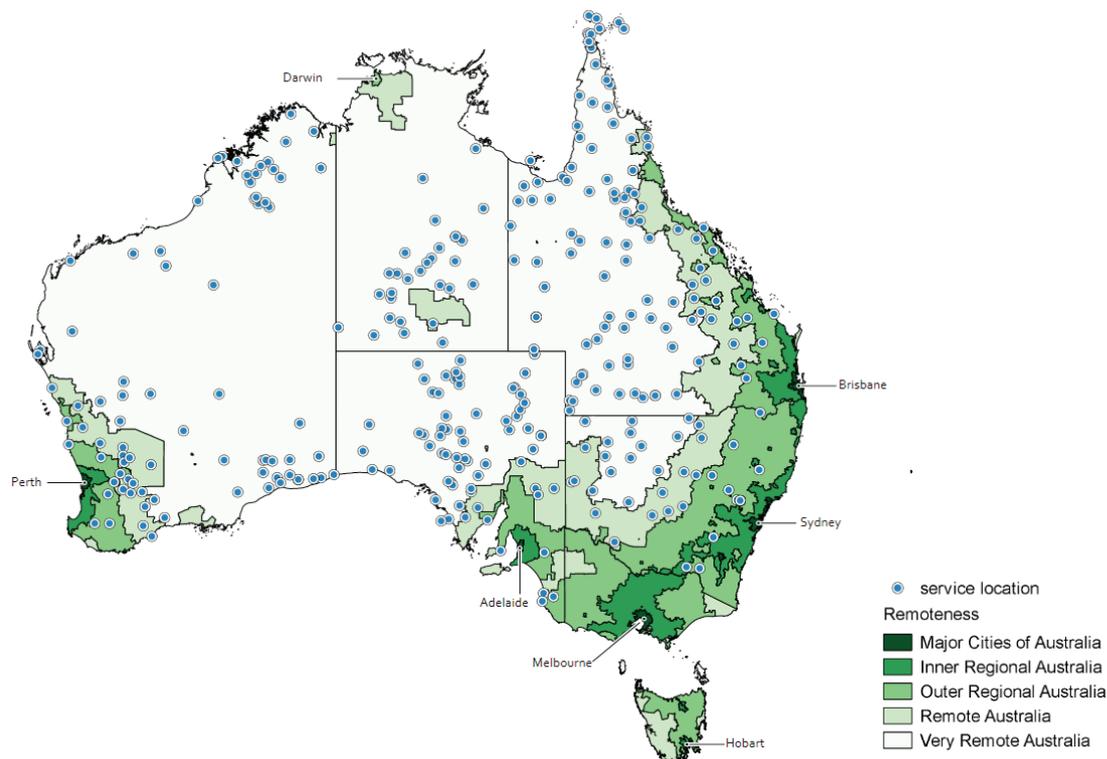
The RFDS is best known for its emergency aeromedical retrieval service. In major cities, the care of sick or injured Australians is characterised by timely access to emergency services, including road ambulance and hospital services. However, most Australian states and territories comprise remote and regional areas that are either difficult to access by road or too remote to enable timely hospital transfer by road ambulance. Comprehensive medical services are often unavailable in these areas, and aeromedical retrieval may be the most effective way of transporting patients to receive timely hospital care. Patients sustaining illnesses and injuries may need to be transported long distances, in emergency situations, to receive definitive care in a tertiary hospital (McDonnell, Aitken, Elcock, & Veitch, 2009). The RFDS, as a provider of aeromedical retrieval services, fills this gap and provides a vital service to remote and rural Australians who require emergency medical treatment in a tertiary hospital, and who are unable to access local emergency medical treatment in a hospital, due to their remoteness. As with all illnesses and injuries, remote and rural Australians experiencing an acute mental or behavioural disorder that requires emergency treatment in a hospital may undergo an aeromedical retrieval. Comprehensive data on RFDS aeromedical retrievals for mental and behavioural disorders are presented in Chapter Four.

3.2.2 RFDS primary healthcare services in remote and rural Australia

In addition to aeromedical retrievals, the RFDS provides primary healthcare services, for example through its clinic program, to people in remote and rural areas (Figure 3.1). By providing services to people who, because of geographic factors, are beyond reasonable access to normal medical infrastructure, the RFDS plays a pivotal role in the provision of universal access to primary healthcare.

¹² The SE Section of the RFDS also provides aeromedical retrieval services to patients in Tas and Vic.

Figure 3.1. RFDS primary healthcare clinics, by ASGS remoteness areas, 2014–2015



Source: Developed for the RFDS by the AIHW, 2016.

Within the RFDS, primary healthcare is provided through medical, nursing and oral health care clinics with 14,432 clinics delivered in 2015–2016 (Royal Flying Doctor Service of Australia, 2016b).

The aims of the primary health clinic program are to:

- > Deliver primary health clinics, nursing services and allied health services in areas beyond the normal medical infrastructure in areas of market failure and in most need;
- > Deliver primary health clinics and nursing services on a regular basis where there are no other regular similar services, including no MBS billable services, and within a multidisciplinary context wherever possible; and
- > Deliver flexibly planned and conducted services based on need and the program's priorities in collaboration with relevant stakeholders and other service providers, including the communities receiving the service.

RFDS primary healthcare clinics provide comprehensive general practice services and offer, and facilitate, all aspects of primary medical care. General practice clinics are held on a regular basis in remote locations and the frequency of visits depends on local needs. Similar to general practitioners (GPs), all RFDS primary healthcare services provide care to people with mental disorders. The National Mental Health Commission (2015, p. 1) acknowledged that “much of the clinical responsibility for providing mental health care sits with primary health care providers,” and that general practice “must be acknowledged and resourced as the clinical front line in tackling mental health issues.” The Bettering the Evaluation and Care of Health (BEACH) survey of general practice activity, which provides detailed information about GP encounters, reported that an estimated 12.7% of all GP visits were mental health-related encounters (Britt, Miller, Henderson, Bayram, Harrison, Valenti, Wong, Gordon, Pollack, Pan, & Charles, 2015). Although data on RFDS consultations for mental disorders are unavailable for the current report (but will be included in a separate future report on primary health care delivered by the RFDS), it is reasonable to assume that the proportion of visits to RFDS GPs for mental disorders is similar to those reported in the BEACH study.

All RFDS primary healthcare services are accessible to Indigenous and non-Indigenous Australians. Indigenous focused healthcare may be available in regions serviced by the RFDS through Aboriginal Community Controlled Health Organisations (ACCHOs), which are controlled by, and accountable to, Aboriginal people in the areas in which they operate. ACCHOs aim to deliver holistic, comprehensive and culturally appropriate health care to the community that controls it. Although the majority of patients accessing care delivered by ACCHOs are Indigenous, non-Indigenous Australians can also access these services (Australian Institute of Health and Welfare, 2013b).

3.2.3 Telehealth

The RFDS operates a 24/7 telehealth system. In the RFDS, telehealth consultations (also called remote consultations), describe telephone calls that come into an RFDS base from individuals or health workers in remote and rural areas who require medical assistance or advice from an RFDS doctor. This service supports the aeromedical retrieval service and provides a service to remote and rural residents who require doctor or nurse consultations. In most cases, the patient has no permanent medical services available and limited, if any, access to a hospital (The Centre for International Economics, 2015). Unlike other telehealth services, which are more akin to triage and referral services, the RFDS telehealth service seeks to resolve medical issues for the patient (The Centre for International Economics, 2015). Calls to this service range from GP services to assist in managing chronic conditions, such as diabetes, asthma or heart conditions, to emergency calls around poisons or injuries (The Centre for International Economics, 2015). Telehealth is also used to assist in managing both acute and chronic mental disorders. Many issues discussed in telehealth consultations are resolved without patients needing to be transported to hospital or requiring additional evaluation (The Centre for International Economics, 2015).

3.2.4 Ground transport services

The RFDS also operates a non-emergency patient ground transport service in Vic, NSW and SA and an emergency patient ground transport service in SA. Known as mobile patient care in Vic, this service is provided on behalf of Ambulance Vic to people who need to travel to hospital or to specialist care. The service operates from 11 bases located around Vic, and is supported by aircraft capability at Essendon Airport. In SA, the RFDS operates emergency ambulance services at three sites—Marla, Andamooka and Marree.

3.2.5 Other services

Other health services provided by the RFDS include repatriation services, evacuations by charter aircraft from tour vessels along the Kimberly coast, assistance with staffing other aeromedical services that provide rescue activities, medical chests, oral health services, outreach programs, health promotion and education activities, clinic charter services, and mental health and SEWB services.

3.2.6 Mental health and SEWB services provided by the RFDS

In addition to the care provided to people with mental disorders through the primary healthcare platform, including through telehealth consultations, the RFDS provides mental health and SEWB services. In 2016, the RFDS delivered services through 13 state or territory-based programs in Vic (two programs), NSW (one program), Qld (eight programs) and the NT (one program). Some programs operated across jurisdictions, such as the MHSRRA Program, which delivered services to remote and rural Australians in SA, NSW and Qld. Table 3.1 lists these services, and for each service provides information on: the name of the program; the service model, including information on the delivery platform; the geographical area it services; the organisations it works in partnership with; who funds the program; the number and type of staff employed; the services provided; and additional notes about the program. Case studies are also provided to showcase some of the RFDS programs and to describe their impact.

The service models include daily and longer drive-in drive-out face-to-face services, fly-in fly-out face-to-face services, telehealth support, email and video-link between clinician visits, delivery of information sessions and field days and office-based services. The longest running program commenced in the early 2000s, while the most recent program commenced in 2016. Many of

the programs have been delivered by the RFDS for several years. All 13 programs will continue in 2017, and additional programs are likely to be implemented in NSW, Tas and Vic. Wellbeing Centres (WBCs) in Qld will cease being delivered by the RFDS after 31 March, 2017 and will be transitioned over to Apunipima.

All of the programs are delivered in partnership, including with other health services, community organisations, federal and state/territory governments, Indigenous organisations, schools, universities, and/or research organisations. Funding for the services depends on the service being delivered, and may include funding from federal, state/territory and local governments, PHNs, RFDS donors etc.

Staff delivering the programs vary depending on the program delivered and include clinicians, psychologists, program managers, mental health nurses, Aboriginal health workers, AOD workers, occupational therapists, clinical and non-clinical counsellors, peer workers, community development officers and administrative staff.

Programs are delivered to a variety of remote and rural Australians, depending on the program. Adults, children, families, Indigenous Australians, drought-affected communities, the broader community and individuals across the lifespan can access RFDS mental health and SEWB programs.

Models of care and services provided depend on the program being accessed. Services include primary mental health services, psychology, counselling, health promotion, health education (including for school groups and community groups), community engagement, individual client therapies, brief interventions, community groups/activities, screening, case management, education to other health staff, capacity building to enable independent living, community and individual resilience building, vocational skills including work for the dole, youth services for the under-25s, group work (e.g. around mental health and sleep), workshops, community capacity building, and mental health literacy (MHL) building. Many of the RFDS services incorporate care for drug and alcohol issues and trauma.

Table 3.1. RFDS mental health and SEWB programs

Program name	Service model	Frequency	Area serviced	Commenced	Funding	Partnerships	Staff employed	Services provided	Notes and clients seen/ episodes of care (if applicable)
Look Over the Farm Gate	Health promotion	As needed	Rural Victoria (Vic)	1/12/2015	Vic Government	Victorian Farmers Federation (VFF), Country Fire Authority (CFA), Department of Economic Development, Jobs, Transport and Resources, National Centre for Farmer Health	Program manager, intern	Health promotion, communications and education	Targeted to rural communities impacted by drought and other adverse conditions
Unnamed at present	Drive-in drive-out/ telehealth hybrid	To be determined	Far East Gippsland	Pilot phase: 1/06/2016. Full service anticipated to start 03/2017	PHN, donors	Gippsland Primary Health Network (PHN), Gippsland Lakes Community Health, Bush Nursing Centres	Psychologist, program manager	Psychology, community engagement, health promotion, education	Targets adults with no access to psychology services and mild to moderate mental health issues. The broader community is targeted with promotion initiatives.
Mental Health Services in Rural and Remote Areas (MHSRRA). Alcohol and other drug (AOD) project	Fly-in fly-out face-to-face primary health service. Telehealth. email and video-link in between clinics	Per Broken Hill annual clinic/ primary health care roster	Run out of Broken Hill RFDS base— services far west NSW, south-west Queensland (Qld), north west SA	2009	PHN, NSW Health, RFDS direct funding	Far West Local Health District (NSW Health), University Department of Rural Health (UDRH)	Psychologists, 3x mental health nurses, AOD peer worker	Individual client therapies, school based education, community groups/activities, screening, case management, education to other health staff	Targeted to rural and remote locations. Hub and spoke model. all ages (kids often referred on). Primary health care service. In 2015/16 the following were provided ^a : <ul style="list-style-type: none"> > MHSRRA – 1,174 episodes of care (195 clients); > AOD – 154 episodes of care (51 clients); > RFDS enhancement – 116 episodes of care (36 clients), > Total services – 1,344 episodes of care (282 clients)
MHSRRA	Drive-in drive-out, telephone consults, fly-in fly-out (Lake Nash)	Weekly, fortnightly, and monthly	Central/Alice Springs Region, Lake Nash	2009	NT PHN	Approximately 70+ government and non-government organisations	4 mental health clinicians (1x occupation therapist, 3x mental health nurses), senior mental health clinician (mental health nurses), program coordinator	Primary mental health	Remote communities including individuals and families, groups across the lifespan, 6,661 episodes of care provided in 2016/16 ^a

^a Includes face-to-face and telephone consultations.

Program name	Service model	Frequency	Area serviced	Commenced	Funding	Partnerships	Staff employed	Services provided	Notes and clients seen/ episodes of care (if applicable)
Wellbeing Centres (WBCs) ¹³	Fly-in fly-out weekly	5 days per week	Cape York—visits Coen, Aurukun, Hope Vale, Mossman Gorge	1/08/2008	Multiple sources—Prime Minister and Cabinet (PMC), Qld Health (QH)	Family Responsibilities Commission, Qld Police Service (QPS), Apunipima Cape York Health Council (ACYHC), Personal Helpers and Mentors Service (PHaMs), RFDS Medical Service, Qld Health Mental Health (QHMH), Community Justice Groups (CJGs), Community Employment Groups (CEGs), Cape York Partnerships Parenting Programs (CYPPPs), Community Ranger Groups (CRGs), Police Citizens Youth Clubs (PCYCs), various private industry	Mental health nurses, psychologists, social workers, occupational therapists, Aboriginal health workers	Mental health and SEWB	Aboriginal communities with a view to re-establishing social norms
SEWB	Fly-in fly-out weekly	5 days per week	Cape York and Western Tablelands/ Gulf — visits Lockhart River, Napranum, Kowanyama, Normanton, Einesleigh, Croydon, Greenvale, Georgetown and some smaller towns in the same region	Early 2000s	Multiple sources—PMC, QH	QPS, ACYHC, PHaMs, RFDS Medical Service, QHMH, CJGs, CEGs, CYPPPs, CRGs, PCYC, various private industry	Mental health nurses, psychologists, social workers, occupational therapists	Mental health and SEWB	All age groups. Targeted to Aboriginal and Torres Strait Islanders in relevant communities
PHaMs	Fly-in fly-out weekly	5 days per week	Cape York—Aurukun	2010	Department of Social Services (DSS)	RFDS Wellbeing Service Aurukun, QHMH, ACYHC	Non-clinical counsellors	Capacity building to enable independent living	Specific requirements about mental health diagnosis required for entry into service

¹³ Several WBCs are transitioning to Apunipima in March 2017.

Program name	Service model	Frequency	Area serviced	Commenced	Funding	Partnerships	Staff employed	Services provided	Notes and clients seen/ episodes of care (if applicable)
Men's Shed	Fly-in fly-out weekly	5 days per week	Cape York – Aurukun	2015	Cape York Institute, Aurukun Shire Council	Aurukun Shire Council, ACYHC, PHaMS, local school and police, PCYC, and various other local partnerships	Non-clinical counsellor and peer workers	Community and individual resilience building, vocational skills including work for the dole	Aboriginal men, all ages including youth
Headspace	Cairns office-based service	6 days per week	Cairns	2014	North Qld Primary Health Care Network	Aftercare, North Qld PHN, Cairns and Hinterland Hospital and Health Service (HHS), Vocational Partnerships Group, Wuchopperen Aboriginal Medical Service, Youthlink, Department of Education Qld, local schools and boarding schools	Mental health nurses, psychologists, social workers, occupational therapists, administrative staff	Youth service for the under-25s with RFDS carrying the auspice for the Cairns office	Local adaptation of national headspace model of service. In 2015/16 Headspace provided ^a : 4,323 mental health assessments and counselling sessions, 1,219 general practitioner (GP) sessions, 36 telepsychiatry sessions provided in to youth aged 12–25 years. 27 Mental Health Literacy (MHL) sessions presented in high schools, 26 community events attended, multiple groups run
SEWB Program	Hub and spoke model, drive-in drive-out to regional communities	5 days per week	Longreach and surrounding districts, Mount Isa	Early 2000s	Multiple sources – PMC, DSS, QH	Various depending upon location e.g. Western Qld PHN, Central West HHS, RFDS Primary Health Services, Partners in Recovery and Financial Counselling programs, Rural and Remote Mental Health, local schools including School of the Air, AgForce, Police, local council, Central West Wellness Network, Central West Multi Agency Network, Central West Youth Workers, Blackall and Winton Community Neighbourhood Centres, Centrelink, Anglicare, North West Remote Health, Mates for Mates Program, local Indigenous Health Workers, Qld Perinatal and Infant Mental Health Service	Mental health nurses, psychologists, social workers, occupational therapists, administrative staff	Mental health and SEWB	Drought-affected regions and all demographics within

^a Includes face-to-face and telephone consultations.

Program name	Service model	Frequency	Area serviced	Commenced	Funding	Partnerships	Staff employed	Services provided	Notes and clients seen/ episodes of care (if applicable)
Drought Wellbeing Service	Hub and spoke model, drive-to various regional communities	5 days per week	Run out of Townsville—visits Hughenden, Richmond, Pentland, Charters Towers, Ravenswood and Greenvale	2015	Qld Health	Various depending upon location e.g. Mt Isa Medical Services, Townsville HHS, RFDS Primary Health Services, Partners in Recovery and Rural Financial Counselling Service, Rural and Remote Mental Health, local schools, AgForce, Police, PCYC, local council, Qld Department of Agriculture and Fisheries (DAFF), Southern and Northern Gulf Natural Resource Management, Local Council, Australian Agricultural Company (AACo), North Qld PHN, CWA, Centacare, Suncare	Psychologist	Mental Health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and MHL building	Drought-affected regions and all demographics within
Drought Wellbeing Service	Hub and spoke model, drive-in regional communities	5 days per week	Run out of Brisbane—covers the South West HHS and Darling Downs HHS regions including Charleville, Thargomindah, Augathella, Jundah, Eulo, Quilpie, Cunnamulla, St George, Roma	2015	Qld Health	Various depending upon location e.g. Miles GP Practice, Lifeline Darling Downs, South West HHS, RFDS Primary Health Services, Partners in Recovery and Rural Financial Counselling Service, Rural and Remote Mental Health, local schools including School of the Distance Education, AgForce, DAFF, Southern and Northern Gulf Natural Resource Management, Local Council, AACo, Police, PCYC, local council, CWA, Western Qld PHN	Psychologist and Community Development Officers	Mental Health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and MHL building	Drought-affected regions and all demographics within
Drought Wellbeing Service	Hub and spoke model, drive-in regional communities	5 days per week	Run out of Mt Isa—visits Gregory Downs, Adels Grove, Urandangi, Boulia, Bedourie, Dajarra, Camooweal, Burketown	2015	Qld Health	Various depending upon location e.g. North West HHS, RFDS Primary Health Services, Partners in Recovery and Rural Financial Counselling Service, Rural and Remote Mental Health, local schools including School of Distance Education, AgForce, Police, PCYC, Diamantina Council, Boulia CWA, DAFF, Southern and Northern Gulf Natural Resource Management, Local Council, AACo, Western Qld PHN, local GP services	Psychologist, Occupational Therapist, Community Development Officer	Mental Health, counselling, group work e.g. sleep, workshops, brief interventions and community capacity and MHL building	Drought-affected regions and all demographics within

3.2.7 Case Study—RFDS mental health and SEWB services in Central Australia

RFDS mental health clinicians provide regular, culturally appropriate in-field treatment of mild to moderate diagnosable mental disorders to outback communities in the NT where there are few, or no, other clinical mental health services.

RFDS staff have reported that regular consultations have led to a significant reduction in the number of admissions of acute patients from these communities to Alice Springs Hospital (Royal Flying Doctor Service, 2016b).

Teams of clinicians visit NT communities on a weekly or fortnightly basis and deliver treatment strategies including cognitive behaviour therapy, narrative therapy, brief interventions, counselling, motivational interviewing and community development. In 2015/16 RFDS Central Operations conducted 6,661 mental health consultations.

CASE STUDY > NARRATIVE THERAPY



Source: Royal Flying Doctor Service (2016b).



The women of Inkawenyerre, a small settlement in the Utopia community four hours by road north of Alice Springs, regularly take part in a different kind of mental health therapy, known as ‘narrative therapy.’

Narrative therapy taps into the centuries-old tradition among Aboriginal people of story-telling and expression through art. At the family Urapuntja Clinic, both women and children take part in narrative therapy. They recreate what is commonly seen on any given evening in an Aboriginal community—people sitting around the fire, relating to one another and telling stories.

“The activity is enjoyable for participants with group members often laughing and supporting one another as they tell stories and work on their painting—all while promoting good mental health living practice,” says Lynne Henderson, former RFDS Central Operations mental health clinician.

“To run a group using art and story-telling is going to be a much more successful way of teaching rather than a didactic stand-and-deliver lesson.”

The RFDS mental health outreach program conducted more than 6,000 consultations in isolated communities in Central Australia in 2015–2016, providing culturally appropriate in-field treatment of mild to moderate diagnosable mental illness to outback communities where there is little or no other clinical mental health service.

Paintings by Aboriginal Elders are often used in narrative therapy to insert a mental health message and to guide the group to develop artwork with a message that will encourage healthy living.

“The goal of this group activity is prevention and harm minimisation in relation to the impact of mental illness. It is actually psycho-education but presented in an enjoyable way which is culturally appropriate,” Lynne says

The RFDS has also participated in the MHSRRA Program from 2007 to 2016. The Commonwealth Government provided funding to the RFDS, through the MHSRRA Program, to deliver mental health services in rural and remote communities in central Australia that did not otherwise have access to these services (PricewaterhouseCoopers, 2011). MHSRRA was designed to assist in improving the mental health outcomes of people with mild to moderate diagnosable mental disorders living in these areas, especially in areas where Medicare-subsidised mental health services were low (Department of Health, 2016).

In order to deliver the MHSRRA Program, the RFDS engaged social workers, psychologists, occupational therapists, mental health nurses, Aboriginal health workers and Aboriginal mental health workers to develop mental health services that were adapted to meet the needs of the local communities in which they were delivered.

The MHSRRA Program has been extremely successful, with service demand often exceeding what the RFDS is able to provide (Royal Flying Doctor Service, 2014). The flexibility in the MHSRRA service delivery model is one of the key reasons for its success.

3.2.8 Case Study—RFDS mental health and SEWB services in Queensland Drought Wellbeing Service

The Qld Section of the RFDS has been leading the Drought Wellbeing Service across Qld. This program offers counselling and support to people living and working in areas impacted by drought. Through the Drought Wellbeing Service, qualified counsellors work alongside existing RFDS clinicians and attend established RFDS primary health care clinics. Counsellors are also available via telehealth or outreach sessions providing strategies that can help during difficult periods.

WBCs

RFDS Qld operates four WBCs, located in the communities of Hope Vale, Mossman Gorge, Aurukun and Coen. The WBCs were established in 2009, and provide innovative and culturally appropriate services which assist individuals and their families to maintain or return to positive SEWB (Royal Flying Doctor Service, 2016b). The goal of the WBCs is to strengthen community, culture and connectedness by providing an integrated community-based social health and wellbeing service (Royal Flying Doctor Service, 2016b).

The services provided by WBCs focus on addressing issues such as drug and alcohol misuse, gambling, family violence, and mental health and wellbeing (Royal Flying Doctor Service, 2016b). The focus is supported through four key priority areas: health communities, promotion and prevention, early detection and intervention, and partnerships (Royal Flying Doctor Service, 2016b).

Each of the WBCs provides a number of key activities including: individual counselling, relationship counselling, family interventions, women's groups, men's groups, children's activity groups, and cultural and spiritual activity groups (Royal Flying Doctor Service, 2016b). Additionally, each WBC delivers activities that reflect the specific community needs, as nominated by the local advisory groups, local staff members, Elders and other community stakeholders (Royal Flying Doctor Service, 2016b).

Four different models of care operate within the WBCs including:

- 1.** Whole of Community—each WBC works with the whole community to support it in further developing the necessary skills and expertise to manage its environment and natural resources in a sustainable manner;
- 2.** Individual and Family—WBC activities aim to impact on an individual's knowledge and skill potential to bring about lasting behavioural change, empowering individuals to take responsibility for making positive choices;
- 3.** Organisational—the RFDS facilitates and supports the development of local organisations and services that deliver SEWB within their communities; and
- 4.** Referral Pathways—individuals and families can either self-refer, or a referral can be made from other organisation or community groups (Royal Flying Doctor Service, 2016b).

Following presentation at a WBC, a comprehensive holistic assessment and engagement process is undertaken for each client. These processes determine the most appropriate programs and activities from which the client would most benefit, and the most appropriate mode/s of delivery.

Health Outcomes International (2014) undertook a review of the WBCs located in Cape York between February 2013 and April 2014. The evaluation yielded 13 findings and made a number of recommendations (Health Outcomes International, 2014). The main positive findings relevant to the RFDS service were that:

- > The WBCs had a clinically and statistically significant effect on their clients in:
 - reducing the level of risky drinking, as measured by the Alcohol Use Disorders Identification Test (AUDIT);¹⁴
 - reducing the level of cannabis dependency, as measured by the Severity Dependence Scale (SDS);¹⁵
 - reducing Indigenous risk factors in relation to alcohol and mental health, as measured by the Indigenous Risk Impact Screen (IRIS)¹⁶ (see Table 3.2) (Health Outcomes International, 2014, pp. 7-8);

Table 3.2. Statistical summary of changes in AUDIT, SDS and IRIS scores

	Aurukun	Coen	HV	MG	Total
AUDIT	(n= 5)	(n= 45)	(n= 39)	(n= 44)	(n= 133)
% Reduction in mean	8.50%	8.10%	8.53%	12.23%	9.60%
Effect size ¹	0.62 (medium)	0.31 (small)	0.33 (small)	0.44 (small to med)	0.34 (small)
Statistically significant ¹	✘	✓	✓	✓	✓
SDS	(n= 5)	(n= 47)	(n= 31)	(n= 45)	(n= 127)
% Reduction in mean	1.67%	2.40%	10.80%	13.60%	8.40%
Effect size	0.07 (none)	0.15 (none)	0.44 (small to med)	0.47 (small to med)	0.33 (small)
Statistically significant	✘	✘	✓	✓	✓
IRIS	(n= 5)	(n= 46)	(n= 40)	(n= 15)	(n= 106)
% Reduction in mean	3.57%	8.71%	5.36%	14.29%	8.00%
Effect size	0.2 (small)	0.53 (medium)	0.34 (small)	0.87 (large)	0.45 (small to med)
Statistically significant	✘	✓	✓	✓	✓

Note (1): Cohen's d was calculated to establish the clinical significance and size of effect, where a value of >0.2 indicates a small clinical significance and effect, 0.5 a medium effect and 0.8 large effect. A two-tailed paired t test was then undertaken. The t value represents statistical significance, with a value of <0.05 indicating statistical significance.

Source: Adapted from Health Outcomes International (2014, p. 25).

¹⁴ The AUDIT "is a 10 question screen about a person's level of alcohol consumption and associated risk factors" (Health Outcomes International, 2014, p. 24).

¹⁵ The SDS "is a five question screen in relation to a person's cannabis usage and associated risk factors" (Health Outcomes International, 2014, p. 24).

¹⁶ The IRIS "is an Indigenous risk impact screen used to measure a person's risk factors in relation to alcohol and mental health" (Health Outcomes International, 2014, p. 24).

- > The WBCs had a clinically and statistically significant positive effect on the mental health of clients—the Kessler Psychological Distress Scale (K10)¹⁷ demonstrated that the mean score for Coen and Hopevale reduced by 8.96% and the Health of the Nation Outcome Scale (HoNOS)¹⁸ mean score of health and social functioning reduced by 5%, excluding Aurukun (Health Outcomes International, 2014, p. 43). The lack of improvement in Aurukun was potentially related to a number of incidents in the broader community environment that may have had an impact on individuals (Health Outcomes International, 2014, p. 43). In addition, successful longer-term behavioural change occurred in some clients (Health Outcomes International, 2014, p. 43);
- > The WBCs provided a new and unique approach to providing SEWB services (mental health and drug and alcohol services), with each WBC addressing the range of service expectations of the community and other stakeholders (Health Outcomes International, 2014, p. 9); and
- > Access to SEWB services was greatly enhanced in WBC communities when contrasted to other communities in Cape York (Health Outcomes International, 2014). Overall, 48% of the entire community, 57% of the adult community (>19 years) and 26% of the population <20 years were clients when the review was undertaken, or had been WBC clients (Health Outcomes International, 2014, p. 56).

The review also identified the link between SEWB and physical health and the need for health services to continue to work towards embedding SEWB into all aspects of primary health care (Health Outcomes International, 2014). Integrating functions of WBCs into PHC is likely to reduce service duplication and fragmentation, improve secondary referral pathways and improve client outcomes (Health Outcomes International, 2014). Concurrent strengthening of skills and abilities of PHC practitioners in SEWB issues is likely to enhance client outcomes (Health Outcomes International, 2014).

Finally, several factors were implicated in the success of the WBCs. These included: good integration between the core areas of activity (i.e. counselling, drop-in and groups); capacity of WBCs to work with clients across a number of issues related to SEWB; clients being able to “drop-in” as needed; recognition that it takes time for staff to establish relationships; ability to be a key point of contact and referral for a number of services; development of effective partnerships within the community and between organisations and other services; employment and provision of appropriate levels of training and support for local Indigenous staff; recruiting the right non-Indigenous staff; and facilitating flexibility in programs to respond to local issues and needs (Health Outcomes International, 2014).

The review also highlighted some challenges to the WBCs. The review found that:

- > Sustained and consistent individual-level improvements did not translate into sustained, consistent and clearly observable improvements in outcomes at the community level, except in Coen (Health Outcomes International, 2014, p. 7) (see Table 3.3). However, the evaluation team noted that these issues are not the sole remit of the WBCs and other welfare reform programs have also had challenges realising change in these areas (Health Outcomes International, 2014, p. 7);

¹⁷ The K10 is “a 10-item questionnaire intended to yield a global measure of psychological distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4-week period” (Health Outcomes International, 2014, p. 34).

¹⁸ The HoNOS “was developed to become a standardised assessment tool to be used routinely by all mental health practitioners to measure health outcomes” (Health Outcomes International, 2014, p. 34).

Table 3.3. Community-level changes

	Aurukun	Coen	Hopevale	Mossman Gorge
Alcohol related issue	Same or worse	Improved	Same	Same
Drug related issues	Worse	Same/marginally worse	Same/marginally worse	Same
Community safety	Same	Improved	Same	Improved
As a place to live	Same/marginally better	Better	Same/marginally better	Same/marginally better

Source: Health Outcomes International (2014, p. 8).

- > The service model was resource intensive and, due to cost and other resources required, could not feasibly be replicated in the numerous Indigenous communities across Australia who might benefit from SEWB services (Health Outcomes International, 2014);
- > Based on the level of impact demonstrated over five years, the Cape York SEWB model did not appear to justify the current level of resourcing over the longer term (Health Outcomes International, 2014, p. 7). The evaluation team identified that the relatively short existence of the WBCs may not yet be sufficient to see a flow through to significant and sustained changes at the community level and that the existence of compromised neuro-developmental environments may be adversely impacting on community-wide change and may result in observable changes in certain cohorts in the community (Health Outcomes International, 2014, p. 50).

The evaluation also found that a needs assessment should be undertaken in all communities prior to implementing WBCs to determine the appropriate mix of services, including individual therapeutic counselling and support, drop-in/safe place, groups and community development that would best serve the community (Health Outcomes International, 2014). Furthermore, consideration of how services should be positioned, targeted and implemented should be considered in the context of the particular community, to maximise the chance that the WBC will be successful (Health Outcomes International, 2014, p. 50). To facilitate long-term positive and ongoing changes in both individuals and the community, the evaluation recommended that there should be a focus on children and young people to enable generational change within the community (Health Outcomes International, 2014, p. 50).

RFDS WBCs in Cape York are being transitioned to the ACYHC and will be integrated into the suite of services delivered by Apunipima by 31 March, 2017.

In summary, investment in SEWB and mental health services throughout Australia by the RFDS and its funding partners has helped establish mental health and SEWB services as a normal part of community life. The RFDS continues to develop partnerships with local service providers and tertiary institutions to undertake research projects to further assist the delivery and evaluation of these services.

4.0 Aeromedical retrievals of Australians with mental disorders in remote and rural Australia

Although mental health and SEWB services are provided in some remote and rural communities, not all communities can access prevention, early intervention or treatment services. Even in remote and rural communities where these services are provided, there may be times when individuals experience an acute episode of a mental disorder that necessitates transportation to hospital to receive urgent medical care.

Many remote and rural areas do not have access to comprehensive local medical services, and are either difficult to access by road or too remote to enable timely hospital transfer by road ambulance. Consequently, aeromedical retrieval by the RFDS may be the most effective way of transporting a patient to hospital to receive care for an acute episode of a mental disorder.

Within national hospital statistics, data are reported on the care of Australians who attend hospital for a mental disorder. The outcomes for remote and rural Australians who arrive at hospital via an aeromedical retrieval as the result of a mental disorder are also captured in these data. However, not all components of care provided to remote and rural Australians who are transported via an RFDS aeromedical retrieval for a mental disorder are reported in national data. Specifically, the number of patients transported by the RFDS for a mental disorder, and demographic data have not been previously reported by the RFDS. As a result, the full impact of mental disorders on remote and rural Australians has likely been underestimated, and not brought to the attention of policymakers.

The current chapter, therefore, presents aeromedical retrieval data for remote and rural Australians transported to hospital to receive care for a mental disorder, for the three-year period from 1 July 2013 to 30 June 2016.

4.1 Aeromedical retrievals

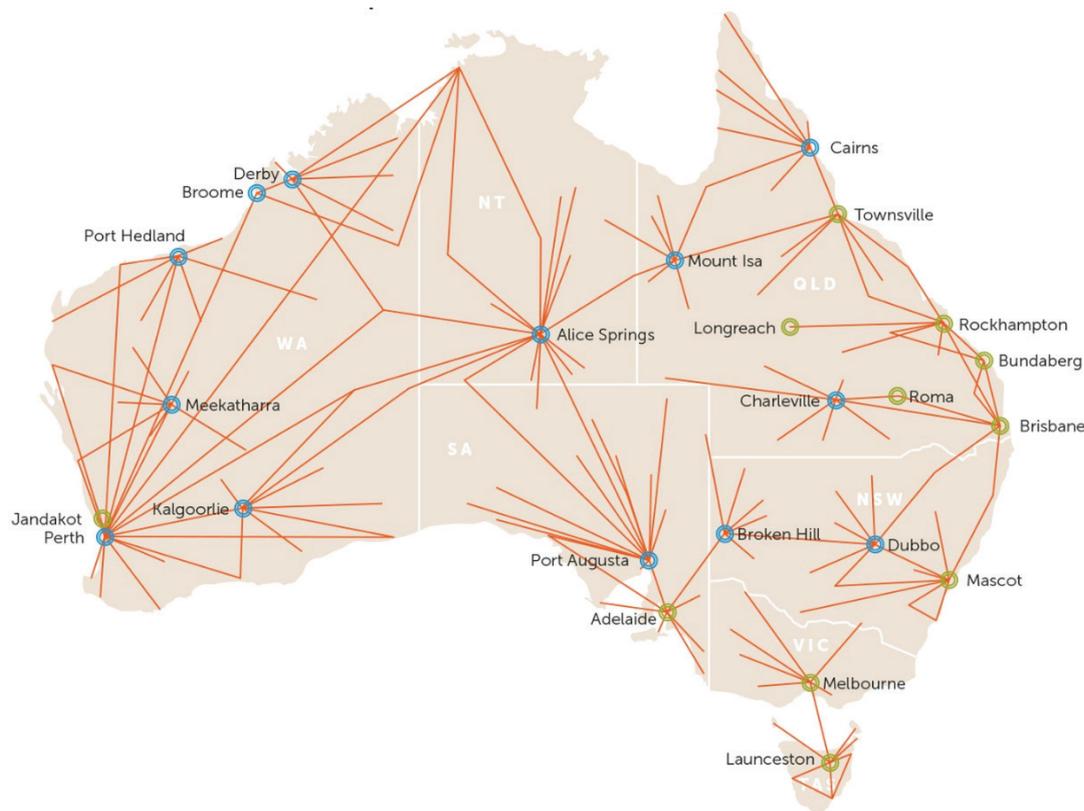
In major cities, the care of sick or injured Australians is characterised by timely access to emergency services, including road ambulance and hospital services. However, most Australian states and territories have areas that are inaccessible by road or have no local medical services. Consequently, patients sustaining illnesses and injuries may need to be transported long distances, in emergency situations, to receive definitive care in a tertiary hospital (McDonnell et al., 2009). The RFDS, as a provider of aeromedical retrieval services, fills this gap and provides a vital service to remote and rural Australians who require emergency medical treatment in a tertiary hospital for any reason, and who are unable to access local emergency medical treatment in a hospital, due to their remoteness.

Although the RFDS is a key provider of remote and rural prehospital care and retrieval services, there are other organisations that also provide retrieval responses, such as Careflight, Lifeflight, South Australia Ambulance Service (SAAS) MedSTAR, Ambulance Vic, Ambulance Tas, and the NSW Newborn and paediatric Emergency Transport Services (NETS). These are supported by health systems and services that coordinate, contract and fund aeromedical retrieval services, and by numerous ambulance services, GPs, and large and small hospitals. Although other providers play an important role in the transport and care of patients in remote and rural

Australia, the current chapter focuses solely on the delivery of aeromedical retrieval services for mental disorders provided by the RFDS.

The RFDS operates a 24-hour, seven-days-a-week (24/7) aeromedical retrieval service, supported by a 24/7 telehealth system, to patients who live, work or travel in remote and rural Australia and who experience a medical emergency requiring definitive care in a tertiary hospital. Patients requiring definitive care in a tertiary hospital are transported via a primary evacuation¹⁹ (PE) or inter-hospital transfer²⁰ (IHT), known as an aeromedical retrieval. The RFDS operates its aeromedical retrieval service from 24 bases in Australia (Figure 4.1).

Figure 4.1. RFDS national aeromedical footprint



Source: Royal Flying Doctor Service (2016a).

4.2 RFDS tasking and retrieval process

The retrieval and transport of sick or injured patients from remote and rural Australia can be challenging. There is a requirement for practitioners to possess a broad range of critical care skills and to be able to apply them in a highly restrictive and unpredictable environment. To deliver comprehensive care to sick or injured remote and rural Australians, remote and rural trauma systems also need to be well organised and coordinated (Norton & Kobusingye, 2013). Such services need to integrate prehospital care, transport, and trauma centre components, while also maximising the use of local health resources (Norton & Kobusingye, 2013).

There are potentially many people who play an important role in the prehospital care of sick or injured remote and rural Indigenous Australians. These are first responders—the people who work to provide medical care to a sick or injured person until the RFDS arrives. First responders may include members of the public, family, friends, work colleagues, staff from nursing posts or small rural hospitals, staff from ACCHOs, paramedics, local GPs, etc.

¹⁹ Primary evacuation: “The provision of emergency medical services to victims of illness or accident who are in a serious or potentially life threatening condition who are beyond the normal medical infrastructure and who require transport and/or medical and nursing care during transport to the nearest suitable hospital (including all fixed wing air transport services directly related to these emergency medical services) but excluding transfers from one hospital to another” (Aspex Consulting, 2014, p. 7).

²⁰ Inter-hospital transfer: “Transfer of patients between hospitals designated as normal medical infrastructure to get specialist treatment and life-saving surgery required” (Aspex Consulting, 2014, p. 34).

Once first responders have made contact with the RFDS, and a decision to retrieve a patient has been made, planning the retrieval process commences (Margolis & Ypinazar, 2009). Medical treatment is most often initiated prior to the arrival of the RFDS medical crew, by on-the-ground primary and secondary health care services (Margolis & Ypinazar, 2009). RFDS doctors provide advice and assistance to those providing immediate care for a sick or injured patient via the RFDS telehealth service (Margolis & Ypinazar, 2009), which may include prescribing the use of items from an RFDS medical chest—a secure package of pharmaceutical and non-pharmaceutical items held by custodians in remote areas of Australia. This is especially important for primary response retrievals to locations without any health care facilities (Margolis & Ypinazar, 2009) or where there is limited health infrastructure and health professionals to assist with sustaining the life of a patient requiring critical care.

RFDS doctors, ambulance coordinators, hospital emergency physicians and, as relevant, other aeromedical providers, such as rotary-wing aeromedical providers, plan and coordinate the retrieval of sick and injured patients (Margolis & Ypinazar, 2009). Once the RFDS has been tasked with retrieving a patient, the patient is allocated a priority for air transport by RFDS medical staff in accordance with RFDS national standards for aeromedical evacuation (Royal Flying Doctor Service of Australia, 2011). The priority system is necessary for ranking patients in order of clinical urgency when the RFDS has multiple requests (Langford, 2015). State and territory-led emergency services operate different methods of prioritisation. The RFDS incorporates these priority systems into its operating procedures in each state and territory.

In all cases, flights depart within specific time frames based on the assessed severity of a patient's condition. For life-threatening emergencies, flights depart in the shortest possible time, subject to weather and essential safety requirements (Langford, 2015). For urgent medical transfers, flights depart promptly, ensuring all flight planning requirements on the ground have been met (Langford, 2015). For less urgent cases, flights are tasked to ensure best use of resources and crew hours (Langford, 2015). When the RFDS has to transport multiple patients, patients with life-threatening illnesses and injuries are prioritised (Langford, 2015).

RFDS aircraft and teams are allocated to patients who require long-distance stretcher transport with medical or nursing care during the trip (Langford, 2015). RFDS medical staff make an assessment of the crew required to support the patient during the flight—some patients require only a flight nurse, while others may require a flight nurse and doctor. Some may also need other specialist care. For example, acute surgical, obstetric and mental health patients may be transferred with a flight nurse alone, while unstable, undifferentiated or complex patients with acute cardiac, respiratory, paediatric or critical care requirements, or major trauma, may have a retrieval team comprising a doctor and flight nurse (Langford, 2015).

Patients able to travel by other means, such as road ambulance or private vehicle, are not usually transported by the RFDS (Langford, 2015).

In addition to transporting a patient, the RFDS is also responsible for transporting a patient's treatment records, examination findings, and diagnostic findings, to facilitate quality ongoing care at the destination hospital (Langford, 2015).

To ensure national consistency in the retrieval and transport of injured patients in remote and rural Australia, the RFDS developed national standards for aeromedical evacuation (Royal Flying Doctor Service of Australia, 2011). The Standards form a national consensus for aeromedical retrievals within the RFDS Sections and Operations, and contain detailed information regarding the minimum requirements for best practice in the clinical care of patients who are transported by the RFDS. In addition to detailed information regarding best practice in the clinical care of patients, they contain information on communication, coordination, priority, flight crew, aircraft, equipment, monitoring, documentation and quality improvement for aeromedical retrievals (Royal Flying Doctor Service of Australia, 2011).

Additional clinical protocols have been developed by the RFDS regarding the transportation of patients with mental disorders. These protocols describe best practice in clinical care and comprehensively detail patient management to ensure the safety of both the patient and staff during an aeromedical retrieval.

4.2.1 The RFDS fleet

The RFDS currently operates a fleet of 67 aircraft. RFDS aircraft are equipped with intensive care facilities and carry a full range of emergency and resuscitation medications and equipment, including facilities for extensive electronic patient monitoring (Margolis & Ypinazar, 2009). Facilities for invasive and non-invasive monitoring, volume- and pressure-controlled mechanical ventilation, multiple infusion devices, a range of trauma and extrication devices, an extensive pharmacy, substantial oxygen reserves and a neonatal isolette (when required), are carried on RFDS aircraft (Margolis & Ypinazar, 2009, p. 364).

4.3 RFDS data collection and coding

The RFDS collects patient information for each aeromedical retrieval. Patient notes are normally handwritten by the retrieval doctor or flight nurse, and entered into specific databases. Twice a year, data are collated, cleaned, and standardised, to enable analyses to be undertaken.

RFDS aeromedical retrieval data from July 2013 to June 2016 were coded according to the disease and injury chapter headings of the ICD-10-AM. An additional coding category was included to ensure ill-defined/unknown conditions were captured in the data. Ill-defined/unknown conditions include those where a definitive diagnosis could not be made by the RFDS medical team prior to a patient's arrival at hospital.

To ensure consistency in reporting data related to all types of health conditions, the WHO developed the ICD clinical cataloguing system which uses alphanumeric codes to enable health professionals to properly note diseases and injuries. It contains codes for signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases and is used to monitor the incidence and prevalence of diseases and other health problems (World Health Organization, 2015). Stored data can be retrieved to produce core national and international statistics (McKenzie, Fingerhut, Walker, Harrison, & Harrison, 2012). Because it is consistently used to classify illnesses and injuries throughout the world, it enables international data to be reliably compared.

Diseases and injuries are classified under one of 22 chapter headings in the ICD-10-AM. Each chapter heading has a range of codes which denote specific illnesses and injuries. Specific diagnoses can be recorded using ICD sub-chapters, or ICD 3-character, 4-character or 5-character codes.

RFDS data presented in the current report were coded under chapter five of the ICD-10-AM—mental and behavioural disorders. Mental and behavioural disorders include disorders of psychological development (World Health Organization, 2016a) and are indicated by ICD-10-AM codes F00–F99 (Table 4.1). It should be noted that intentional self-harm is not coded as a mental and behavioural disorder. Intentional self-harm is coded under ICD-10-AM Chapter 19—Injury, poisoning and certain other consequences of external causes. RFDS data on intentional self-harm are not presented in the current report since these data were only collected at chapter heading level, meaning that it is not possible to discern self-harm attempts from other injuries coded under ICD-10-AM Chapter 19. Even where injuries have been coded to sub-chapter headings, the intent behind the injury is not always known. This means that episodes of intentional self-harm, such as single vehicle car accidents or poisoning, may be coded as unintentional, rather than intentional injuries. As a consequence, it is likely that Australian data underestimate the true impact of intentional self-harm. Although RFDS self-harm data are not presented, international, national and remote and rural statistics regarding self-harm, identified in other publications, are reported.

Table 4.1. ICD-10-AM Chapter 5—Mental and behavioural disorders

Code range	Categories	Examples
F00–F09	Organic, including symptomatic, mental disorders	Dementia in Alzheimer disease, other dementia, other mental disorders due to brain damage or physical disease
F10–F19	Mental and behavioural disorders due to psychoactive substance use	Alcohol dependence or acute alcohol intoxication, opioid dependency or overdose, benzodiazepine dependency or overdose, cocaine dependence or overdose
F20–F29	Schizophrenia, schizotypal and delusional disorders	Schizophrenia, schizotypal personality disorder, schizoaffective disorders
F30–F39	Mood (affective) disorders	Mania, bipolar affective disorder, depressive episode
F40–F48	Neurotic, stress-related and somatoform disorders	Anxiety disorders, panic disorder, obsessive compulsive disorder, post-traumatic stress disorder
F50–F59	Behavioural syndromes associated with physiological disturbances and physical factors	Eating disorders, postnatal depression or postnatal psychosis
F60–F69	Disorders of adult personality and behaviour	Specific personality disorders, gender identity disorders
F70–F79	Mental retardation	Mental retardation
F80–F89	Disorders of psychological development	Specific developmental disorders of speech and language, Asperger syndrome
F90–F98	Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	Conduct disorders, separation anxiety disorder, tic disorders
F99	Unspecified mental disorder	Mental disorder, not otherwise specified

Source: World Health Organization (2016a).

Examples of mental disorders diagnosed under Chapter 5 of the ICD-10-AM include anxiety disorders (e.g. generalised anxiety disorder, panic disorder, post-traumatic stress disorder (PTSD), obsessive compulsive disorder (OCD)), affective disorders (e.g. major depressive disorder, bipolar disorder), substance use disorders (e.g. alcohol or drug dependence), and psychotic disorders (e.g. schizophrenia).

Data recorded under Chapter 5 of the ICD-10-AM—mental and behavioural disorders—were then extracted from the main dataset, analysed, and are presented for the first time in this chapter of the report.

For aeromedical retrievals for mental disorders conducted between July 2013 and June 2016, multiple variables were recorded. De-identified retrieval data included information on:

- > The Section or Operation tasked with performing an aeromedical retrieval for a mental disorder (Central Operations, Western Operations, South Eastern Section,²¹ Qld Section);
- > Retrieval date (day/month/year);
- > Patient's age (either raw age or five-year age group);
- > Gender (male, female); and
- > Indigenous status (Indigenous, non-Indigenous, foreigner (some Sections/Operations), unknown).

²¹ RFDS aeromedical retrieval data presented in the current discussion paper excludes RFDS flights from Mascot airport, which are tasked by Ambulance NSW. It also excludes retrievals from Tas that are undertaken by RFDS under the Ambulance Tas contract.

Data around the Section or Operation tasked with performing the aeromedical retrieval, retrieval date, patient's age and Indigenous status were recoded into categorical variables: the Section or Operation tasked with performing the aeromedical retrieval was recoded into the state/territory from where the patient was retrieved;²² retrieval date was recoded by month and year; patient's age was recoded into discrete five-year age groupings; and 'foreigners' were recoded as non-Indigenous Australians for the Section/Operation that had employed this coding category, in line with national RFDS data.

Within the RFDS, versions 9 and 10 of the ICD were initially used to code mental and behavioural disorders. To facilitate consistency, data were re-categorised according to ICD-10-AM 8th Edition. In the absence of a validated method to recode the subcategories of ICD-9 into ICD-10-AM, and incomplete data around subcategories, data were recoded to clinical diagnostic headings only, rather than subcategories. However, clinical subcategories for aeromedical retrievals from Central Operations (SA and the NT) are provided (where recorded by clinicians) as a case study to illustrate the most common mental disorders impacting patients who are retrieved by the RFDS. Data from Central Operations were chosen as patients from SA and the NT comprised almost half (47%) of all aeromedical retrievals for mental disorders.

4.3.1 Data analyses

All data were analysed using IBM SPSS Statistics for Windows, Version 23.0 or Microsoft Excel 2016.

All analyses used unweighted data, included patients who were transported by the RFDS and required definitive care in a tertiary hospital for a mental disorder, and excluded cases where Indigenous status (n=126 missing), age (n=1 missing) or gender (n=1 missing) were unknown.

RFDS aeromedical retrieval data are provided for all Australians that underwent an aeromedical retrieval for a mental disorder. Data were then analysed by Indigenous status and results from this data analysis are presented.

Aeromedical retrieval data around the specific clinical subcategories of mental disorders are presented for Central Operations. All patients from Central Operations that had been assigned a subcategory diagnosis (n=775) by an RFDS clinician were included in the analysis. Subcategories corresponded to subcategories listed in the ICD-10-AM. Subcategories with less than ten patients were aggregated into a separate category ('Other') to ensure patients could not be identified.

Crude rates, age-specific rates and age-standardised²³ data are also presented in this chapter of the report. Age-specific rates reflect the number of people for a specific age group, expressed per 1,000 of the estimated resident population of that same age group, for a given period. Rates reported by unit of population have also been age-standardised to control for the confounding effect introduced by variations in age compositions of the Indigenous and non-Indigenous populations. The direct method was used with the *Standard Population for Use in Age-Standardisation* (Australian Bureau of Statistics, 2013a), by five-year age groups up to age 64. Ages 65 and older have been aggregated into a single age group to address volatility in small numbers. Age-standardised rates were calculated using an age-standardised rate Excel workbook (Ransom, 2011) and confirmed using a *Direct Age-Standardisation Calculation Tool* (Taylor & Morrell, 2015). Age-standardised rates are expressed per 100,000 population.

²² For example, a flight may be tasked from Essendon airport in Vic to pick up a patient in NSW. As the patient was retrieved from NSW, it would be coded as a NSW retrieval.

²³ Age-standardisation: "A method of removing the influence of age when comparing populations with different age structures. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, and then the disease rates that would have occurred with that structure are calculated and compared" (Harrison & Henley, 2014, p. 137).

4.4 Results

Between July 2013 and June 2016, the RFDS conducted 89,053²⁴ aeromedical retrievals,²⁵ equivalent to 571 aeromedical retrievals per week. Of these, 2,567, or 16.5 retrievals (10.1 male, 6.4 female) per week, were for mental disorders.

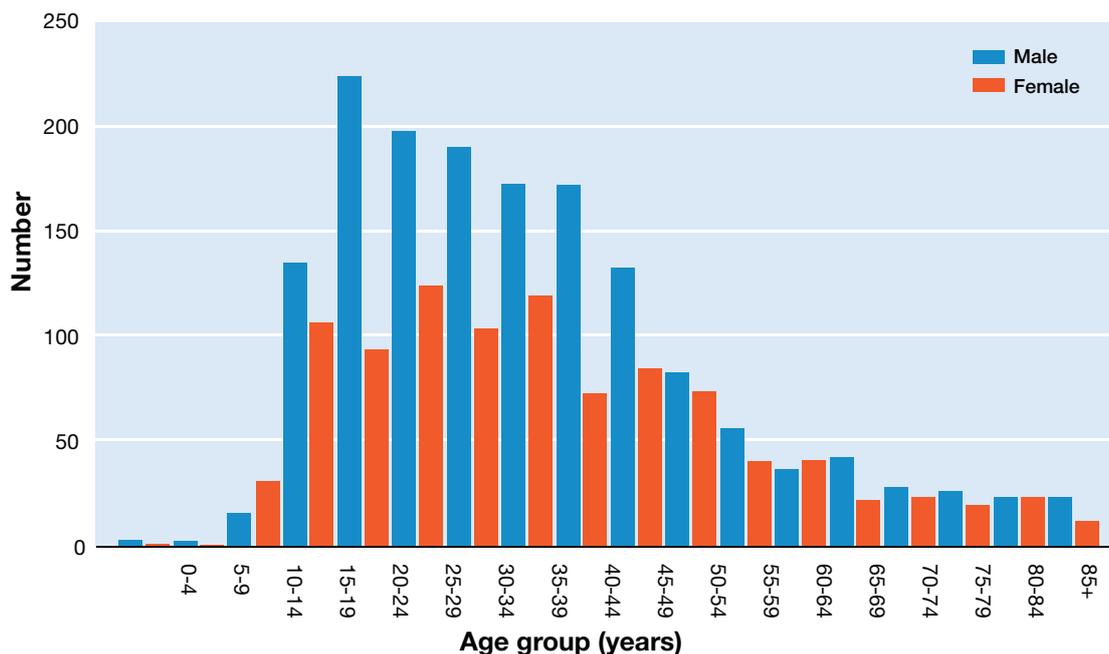
When data for all Australians that underwent an aeromedical retrieval for a mental disorder, between July 2013 and June 2016, were analysed, the following was observed:

- > Both non-Indigenous and Indigenous Australians were retrieved for mental disorders during this period;
- > The gender of patients retrieved for a mental disorder was not evenly distributed. Males (n=1,568, 61.1%) were 1.6 times as likely as females (n=998, 38.9%) to require an aeromedical retrieval for a mental disorder;
- > Australians of all ages underwent aeromedical retrievals. Ages ranged from less than 4 years of age to 85 years of age or older (Figure 4.2);
- > One in every two retrievals (47.8%) for a mental disorder was for a person aged 20–39 years;
- > The mean age at which patients were retrieved was 35–39 years;
- > Males were more likely to undergo an aeromedical retrieval than females for all age groups except 10–14 years and 60–64 years, when females were more likely to be retrieved than males of the same age group;
- > 2.2% of retrievals for mental disorders were for children under the age of 15;
- > One in 10 (9.4%) aeromedical retrievals were for children and young people aged 15–19 years; and
- > Aeromedical retrievals for mental disorders declined for each 5-year increase in age over 40 years. Only 1.4% of retrievals for a mental disorder were for people aged 85 years or older.

²⁴ Excludes 3,473 patients that underwent a repatriation transfer—where a patient was transported back to a local health facility, or their home town, after receiving medical care in a tertiary hospital.

²⁵ Each patient was only transported on one occasion for an acute episode of a condition, within the three-year time period in which data were collected.

Figure 4.2. Gender of Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016



4.4.1 Aeromedical retrievals for mental disorders by Indigenous status

When aeromedical retrievals for mental disorders were considered by Indigenous status, a number of differences were observed (Table 4.2).

Table 4.2. Demographic data for non-Indigenous and Indigenous Australians who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016

Variable	Non-Indigenous	Indigenous	All persons
Number retrieved	N=1,558 (61.1%)	N=863 (38.9%)	2,441 (100%)
Age			
Age range	<4 years to 85+ years	<4 years to 85+ years	<4 years to 85+ years
Mean age group	40–44 years	25–29 years	35–39 years
Gender^a			
Male	n=969 (62.2%)	n=524, (59.3%)	N=1,493 (61.2%)
Female	n=588 (37.8%)	n=359 (40.7%)	N=947 (38.8%)
Proportion	Males 1.6 times as likely as females to be retrieved	Males 1.5 times as likely as females to be retrieved	Males 1.6 times as likely as females

^a Gender missing for one non-Indigenous Australian.

The data demonstrated that:

- > For patients whose Indigenous status was known (n=2,441), around two-thirds were non-Indigenous (n=1,558, 63.8%) and one-third were Indigenous (n=883, 36.2%);
- > Both non-Indigenous and Indigenous Australians retrieved for a mental disorder ranged in age from less than 4 years of age to older than 85 years;
- > The mean age at which a non-Indigenous Australian was retrieved for a mental disorder was 40–44 years, while the mean age at which an Indigenous Australian was retrieved for a mental disorder was 25–29 years; and
- > Non-Indigenous males (n=969, 62.2% of non-Indigenous retrievals) were 1.6 times as likely as non-Indigenous females (n=588, 37.8% of non-Indigenous retrievals) to undergo an aeromedical retrieval for a mental disorder. Similarly, Indigenous males (n=524, 59.3% of Indigenous retrievals) were 1.5 times as likely as Indigenous females (n=359, 40.7% of Indigenous retrievals) to undergo an aeromedical retrieval for a mental disorder.

Population pyramids, presenting non-Indigenous and Indigenous aeromedical retrieval data for mental disorders, by gender and five-year age groups, were developed and enable further comparisons to be made by Indigenous status (Figures 4.3 and 4.4). The population pyramids demonstrate that, for non-Indigenous Australians:

- > The majority (59.6%) of non-Indigenous aeromedical retrievals for a mental disorder were for people aged 20–49 years;
- > Rates of retrieval for a mental disorder were also high for non-Indigenous Australians aged 30–34 years and 40–44 years—each age group was responsible for 11.0% of non-Indigenous aeromedical retrievals;
- > Non-Indigenous males were most likely to undergo an aeromedical retrieval for a mental disorder between the ages of 40 and 44 years (8.0% of all non-Indigenous aeromedical retrievals), whereas non-Indigenous females were most likely to undergo an aeromedical retrieval between the ages of 30 and 34 years and 35 and 39 years (3.7% of all non-Indigenous aeromedical retrievals for each age group);
- > Non-Indigenous males were more likely to undergo an aeromedical retrieval than non-Indigenous females for all age groups except for 10–14-year-olds, when non-Indigenous females were more likely to be retrieved than males of the same age group;
- > 0.2% of non-Indigenous aeromedical retrievals for a mental disorder were for children under the age of 15;
- > 7.6% of non-Indigenous aeromedical retrievals were for children and young people aged 15–19 years; and
- > 2.3% of non-Indigenous aeromedical retrievals for a mental disorder were for people aged 85 years or older.

Figure 4.3. Gender of non-Indigenous Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016

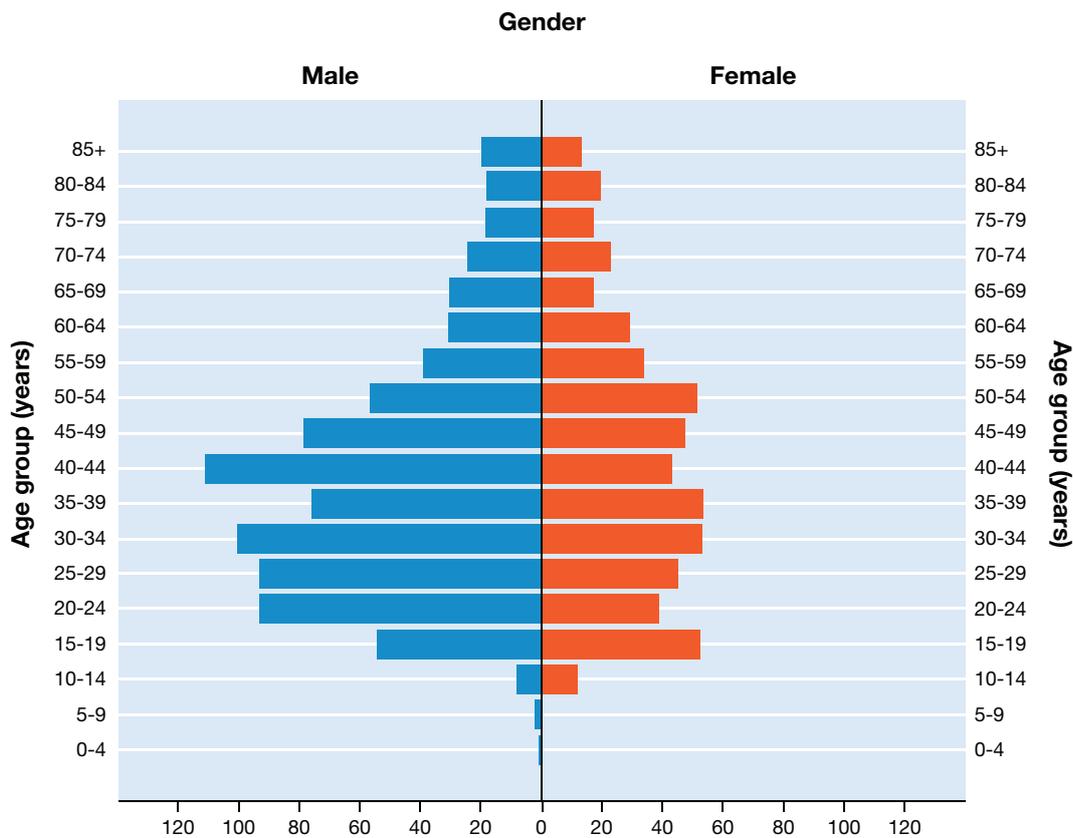
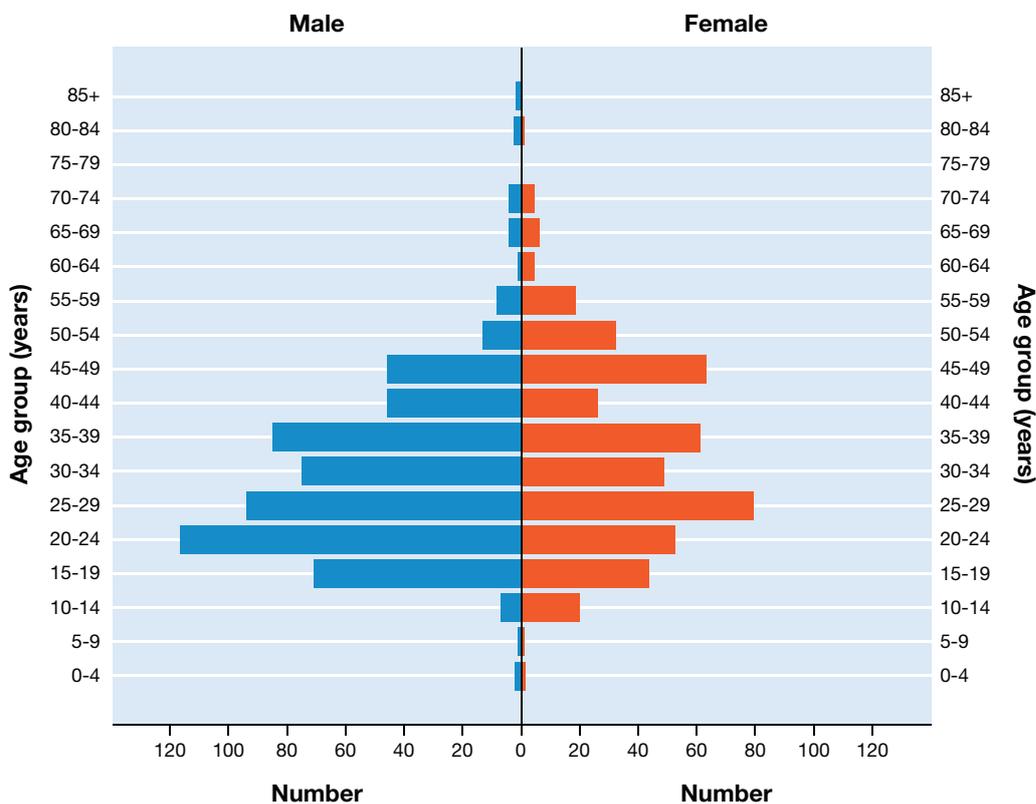


Figure 4.4. Gender of Indigenous Australians, by age group, who underwent an aeromedical retrieval for a mental or behavioural disorder, July 2013–June 2016



The population pyramids demonstrate that, for Indigenous Australians:

- > The mean age for an Indigenous aeromedical retrieval was 25–29 years;
- > More than one-third (34.9%) of Indigenous aeromedical retrievals for a mental disorder were for people aged 20–29 years;
- > Rates of retrieval for a mental disorder were also high for Indigenous Australians aged 30–39 years—27.6% of Indigenous aeromedical retrievals;
- > Indigenous males were most likely to undergo an aeromedical retrieval for a mental disorder between the ages of 20 and 24 years (11.9% of all Indigenous aeromedical retrievals), whereas Indigenous females were most likely to undergo an aeromedical retrieval between the ages of 25 and 29 years (8.0% of all Indigenous aeromedical retrievals);
- > Indigenous males were more likely to undergo an aeromedical retrieval than Indigenous females for all age groups except 10–14 years, 50–54 years and 60–64 years, when Indigenous females were more likely to be retrieved than males of the same age group;
- > 3.2% of Indigenous aeromedical retrievals for a mental disorder were for children under the age of 15;
- > One in eight (11.7%) Indigenous aeromedical retrievals were for children and young people aged 15–19 years; and
- > Only 0.1% of Indigenous aeromedical retrievals for a mental disorder were for people aged 85 years or older.

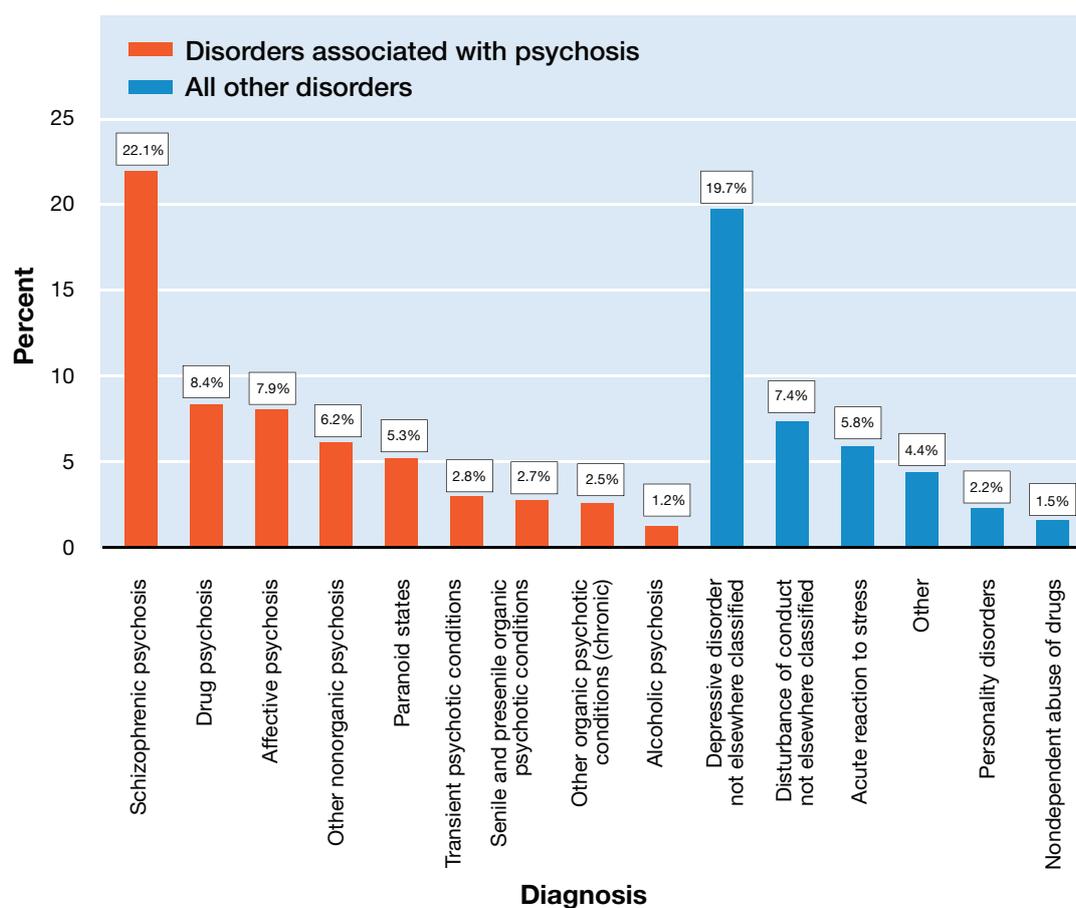
4.4.2 Types of mental disorders patients were retrieved for

A sample of mental disorder subcategory clinical diagnostic data was analysed in order to provide detailed information regarding the specific mental disorder diagnoses warranting aeromedical retrieval by the RFDS.

Subcategory diagnostic data from Central Operations, which was responsible for almost half (47%) of all aeromedical retrievals for mental disorders, were used for the analysis. Of the 1,207 patients retrieved by the RFDS from SA and the NT, subcategory clinical diagnostic data were recorded for 775 (64.2%) of these patients.

Figure 4.5 illustrates the subcategory clinical diagnoses for patients retrieved from SA and the NT for a mental disorder. Patients were retrieved for one of 15 reasons. Disorders characterised by psychosis accounted for the majority of these (59.1%). Psychotic disorders resulting in aeromedical retrievals included schizophrenia, psychosis precipitated by drugs and alcohol, affective psychoses and other organic and non-organic psychoses. Depressive disorders accounted for one in five aeromedical retrievals (19.7%) for mental disorders amongst this subgroup. Conduct disorders and acute reactions to stress were the next most common reasons for an emergency aeromedical retrieval.

Figure 4.5. Subcategory clinical diagnoses (by proportion) for patients retrieved from SA and the NT for a mental disorder, July 2013–June 2016

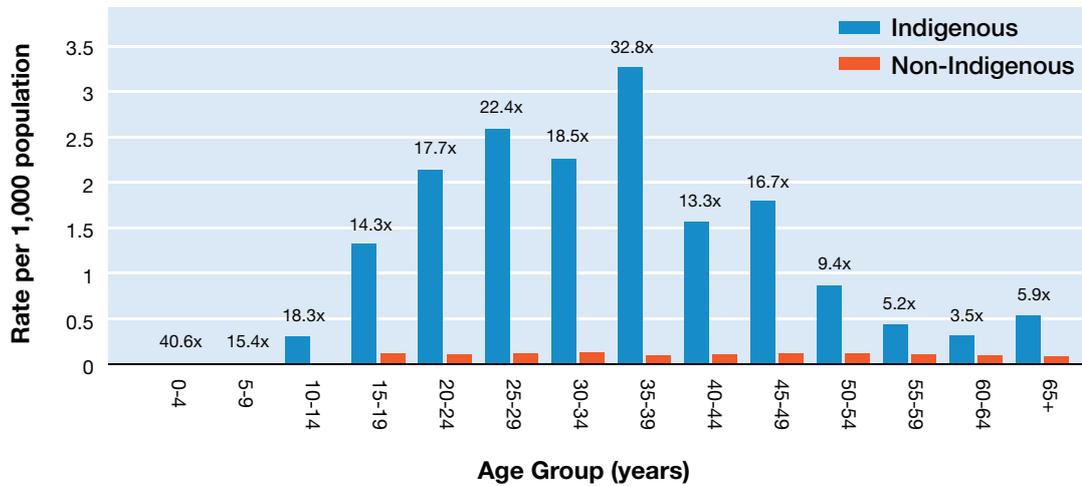


4.4.3 Age-standardised and age-specific aeromedical retrieval rates

Age-standardised data demonstrated that Indigenous Australians (144.0 per 100,000 population) were 20.7 times more likely to be retrieved for a mental disorder than non-Indigenous Australians (7.0 per 100,000 population) by the RFDS between July 2013 and June 2016. Indigenous males (174.2 per 100,000 population) were 19.9 times as likely to undergo an aeromedical retrieval for a mental disorder than non-Indigenous males (8.7 per 100,000 population) during this time period. Indigenous females (115.5 per 100,000 population) were 22 times as likely to be retrieved for a mental disorder than non-Indigenous women (5.2 per 100,000) during the same period.

Age-specific aeromedical retrieval rates for the period July 2013–June 2016 are shown in Figure 4.6. For all age groups, age-specific retrieval rates were higher among Indigenous Australians than non-Indigenous Australians. Overall, the age-specific retrieval rate from July 2013–June 2016 was highest in Indigenous Australians aged 35–39 years (3.25 per 1,000 population), closely followed by Indigenous Australians aged 25–29 years (2.57 per 1,000 population) and 30–34 years (2.24 per 1,000 population). Age-specific aeromedical retrieval rates for non-Indigenous Australians ranged from less than 0.01 retrievals per 1,000 population (non-Indigenous children under 10 years of age) to 0.12 retrievals per 1,000 population (non-Indigenous Australians aged 20–24 years, 30–34 years and 40–44 years).

Figure 4.6. Age-specific aeromedical retrieval rates by the RFDS for mental and behavioural disorders, by Indigenous status, and ratio of Indigenous to non-Indigenous patients, July 2013–June 2016 (retrievals per 1,000 population)



Indigenous Australians of all age groups were between 3.5 times and 40.6 times as likely as non-Indigenous Australians to be retrieved for a mental disorder. Specifically, Indigenous Australians aged 35–39 years were 32.9 times as likely as non-Indigenous Australians of the same age to undergo an aeromedical retrieval for a mental disorder. Similarly, Indigenous Australians aged 25–29 years (22.4 times as likely), 30–34 years (18.5 times as likely) and 20–24 years (17.7 times as likely) were more likely than their non-Indigenous peers of the corresponding age groups to undergo an aeromedical retrieval for a mental disorder. Although Indigenous children aged under five years were 40.6 times as likely as non-Indigenous children to undergo an aeromedical retrieval, the very low retrieval rates amongst this age group should be considered when interpreting this result.

4.4.4 Demand for aeromedical retrievals

Demand for aeromedical retrievals, by non-Indigenous and Indigenous Australians, for the three-year period from July 2013 to June 2016 December 2015, is shown in Figures 4.7 and 4.8, respectively. Figure 4.7 demonstrates that non-Indigenous aeromedical retrievals for mental disorders predominately occurred in SA, WA and Qld. There were pockets of concentrated activity, around Port Augusta and south-western WA. There was consistent demand for non-Indigenous retrievals in the remaining remote and rural areas of Australia.

Figure 4.7. Demand for aeromedical retrievals for mental disorders by non-Indigenous Australians, July 2013–June 2016

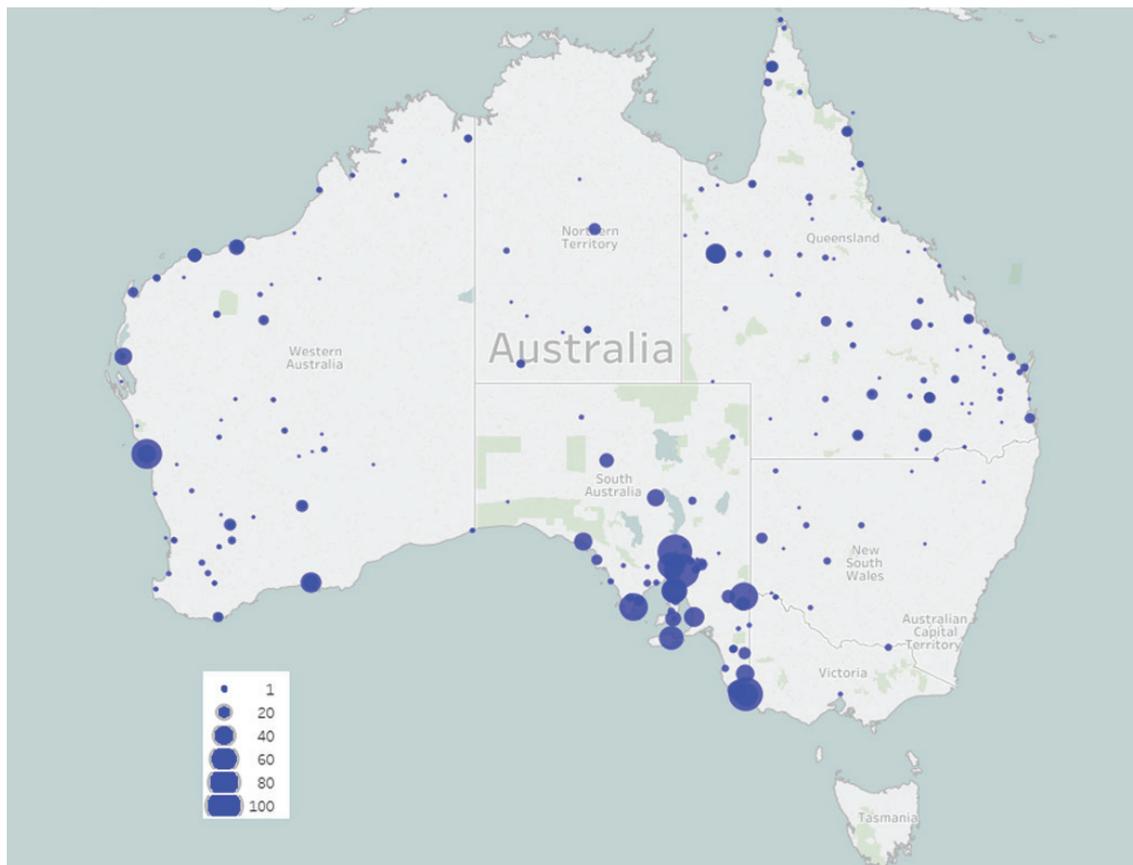


Figure 4.8. Demand for aeromedical retrievals for mental disorders by Indigenous Australians, July 2013–June 2016

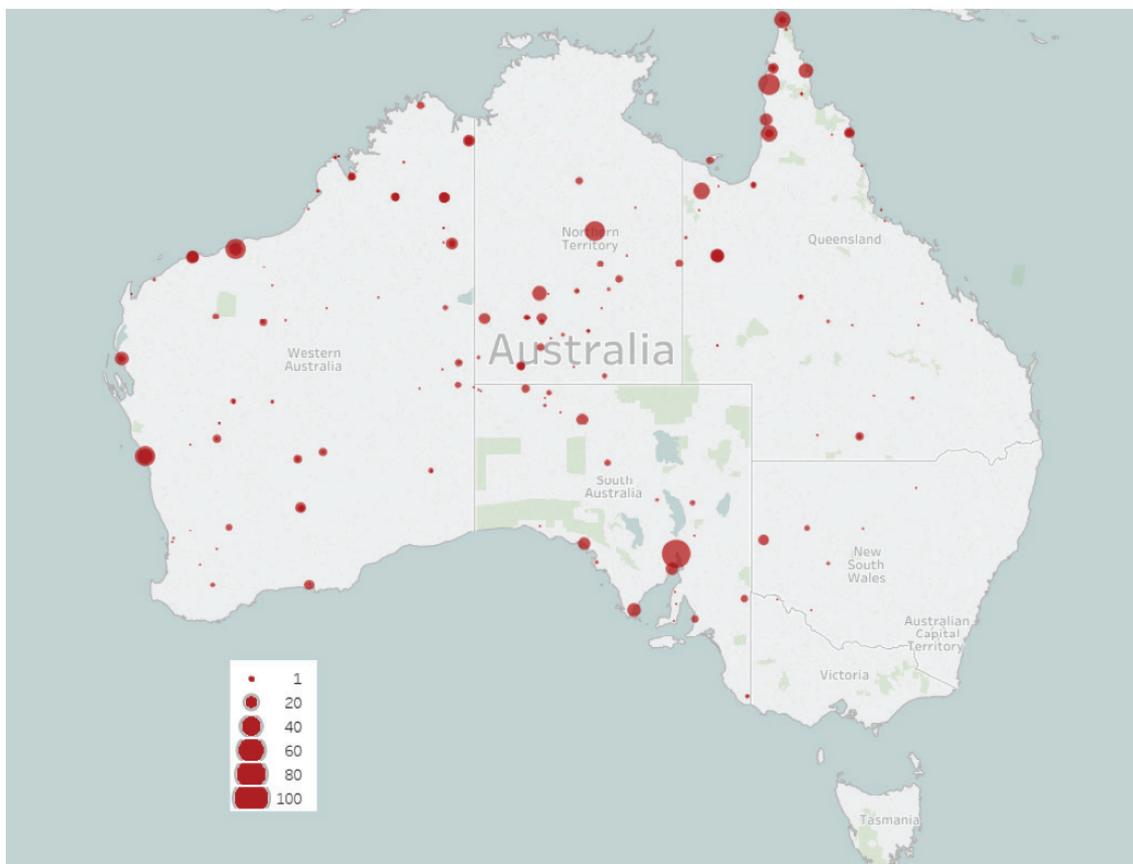


Figure 4.8 demonstrates that Indigenous aeromedical retrievals for mental disorders predominately occurred around Cape York, in Qld, central Australia, and Port Augusta in SA. There were other pockets of concentrated activity around south-western and north-western WA. There was consistent demand for Indigenous retrievals in the remaining remote and rural areas of Australia.

Both non-Indigenous and Indigenous aeromedical retrievals for mental disorders occurred across similar regions. The main difference between non-Indigenous and Indigenous retrievals was observed in Cape York (higher numbers of Indigenous retrievals) and southern SA (higher numbers of non-Indigenous retrievals).

4.5 Discussion

RFDS data demonstrated that between July 2013 and June 2016, 2,567 Australians underwent an aeromedical retrieval for a mental disorder. Each week, 16.5 patients, comprising 10.1 males and 6.4 females, were transported by the RFDS to receive definitive care in a tertiary hospital for a mental disorder.

Both non-Indigenous and Indigenous patients of all ages, from under five to 85 years of age and older, were transported by the RFDS for mental disorders, suggesting that remote and rural Indigenous Australians of all ages experience mental disorders that require treatment in a hospital. The average age for an aeromedical retrieval differed according to Indigenous status—on average Indigenous Australians (25–29 years) transported via an aeromedical retrieval were up to 25 years younger than non-Indigenous Australians (40–49 years). This is likely to reflect the younger age structure of the Indigenous population and the overrepresentation of Indigenous Australians in remote and rural Australia. Indeed, age-standardised and age-adjusted aeromedical retrieval rates confirmed the significant overrepresentation of Indigenous Australians in RFDS aeromedical retrievals. Specifically, age-adjusted data demonstrated that Indigenous Australians of all age groups were between 3.5 times and 40.6 times as likely as non-Indigenous Australians to be retrieved for a mental disorder.

Almost half of all aeromedical retrievals for a mental disorder were for a person aged 20–39 years. Within the sample, males were 1.6 times as likely as females to undergo an aeromedical retrieval for a mental disorder, and were more likely to require an aeromedical retrieval for a mental disorder than females for almost all age groups. Few young children and older Australians underwent aeromedical retrievals for mental disorders.

Analysis of subcategory clinical diagnostic data from the sample of patients from SA and the NT, transported to hospital for emergency medical treatment of a mental disorder, demonstrated that the majority of these patients had a diagnosis related to psychosis. It is not surprising that patients with psychosis accounted for the majority of aeromedical retrievals given the impact of psychosis on an individual experiencing it, their family and the community, and the requirement for rapid treatment to assist individuals in managing the condition.

These data are consistent with national data indicating that mental and behavioural disorders are higher in men, and Indigenous Australians, in remote and rural areas. This overrepresentation of males, and Indigenous Australians in aeromedical retrievals for mental disorders, compared with females and non-Indigenous Australians, is unacceptable. It suggests that prevention, early intervention and ongoing treatment services for people with mental disorders should target all remote and rural males from their late teens to middle age and Indigenous Australians of all ages. In addition, targeted interventions for females aged 10–14 years may be warranted. Targeted interventions amongst these groups may be helpful in reducing the incidence, or mediating the impacts of, mental disorders in remote and rural Australia.

The data also demonstrated that Indigenous aeromedical retrievals for mental disorders were conducted across multiple Australian states and territories, but that the majority of retrievals were undertaken in WA, Qld, the NT, and SA. Within these regions, there were some specific areas where aeromedical retrievals were higher than other areas, including Cape York (higher numbers of Indigenous retrievals) and southern SA (higher numbers of non-Indigenous retrievals). Early intervention, prevention and treatment services should be prioritised in these areas.

4.6 Future opportunities—RFDS data

There is an opportunity for the RFDS to review its data collection procedures and to develop a national data collection policy to be adopted throughout the RFDS Federation. This would enable better reporting of programs, facilitate direct comparisons of data across Australia, and facilitate better assessment of outcomes, and evaluations of, RFDS delivered programs.

More specifically, the RFDS has an opportunity to review its own data collection processes to ensure all relevant data around aeromedical retrievals are collected. It is especially important that indigenous status is recorded for all patients, to enable the RFDS to gain a more complete picture of the nature of mental disorders impacting both Indigenous and non-Indigenous Australians. The RFDS has recently commenced systematically digitising Indigenous and non-Indigenous patient data around illnesses and injuries. Since 2013, illness and injury data have been consistently entered into RFDS electronic databases, enabling the RFDS to gain a national overview of the clients it serves. Systematic collection of data around mental disorders, including more detailed information on the specific mental disorders impacting patients retrieved for a mental disorder, and the settings in which they occur, will enable more comprehensive analyses of aeromedical retrieval data in the future. A future research and policy paper that presents and analyses aeromedical retrieval data regarding diagnoses of specific mental disorders across all states and territories served by the RFDS would facilitate better understanding of the impact of specific mental disorders on remote and rural Australians and would enable disorder-specific prevention, early intervention and treatment services to be targeted and delivered appropriately.

Data linkage between the RFDS and state, territory and national medical datasets (such as hospital data) has commenced in some Sections and Operations within the RFDS. As linkages are established, longitudinal data on patients initially transported by the RFDS, and treated in hospital for a mental disorder, will enable the RFDS to access comprehensive information on a patient's prognosis, treatment, recovery, and rehabilitation service use regarding their mental disorder. Data linkage with local service providers that operate in areas where the RFDS delivers services, such as local GPs, ACCHOs or local hospitals would also assist in providing a more complete picture of the health outcomes of remote and rural Australians with mental disorders.

4.7 Summary

The RFDS plays a vital role in transporting remote and rural Australians to major tertiary hospitals to receive definitive care for a mental disorder. With other sophisticated medical services often unavailable in remote and rural Australia, the RFDS is an integral part of the medical system. The RFDS provided aeromedical retrievals to 2,547 Australians with mental disorders from July 2013 to June 2016. The following chapter proposes recommendations around best practice principles that could be implemented to reduce, or minimise the impact of mental disorders on remote and rural Australians served by the RFDS.

CASE STUDY > MENTAL HEALTH IN REMOTE AREAS



Source: Royal Flying Doctor Service (2016b).



Lynne says that she ‘can’t say enough’ about how helpful the RFDS mental health team and GP has been in assisting her in managing her bipolar disorder.

Her first serious episode happened while she and her husband, Mick, were working hard on rebuilding the hotel at Ivanhoe, where they had moved when she was in her fifties.

“The old hotel had burned down and we were trying to trade out of the dining room, which had been rescued, while also rebuilding,” recalls Lynne. “It was terribly, terribly hot and I was dehydrated. I was quite stressed, for a number of reasons, and my husband Mick had told me to go and have a sleep. But instead I wandered about outside. I took a knife with me and walked around for a while. When I returned I needed to go to the Health Service to get stitched up, as I’d injured myself with the knife. They organised for me to speak to a counsellor and take some medication but I couldn’t settle, and ended up being flown by the RFDS into Broken Hill Base Hospital.”

“This was my first encounter with the RFDS. I spent a few days in hospital before my psychiatrist discharged me with some regular medication. I took this medication for a while, though deep down believed it didn’t suit me right, but yet knew I still wasn’t coping to the best of my ability.”

“I always presented myself as being OK, when I really wasn’t and was actually really struggling,” says Lynne.

“Later when I was medication-free, we experienced a series of deaths in the family which was very tough. I recall driving around one day and then deciding to drive to Hillston but then realising I didn’t have enough petrol. I spun the car, but it had been raining and I was on the dirt, so I spun a full 360 degrees.”

“I managed to get myself home but later was asked by the police if I was driving around town wildly and if I’d left skid marks everywhere? I told him no, I didn’t leave any skid marks! But yes, I had been speeding. My husband and friend recall the mud reached the very top of the back window. Water was scarce at the time so we couldn’t clean the car for a while!”

“It became evident to them and Mick that I wasn’t in my usual state of mind. Eventually I was flown into Broken Hill Base Hospital by the RFDS to see a psychiatrist for further assessment and treatment. It was a bit of trial and error until we found the best medication to stabilise my mood but this is normal, as people respond differently.”

Lynne and her husband sold the hotel just over three years ago and they are now retired and living with their animals in a beautiful home they built by the river in Hillston.

She loves watching her grandkids play football on the weekends, building towards a beautiful garden on the property and spending quality time with family and friends.

Lynne takes a mood-stabilising medication and meets semi-regularly with the RFDS Mental Health Nurse, Vanessa Latham, in person and over the phone, and occasionally with the visiting psychiatrist who works in tandem with the RFDS team in Ivanhoe.



“Often it is a family member who may notice a change in a person first, so it’s important, with our clients’ consent, that we provide education for them as well, ensuring the best support for our clients. With a good therapeutic rapport, clients and their family members can contact us with ease for counselling support or to discuss any new concerns.”

Vanessa Latham, Mental Health Nurse, RFDS, NSW

5.0 Recommendations to improve mental health and reduce the impacts of mental disorders and suicide in remote and rural Australia

Increased investment in, and access to, evidence-based, culturally appropriate, mental health and SEWB services and suicide prevention and intervention activities for remote and rural Australians is required in order to improve mental health and SEWB and reduce the disparities in suicide between remote and rural Australians and Australians living in major cities.

To improve outcomes for remote and rural Australians, investment in mental health, SEWB services and suicide prevention and intervention strategies should be directed towards solution-focused strategies that address the significant risk factors and barriers that adversely impact on outcomes for vulnerable remote and rural populations, including, for example, males from their late teens to middle age, and Indigenous Australians of all ages (World Health Organization, 2014b, p. 7).

Innovative solutions to improving mental health and SEWB outcomes for remote and rural Australians should be considered as they emerge. Whole of population, targeted and individual approaches are required to improve outcomes. Integrated initiatives that address the social determinants of mental health, SEWB and other risk factors for poor mental health outcomes are needed. Initiatives that also address increased risk of suicide, incorporate promotion activities, and facilitate improved access to services are likely to yield the best outcomes.

The remainder of this chapter considers principles and approaches that should underpin efforts to improve mental health and SEWB, and reduce the rates of suicide in remote and rural Australia. The approaches considered in this chapter are not exhaustive but serve as examples of how these issues could be addressed.

5.1 Mental health

Further evidence that remote and rural Australians are disadvantaged in terms of mental health service provision was identified in the 2014 national review of mental health programs and services that was undertaken by the National Mental Health Commission (2014a). This review was conducted “to assess the efficiency and effectiveness of programmes and services in supporting individuals experiencing mental ill-health and their families and other support people to lead a contributing life and to engage productively in the community” (National Mental Health Commission, 2014a, p. 17). The review identified several groups of people with mental ill-health who face compounding disadvantage—including people living in remote and rural areas and Aboriginal and Torres Strait Islander Australians (National Mental Health Commission, 2014a).

Specifically, the review found that:

- > *mental health services in rural and remote areas are transient, face significant workforce shortages and in many cases are decreasing despite high demand*
- > *programmes are given inadequate funding for the additional demands and costs of service delivery in regional, rural and remote areas*
- > *access to services could be improved by wider use of technology and increasing community capacity (National Mental Health Commission, 2014a).*

Although remote and rural Australians experience mental disorders at the same rate as Australians living in other parts of Australia, they are disproportionately impacted by suicide. Indigenous Australians in remote and rural Australia are further impacted—they demonstrate poorer SEWB, higher rates of mental disorders, and higher rates of suicide than their non-Indigenous counterparts in remote and rural Australia. Despite the high demand for mental health, SEWB and suicide prevention services, the evidence from the National Mental Health Commission (2014a) indicated a fragmented system, workforce shortages, inadequate funding and lack of access to some technological infrastructure that could improve access to services (National Mental Health Commission, 2014a).

As a consequence, services such as those delivered through RFDS primary healthcare services, and its specific mental health and SEWB programs, and those delivered by other service providers in remote and rural Australia, are in high demand. A lack of services in some areas was most likely one of the reasons that a proportion of the 2,567 patients that underwent an aeromedical retrieval for a mental disorder, between July 2013 and June 2016, required emergency hospital treatment for an acute episode of a mental disorder. This is unacceptable.

The RFDS therefore recommends that action to improve mental health outcomes of remote and rural Australians would require:

- > Stronger recognition in the Fifth National Mental Health Plan of the significant barriers and challenges, including the large geographic and travel distances, that are faced by those in remote and rural areas when seeking to access comprehensive mental health services, as well as consideration of how these can be overcome;
- > Implementation of innovative service models, including consideration of further use of RFDS infrastructure to deliver necessary, appropriate, and more comprehensive mental health and suicide prevention services, more often; and
- > Appropriate resourcing by all levels of governments, to provide more long-term funding certainty.

The RFDS also supports the feedback of the National Mental Health Consumer Forum regarding the Fifth National Mental Health Plan that:

- > Further explanation is needed on how governments will meet the aspirations of consumers, carers, service providers and other experts; in particular, in the view of the RFDS, how objectives are to be achieved in remote and rural areas where there are significant barriers to access; and
- > For lasting mental health reform, the following is required:
 - A commitment to meaningful improvements in the lives of consumers and carers, including whole-of-life targets and indicators;
 - Assigning specific Ministerial responsibilities across portfolios, including health, social and community services, employment and education;
 - Investment in early intervention and prevention, including through targeted and culturally appropriate services and public messaging for different sections of the population; and
 - Expanding and embedding services in the community, close to need.

More specifically, to improve mental health and SEWB in the remote and rural areas the RFDS serves, the RFDS proposes several actions which are listed and described in Table 5.1.

Table 5.1. Actions to improve mental health and SEWB in remote and rural Australia

Actions	Description	Responsibility
Map availability of remote and rural primary healthcare and acute mental health services	Will allow gaps in service provision to be identified. Governments and service providers can provide appropriate services in identified areas of need where no, or few, services exist	Governments
Identify at risk remote and rural populations	Implement risk factor screening programs and provide early intervention services to ameliorate risk factors and reduce the likelihood of developing mental disorders	Governments, service providers
Develop chronic illness and mental health care plans with patients	Patients receive coordinated care, will assist in reducing the impact of comorbidities on people with mental disorders	Service providers
Implement evidence-based mental health and SEWB services	Ensure evidence of effectiveness regarding the type of service being delivered and the model of care delivery prior to implementation	Governments, service providers
Scale up and extend successful mental health and SEWB programs	Programs that have demonstrated effectiveness are more likely to improve outcomes for people with mental disorders	Governments, service providers
Engage with multiple stakeholders when developing services	Include local communities, consumers, carers, Indigenous Australians etc. in decisions about new health services	Governments, service providers
Expand program support for Indigenous Australians	Work with Aboriginal Community Controlled Health Services (ACCHS) and other Indigenous organisations to improve mental health and SEWB access for Indigenous Australians	Governments, service providers
Provide locally relevant programs	Ensures mental health and SEWB services are locally relevant, reflect the needs of the local community and address the risk factors for these communities	Governments, service providers
Implement holistic programs that take a social determinants of health approach	In doing so, such services should recognise that improving mental health and SEWB for individuals and communities may necessitate linking in with other service providers and agencies	Governments, service providers
Implement programs of different intensities	Include short- and long-term programs to cater to the needs of each community	Governments, service providers
Ensure all services are culturally safe, culturally relevant and appropriate	Will promote greater uptake by Indigenous Australians wishing to access services	Service providers
Ensure mental health and SEWB services are accessible to all people in the community	Facilitate access by all remote and rural Australians regardless of race or cultural beliefs, religion, sexuality, age etc. to ensure comprehensive service provision	Governments, service providers
Resourcing of services by governments	All levels of government commit to resourcing effective programs and providing funding certainty to organisations delivering services	Governments
Ensure services are delivered by appropriately qualified staff	Ensures patients receive appropriate care. Staff to be supported to remain in remote and rural areas	Service providers
Evaluate current and new services to determine efficacy and effectiveness	Ensures there are ongoing benefits to delivering the service, allows services to be modified if these are not being achieved	Governments, service providers
Increase investment in innovative mental health and SEWB service delivery models	Examples include rural outreach, fly-in fly-out, mobile mental health services, where market failure means it is unviable for permanent services to exist	Governments
Increase investment in new and emerging technologies	Includes technologies that show promising signs of effectiveness, such as telepsychiatry, video consultations and other telehealth services	Governments, service providers

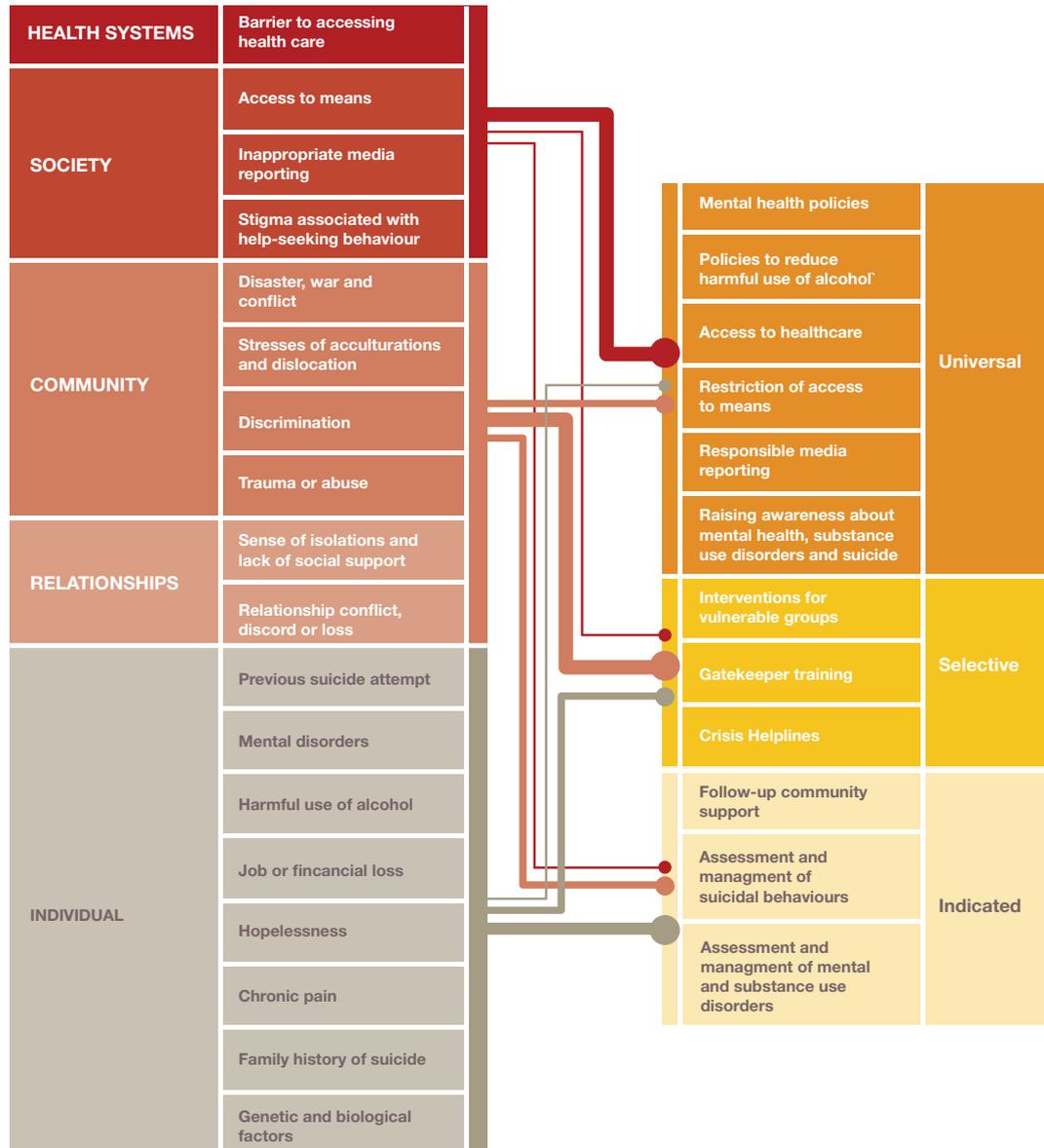
5.2 Suicide

In 2014, the World Health Organization released a report on suicide “to prioritise suicide prevention on the global public health and public policy agendas and to raise awareness of suicide as a public health issue” (World Health Organization, 2014b, p. 7). The report identified the potential to counteract suicide risk factors by implementing ‘universal’, ‘selective’ and ‘indicated’ prevention strategies (World Health Organization, 2014b) (Figure 5.1). Universal strategies describe strategies that are designed to reach the whole population to maximise health and minimise risk of suicide, such as improving access to health care, promoting mental health, reducing harmful use of alcohol, limiting access to the means of suicide and promoting responsible media reporting etc. (World Health Organization, 2014b). Selective prevention strategies describe strategies that are targeted at vulnerable groups within a population, such as people who have experienced trauma or abuse, refugees, people bereaved by suicide etc., by training gatekeepers to assist these vulnerable groups of people and by offering helping services such as telephone helplines (World Health Organization, 2014b). Indicated strategies are targeted at vulnerable individuals, (such as those who have made a suicide attempt), through the provision of community support, follow-up for those leaving health care facilities, education and training for health workers, and improved identification and management of mental and substance use disorders (World Health Organization, 2014b). The report also identified that prevention can “be strengthened by encouraging protective factors such as strong personal relationships, a personal belief system and positive coping strategies” (World Health Organization, 2014b, p. 8).

Australia also has a national suicide prevention strategy, a national Aboriginal and Torres Strait Islander suicide prevention strategy (Department of Health and Ageing, 2013) and a framework for prevention of suicide in Australia (Department of Health and Ageing, 2008). Each of Australia’s states and territories have also developed plans to improve mental health and SEWB and address suicide in their communities.

The World Health Organization (2014b) identified six universal, three selective and three indicated suicide prevention strategies that aligned with the key risk factors for suicide. Furthermore, the World Health Organization (2014b) identified 11 typical components of national suicide prevention strategies. These were related to: surveillance; means restriction; media; access to services; training and education; treatment; crisis intervention; postvention; awareness; stigma reduction; and oversight and coordination (World Health Organization, 2014b, p. 57).

Figure 5.1. Key risk factors for suicide aligned with relevant interventions



Note: Lines reflect the relative importance of interventions at different levels for different areas of risk factors.

Source: World Health Organization (2014b, p. 31).

In response to the WHO report, Suicide Prevention Australia (2014) reviewed the findings in relation to Australia’s suicide prevention efforts and identified where Australia’s efforts were yielding positive results and where Australia could be doing things differently (Figure 5.2). Suicide Prevention Australia (2014) identified that Australia was doing well on means restriction by reducing the availability, accessibility and attractiveness of the means to suicide and on promoting implementation of media guidelines around the responsible reporting of suicide and mental illness. Australia has taken some positive action in relation to increasing the quality of suicide data, promoting access to services, improving the quality of clinical care for people who have attempted suicide, and in raising awareness about suicide and stigma reduction. More work is required to oversee and coordinate Australia’s national suicide prevention strategy and in crisis intervention.

Figure 5.2. Summary of Australia’s current suicide prevention performance

Component	Description
Strategy, oversight and coordination	 Creation of a national strategy to prevent suicide. Establish institutions or agencies to promote and coordinate research, training and service delivery in respect of suicidal behaviours. Strengthen health and social system responses to suicidal behaviour.
Data (surveillance)	 Increase quality and timeliness of national data on suicide and suicide attempts. Support the establishment of an integrated data collection system which serves to identify vulnerable groups, individuals and situations.
Means restriction	 Reduce the availability, accessibility and attractiveness of the means to suicide (e.g. firearms, high places). Reduce toxicity/lethality of available means.
Media	 Promote implementation of media guidelines to support responsible reporting of suicide in print, broadcasting and social media.
Training and education	 Maintain comprehensive training programs for identified gatekeepers (e.g. health workers, educators, police). Improve the competencies of mental health and primary care providers in the recognition and treatment of vulnerable persons.
Access to service	 Promote increased access to comprehensive services for those vulnerable to suicidal behaviours. Remove barriers to care.
Treatment	 Improve the quality of clinical care and evidence-based clinical interventions, especially for individuals who present to hospital following a suicide attempt. Improve research and evaluation of effective interventions.
Crisis intervention	 Ensure that communities have the capacity to respond to crises with appropriate interventions and that individuals in a crisis situation have access to emergency mental health care, including through telephone helplines or the internet.
Postvention	 Improve response to and caring for those affected by suicide and suicide attempts. Provide supportive and rehabilitative services to persons affected by suicide attempts.
Awareness and stigma reduction	 Establish public information campaigns to support the understanding that suicides are preventable. Increase public and professional access to information about all aspects of preventing suicidal behaviour. Promote use of mental health services, and services for the prevention of substance abuse and suicide. Reduce discrimination against people using these services.
Key	 Australia has taken positive strides in this area and has shown demonstrable outcomes/is a leading international example in the sector. The focus now is on continuous improvement.  Australia has undertaken some positive action in this area but has some way to go toward full implementation.  Australia is performing poorly in this area and serious action planning is required.

Source: Adapted from Suicide Prevention Australia (2014, p. 7) and World Health Organization (2014b, p. 57).

As described, there is strong evidence that suicides and suicide attempts can be prevented by implementing measures at population, sub-population and individual levels (World Health Organization, 2016d). However, suicide is a complex issue, and prevention efforts across all areas of Australia, including remote and rural areas, require multi-sectorial collaboration and coordination between the health sector and other sectors such as education, labour, agriculture, business, justice, law, defence, politics, and the media (World Health Organization, 2016d). These efforts must be comprehensive and integrated as no single approach alone can make an impact on an issue as complex as suicide (World Health Organization, 2016d).

Australia’s national suicide prevention strategy provides a platform for Australia’s national policy on suicide prevention with an emphasis on promotion, prevention and early intervention. The Living is for Everyone (LIFE) framework (Department of Health and Ageing, 2008) presents an overarching evidence-based strategic policy framework for suicide prevention in Australia.

The RFDS supports including the 11 components of suicide prevention (surveillance; means restriction; media; access to services; training and education; treatment; crisis intervention; postvention; awareness; stigma reduction; and oversight and coordination), identified by the World Health Organization (2014b), into national and remote and rural suicide prevention plans. In particular, the RFDS supports activities that target vulnerable remote and rural populations, including males from their late teens until middle age, and Indigenous Australians.

Furthermore, the RFDS supports the National Coalition for Suicide Prevention in its recommendations for six key elements to support national suicide prevention (Suicide Prevention Australia, 2014), and believes these principles should be applied to suicide prevention efforts in remote and rural Australia. These recommendations include:

- > Making suicide prevention a multi-sectorial priority, regardless of resources—to ensure suicide prevention is approached strategically and that intersectoral action plans and programmes for the prevention of suicidal behaviours at national, regional and local levels are well coordinated;
- > Tailoring for diversity—ensuring activities are appropriate to the social and cultural needs of the groups or populations being served;
- > Establishing best practices—making better use of available knowledge and focusing on testing the effectiveness of evidence-informed or evidence-based interventions;
- > Allocating resources appropriately (finances, time, staff)—comprehensive strategies should specify financial (should be financially sustainable) and human resources, a time frame for implementation, and short-to-medium and long-term objectives;
- > Using evaluation findings and sharing lessons learned to promote effective planning and collaboration—planning and evaluation should be done collaboratively with all stakeholders to address the underlying assumptions, identify the resources and inputs needed, and plan the activities that will lead to desired outcomes; and
- > Using evaluation findings and sharing lessons learned—by including evaluation as a routine part of any program design and creating a national register of effective interventions (Suicide Prevention Australia, 2014).

5.3 Summary

It is clear that multiple strategies are required to improve the mental health and SEWB of remote and rural Australians and to reduce the incidence and impacts of suicide on these communities. Increased investment in, and access to, evidence-based, culturally appropriate mental health and SEWB services and suicide prevention and intervention activities for remote and rural Australians is required. This chapter outlined the principles that should underpin these efforts. It identified the need for multi-sectorial cooperation between governments, health services, other organisations, researchers and local communities to improve outcomes for remote and rural Australians.

6.0 Conclusion

The current paper has provided information on the suite of services provided by the RFDS to improve mental health, enhance SEWB and improve outcomes for people with mental disorders. It has also made aeromedical retrieval data, for people transported to hospital for a mental disorder, available for the first time.

Previous research has demonstrated that the prevalence of mental disorders is similar throughout Australia. However, rates of suicide and self-harm are higher in remote and rural areas, and increase with increasing remoteness. In particular, farmers, young men, older people, and Indigenous Australians in remote areas are at greatest risk of completing suicide.

Several risk factors for mental disorders and suicide have been identified, including psychological, social, environmental and biological risk factors. For remote and rural Australians, these are compounded by poor access to primary and acute care; limited numbers of mental health services and mental health professionals; reluctance to seek help; concerns about stigma; distance and cost; and cultural barriers in service access.

The paper demonstrated that the RFDS plays an important role in the provision of services to remote and rural Australians experiencing mental disorders through its primary healthcare program, 13 specialist mental health and SEWB programs, and emergency aeromedical retrieval service. Between July 2013 and June 2016, the RFDS provided 2,567 or 16.5 aeromedical retrievals (10.1 male, 6.4 female) per week, for mental disorders. Males, were 1.6 times as likely as females to require an aeromedical retrieval for a mental disorder. Age-adjusted data demonstrated that Indigenous Australians were up to 40 times as likely as non-Indigenous Australians to undergo an aeromedical retrieval for a mental disorder, depending on their age. A sample of more than 700 patients demonstrated that psychoses (59.2%) were the leading reason for an aeromedical retrieval.

Demand for RFDS mental health and SEWB services currently exceeds availability, suggesting that mental health and SEWB services are a vital service for remote and rural Australians. Investment in SEWB and mental health services throughout Australia by the RFDS and its funding partners has helped establish mental health and SEWB services as a normal part of community life.

However, more services are needed in remote and rural Australia. The RFDS recommends that any new mental health and SEWB services in remote and rural Australia incorporate a number of components. Programs should: be provided in identified areas of need; focus on prevention and early intervention; be evidence-based and evaluated; be locally relevant, address community risk factors and include input from the community, consumers, carers and Indigenous Australians in decisions about new services; take a social determinants of health approach and be holistic; be implemented in collaboration with other organisations delivering mental health and SEWB services; be implemented in collaboration with consumers, families and carers; be culturally appropriate and safe; be provided with a comprehensive primary health approach; and facilitate access by all members of the local community.

References

- American Foundation for Suicide Prevention. (2016). *Suicide statistics*. Retrieved from <https://afsp.org/about-suicide/suicide-statistics/> on 12/12/2016.
- Arnautovska, U., McPhedran, S., & De Leo, D. (2015). Differences in characteristics between suicide cases of farm managers compared to those of farm labourers in Queensland, Australia. *Rural and Remote Health*, 15(3), 3250.
- Aspex Consulting. (2014). Royal Flying Doctor Service traditional services–systems development: *Paper on classification, counting and measurement*. East Melbourne: Aspex Consulting.
- Australian Bureau of Statistics. (2008). *National Survey of Mental Health and Wellbeing 2007: Summary of results*. ABS cat no. 4326.0. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2013a). *Australian demographic statistics, March 2013*. ABS cat. no. 3101.0. Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3101.0Main+Features1Mar%202013?OpenDocument> on 14/12/2016.
- Australian Bureau of Statistics. (2013b). *Estimates of Aboriginal and Torres Strait Islander Australians, June 2011*. ABS cat. no. 3238.0.55.001. Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3238.0.55.001Main+Features1June%202011?OpenDocument> on 13/06/2016.
- Australian Bureau of Statistics. (2014). *Australian Aboriginal and Torres Strait Islander Health Survey: First results, 2012–13*. ABS cat. no. 4727.0.55.001. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2016a). *Causes of death, Australia, 2014*. ABS cat. no. 6324.0. Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3303.02014?OpenDocument> on 24/03/2016.
- Australian Bureau of Statistics. (2016b). *Causes of death, Australia, 2015*. ABS cat. no. 3303.0. Retrieved from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/47E19CA15036B04BCA2577570014668B?opendocument> on 12/12/2016.
- Australian Health Ministers. (2009). *Fourth national mental health plan: An agenda for collaborative government action in mental health 2009–2014*. Canberra: Commonwealth of Australia.
- Australian Institute of Aboriginal and Torres Strait Islander Studies. (2014). *Population and distribution*. Retrieved from <http://aiatsis.gov.au/explore/articles/population-and-distribution> on 13/06/2016.
- Australian Institute of Health and Welfare. (2011). *The health and welfare of Australia's Aboriginal and Torres Strait Islander people, an overview 2011*. Cat. no. IHW 42. Canberra: Australian Institute of Health and Welfare.
- Australian Institute of Health and Welfare. (2013a). *Aboriginal and Torres Strait Islander health performance framework 2012: Detailed analyses*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2013b). *Healthy for Life—Aboriginal Community Controlled Health Services: Report card. Cat. no. IHW 97*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2014a). *Australia's health 2014*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2014b). *Mental health services in Australia: National health workforce data set: Medical practitioners 2014*. Retrieved from <https://mhsa.aihw.gov.au/resources/workforce/> on 13/12/2016.

Australian Institute of Health and Welfare. (2015a). *Aboriginal and Torres Strait Islander health performance framework 2014 report: Detailed analyses. Cat. no. IHW 167*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2015b). *The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2015. Cat. no. IHW 147*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016a). *Admitted patient care 2014–15: Australian hospital statistics. Health services series no. 68. Cat. no. HSE 172*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016b). *Australia's health 2016. Australia's health series no. 15. Cat. no. AUS 199*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016c). *Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011. Australian Burden of Disease Study series no. 3. BOD 4*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016d). *Emergency department care 2015–16: Australian hospital statistics. Health services series no. 72. Cat. no. HSE 182*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016e). *Mental health services—in brief 2016. Cat. no. HSE 180*. Canberra: Australian Institute of Health and Welfare.

Australian Institute of Health and Welfare. (2016f). *Mental health services in Australia*. Retrieved from <http://mhsa.aihw.gov.au/home/> on 12/12/2016.

Australian Institute of Health and Welfare. (2016g). *National health priority areas*. Retrieved from <http://www.aihw.gov.au/national-health-priority-areas/> on 12/12/2016.

Australian Institute of Health and Welfare, & Australian Institute of Family Studies. (2013). *Strategies and practices for promoting the social and emotional wellbeing of Aboriginal and Torres Strait Islander people. Resource sheet no. 19. Produced for the Closing the Gap Clearinghouse*. Canberra and Melbourne: Australian Institute of Health and Welfare and Australian Institute of Family Studies.

Australian Unity, & Deakin University. (2015). *What makes us happy? Third edition*. Melbourne: Australian Unity.

Balaratnasingam, S., Anderson, L., Janca, A., & Lee, J. (2015). Towards culturally appropriate assessment of Aboriginal and Torres Strait Islander social and emotional well-being. *Australasian Psychiatry*, 23(6), 626–629.

Baxter, A. J., Ferrari, A. J., Erskine, H. E., Charlson, F. J., Degenhardt, L., & Whiteford, H. A. (2014). The global burden of mental and substance use disorders: Changes in estimating burden between GBD1990 and GBD2010. *Epidemiology and Psychiatric Sciences*, 23(3), 239–249.

beyondblue. (2015). *Anxiety and depression: An information booklet*. Melbourne: beyondblue.

beyondblue. (2016). *What is mental health?* Retrieved from <https://www.beyondblue.org.au/the-facts/what-is-mental-health> on 15/11/2016.

Blackman, A., Franklin, R. C., Rossetto, A., & Gray, D. E. (2015). Transforming farm health and safety: The case for business coaching. *Journal of Agricultural Safety and Health*, 21(1), 35–46.

Booth, M., Hill, G., Moore, M. J., Dalla, D., Moore, M. G., & Messenger, A. (2016). The new Australian Primary Health Networks: How will they integrate public health and primary care? *Public Health Research and Practice*, 26(1), e2611603.

Booth, N., Briscoe, M., & Powell, R. (2000). Suicide in the farming community: Methods used and contact with health services. *Occupational and Environmental Medicine*, 57, 642–644.

Brew, B., Inder, K., Allen, J., Thomas, M., & Kelly, B. (2016). The health and wellbeing of Australian farmers: A longitudinal cohort study. *BMC Public Health*, 16, 988.

Britt, H., Miller, G. C., Henderson, J., Bayram, C., Harrison, C., Valenti, L., Wong, C., Gordon, J., Pollack, A. J., Pan, Y., & Charles, J. (2015). *General practice activity in Australia 2014–15. General practice series no.38*. Sydney: Sydney University Press.

Cheung, Y. T., Spittal, M. J., Pirkis, J., & Yip, P. S. (2012). Spatial analysis of suicide mortality in Australia: Investigation of metropolitan-rural-remote differentials of suicide risk across states/territories. *Social Science and Medicine*, 75(8), 1460–1468.

Chisholm, D., Sweeny, K., Sheehan, P., Rasmussen, B., Smit, F., Cuijpers, P., & Saxena, S. (2016). Scaling-up treatment of depression and anxiety: A global return on investment analysis. *The Lancet Psychiatry*, 3(5), 415–424.

ConNetica. (2016). Suicide in Australia - key facts. Retrieved from https://static1.squarespace.com/static/5858b2276b8f5be324ffeff/t/5898ff2f15d5dba05f6c9c9d/1486421825261/media_background - suicide-suicide_prevention_australia_may_24_final.pdf on 15/11/2016.

Department of Health. (2014). *National mental health strategy*. Retrieved from <http://www.health.gov.au/internet/main/publishing.nsf/content/mental-strat> on 20/12/2016.

Department of Health. (2015). *PHN background*. Retrieved from <http://www.health.gov.au/internet/main/publishing.nsf/Content/PHN-Background> on 10/11/2016.

Department of Health. (2016). *Mental Health Services in Rural and Remote Areas (MHSRRA)*. Retrieved from <http://www.health.gov.au/internet/main/publishing.nsf/content/mental-rural> on 17/11/2016.

Department of Health and Ageing. (2004). *Social and emotional well being framework: A national strategic framework for Aboriginal and Torres Strait Islander peoples' mental health and social and emotional well being 2004–2009*. Prepared by Social Health Research Group for National Aboriginal and Torres Strait Islander Health Council and National Mental Health Working Group. Canberra: Department of Health and Ageing.

- Department of Health and Ageing. (2007). *Fact sheet 18: Suicide in rural and remote communities*. Retrieved from <http://www.livingisforeveryone.com.au/uploads/docs/LIFE-Fact%20sheet%2018.pdf> on 13/12/2016.
- Department of Health and Ageing. (2008). *Living Is For Everyone (LIFE): A framework for prevention of suicide in Australia*. Canberra: Australian Government.
- Department of Health and Ageing. (2013). *National Aboriginal and Torres Strait Islander suicide prevention strategy*. Canberra: Department of Health and Ageing.
- Department of Social Services. (2016). *Mental health*. Retrieved from <https://www.dss.gov.au/our-responsibilities/mental-health/programs-services#4> on 31/1/2017.
- Dudgeon, P., Calma, T., & Holland, C. (2015). Future directions In Aboriginal and Torres Strait Islander social and emotional wellbeing, mental health and related areas policy. Retrieved from <http://natsilmh.org.au/sites/default/files/Future%20Directions%20in%20Aboriginal%20and%20Torres%20Strait%20Islander%20Social%20and%20Emotional%20Wellbeing,%20Mental%20Health%20and%20Related%20Areas%20Policy.docx> on 6/12/2016.
- Garvan Research Foundation. (2015). *Medical research and rural health: Garvan report 2015*. Darlinghurst: Garvan Research Foundation.
- Government of Western Australia. (2010). What is mental health? http://www.mentalhealth.wa.gov.au/mental_illness_and_health/mh_what_is.aspx on 15/11/2016.
- Harrison, J. E., & Henley, G. (2014). *Suicide and hospitalised self-harm in Australia: Trends and analysis. Injury research and statistics series no. 93. Cat. no. INJCAT 169*. Canberra: Australian Institute of Health and Welfare.
- Health Outcomes International. (2014). *Department of Health evaluation of Cape York wellbeing centres: Final evaluation report, September 2014*. Glynda: Health Outcomes International.
- Hunter, E., Gynther, B., Anderson, C., Onnis, L., Groves, A., & Nelson, J. (2011). Psychosis and its correlates in a remote Indigenous population. *Australasian Psychiatry*, 19(5), 434–438.
- Inder, K. J., Berry, H., & Kelly, B. J. (2011). Using cohort studies to investigate rural and remote mental health. *Australian Journal of Rural Health*, 19(4), 171–178.
- Jorm, A. F., Allen, N. B., Morgan, A. J., Ryan, S., & Purcell, R. A. (2013). *A guide to what works for depression: 2nd Edition*. Melbourne: beyondblue.
- Judd, F., Jackson, H., Fraser, C., Murray, G., Robins, G., & Komiti, A. (2006). Understanding suicide in Australian farmers. *Social Psychiatry and Psychiatric Epidemiology*, 41(1), 1–10.
- King, M., Smith, A., & Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *Lancet*, 374(9683), 76–85.
- Köives, K., Milner, A., McKay, K., & De Leo, D. (2012). *Suicide in rural and remote areas of Australia*. Brisbane: Australian Institute for Suicide Research and Prevention.
- KPMG. (2013). *The economic cost of suicide in Australia. Report prepared for Menslink*. Sydney: KPMG.
- Lai, H. M., Cleary, M., Sitharthan, T., & Hunt, G. E. (2015). Prevalence of comorbid substance

use, anxiety and mood disorders in epidemiological surveys, 1990-2014: A systematic review and meta-analysis. *Drug and Alcohol Dependence*, 154(154), 1–13.

Langford, S. (2015). *Transporting your patient: Guidelines for organising and preparing patients for transfer by air*. Jandakot: Royal Flying Doctor Service of Australia Western Operations.

Lawrence, D., Johnson, S., Hafekost, J., Boterhoven De Haan, K., Sawyer, M., Ainley, J., & Zubrick, S. R. (2015). *The mental health of children and adolescents. Report on the second Australian child and adolescent survey of mental health and wellbeing*. Canberra: Department of Health.

Margolis, S. A., & Ypinazar, V. A. (2009). Aeromedical retrieval for critical clinical conditions: 12 years of experience with the Royal Flying Doctor Service, Queensland, Australia. *Journal of Emergency Medicine*, 36(4), 363–368.

McDonnell, A., Aitken, P., Elcock, M., & Veitch, C. (2009). The organisation of trauma services for rural Australia. *Australasian Journal of Paramedicine*, 7(2).

McKenzie, K., Fingerhut, L., Walker, S., Harrison, A., & Harrison, J. E. (2012). Classifying external causes of injury: History, current approaches, and future directions. *Epidemiologic Reviews*, 34, 4–16.

Medibank Private Limited, & Nous Group. (2013). *The case for mental health reform in Australia: A review of expenditure and system design*. Retrieved from https://www.medibankhealth.com.au/files/editor_upload/File/Mental%20Health%20Full%20Report.pdf on 13/12/2016.

mindhealthconnect. (2014). *Mental health and wellbeing*. Retrieved from <http://www.mindhealthconnect.org.au/mental-health-and-wellbeing> on 22/2/2017.

Morgan, V. A., Waterreus, A., Jablensky, A., Mackinnon, A., McGrath, J. J., Carr, V., Bush, R., Castle, D., Cohen, M., Harvey, C., Galletly, C., Stain, H. J., Neil, A., McGorry, P., Hocking, B., Shah, S., & Saw, S. (2011). *People living with psychotic illness 2010: Report on the second Australian national survey*. Canberra: Department of Health and Ageing.

Murray, C. J. L., & Lopez, A. D. (1996). *The Global Burden of Disease: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge: Harvard University Press.

National Disability Insurance Scheme. (2016). *Psychosocial disability, recovery and the NDIS*. Retrieved from <https://www.ndis.gov.au/medias/documents/heb/h21/8799160959006/Fact-Sheet-Psychosocial-disability-recovery-and-the-NDIS-PDF-774KB-.pdf> on 31/1/2017.

National Institute for Health and Care Excellence. (2014). *Psychosis and schizophrenia in adults: Prevention and management: Clinical guideline [CG178]*. Retrieved from <https://www.nice.org.uk/guidance/cg178> on 26/1/2017.

National Mental Health Commission. (2014a). *The national review of mental health programmes and services*. Sydney: National Mental Health Commission.

National Mental Health Commission. (2014b). *The national review of mental health programmes and services. Volume 4, Paper 2*. Retrieved from <http://www.mentalhealthcommission.gov.au/our-reports/contributing-lives,-thriving-communities-review-of-mental-health-programmes-and-services.aspx> on 18/11/2016.

National Mental Health Commission. (2015). *Fact sheet 9—What this means for general practice and primary health care*. Canberra: National Mental Health Commission.

National Rural Health Alliance Inc. (2016). *Mental health in rural and remote Australia*. Canberra: National Rural Health Alliance Inc.

Norton, R., & Kobusingye, O. (2013). Injuries. *New England Journal of Medicine*, 368(18), 1723–1730.

NSW Department of Health. (2015). *NDIS and mental health*. Retrieved from <http://www.health.nsw.gov.au/disability/Factsheets/NDIS-and-mental-health.pdf> on 31/1/2017.

Osborne, K., Baum, F., & Brown, L. (2013). *What works? A review of actions addressing the social and economic determinants of Indigenous health. Issues paper no. 7. Produced for the Closing the Gap Clearinghouse*. Canberra and Melbourne: Australian Institute of Health and Welfare and Australian Institute of Family Studies.

Patel, V., Chisholm, D., Parikh, R., Charlson, F. J., Degenhardt, L., Dua, T., Ferrari, A. J., Hyman, S., Laxminarayan, R., Levin, C., Lund, C., Medina Mora, M. E., Petersen, I., Scott, J., Shidhaye, R., Vijayakumar, L., Thornicroft, G., & Whiteford, H. (2016). Addressing the burden of mental, neurological, and substance use disorders: Key messages from Disease Control Priorities, 3rd edition. *Lancet*, 387(10028), 1672–1685.

PricewaterhouseCoopers. (2011). *The Australian Government Department of Health and Ageing: Mental Health Service in Rural and Remote Areas program evaluation. Final evaluation report version 1.3*. Retrieved from [https://www.health.gov.au/internet/main/publishing.nsf/Content/3E902EE0AE59B800CA257BF0001ACE0B/\\$File/mhsraev.pdf](https://www.health.gov.au/internet/main/publishing.nsf/Content/3E902EE0AE59B800CA257BF0001ACE0B/$File/mhsraev.pdf) on 17/11/2016.

Ransom, A. (2011). *Age-standardised rate Excel workbook*. Unpublished.

Reavley, N. J., Allen, N. B., Jorm, A. F., Morgan, A. J., Ryan, S., & Purcell, R. A. (2013). *A guide to what works for anxiety: 2nd Edition*. Melbourne: beyondblue.

Royal Flying Doctor Service. (2014). *More than a flying doctor: Wide-ranging health services for rural and remote Australia. Annual report 2013/14*. Sydney: Royal Flying Doctor Service of Australia.

Royal Flying Doctor Service. (2016a). *About the RFDS*. Retrieved from <https://www.flyingdoctor.org.au/about-the-rfds/> on 4/08/2016.

Royal Flying Doctor Service. (2016b). *Mental health*. Retrieved from <https://www.flyingdoctor.org.au/what-we-do/mental-health/> on 15/12/2016.

Royal Flying Doctor Service of Australia. (2011). *National standards for aeromedical evacuation*. Sydney: Royal Flying Doctor Service.

Royal Flying Doctor Service of Australia. (2016a). *2016–2017 Reconciliation Action Plan*. Canberra: Royal Flying Doctor Service of Australia.

Royal Flying Doctor Service of Australia. (2016b). *Royal Flying Doctor Service annual national report 2015/2016*. Canberra: Royal Flying Doctor Service of Australia.

Rural Doctors Association of Australia. (2016). *Mental health care in rural Australia: A RDAA background paper*. Canberra: Rural Doctors Association of Australia.

Slade, T., Johnston, A., Teesson, M., Whiteford, H., Burgess, P., Pirkis, J., & Saw, S. (2009). *The mental health of Australians 2. Report on the 2007 National Survey of Mental Health and Wellbeing*. Canberra: Department of Health and Ageing.

Suicide Prevention Australia. (2014). *Discussion paper: One world connected: An assessment of Australia's progress in suicide prevention*. Sydney: Suicide Prevention Australia.

Taylor, R., & Morrell, S. (2015). *Direct Age-Standardisation Calculation Tool*. Retrieved from <https://sphcm.med.unsw.edu.au/node/303112492> on 14/12/2016.

The Centre for International Economics. (2015). *The Royal Flying Doctor Service: Flexible and responsive primary healthcare for rural and remote Australia*. Canberra: Centre for International Economics.

Victoria Institute of Strategic Economic Studies. (2016). *The economic cost of serious mental illness and comorbidities in Australia and New Zealand*. Retrieved from <https://www.ranzcp.org/Files/Publications/RANZCP-Serious-Mental-Illness.aspx> on 8/12/2016.

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., Charlson, F. J., Norman, R. E., Flaxman, A. D., Johns, N., Burstein, R., Murray, C. J., & Vos, T. (2013). Global burden of disease attributable to mental and substance use disorders: Findings from the Global Burden of Disease Study 2010. *Lancet*, 382(9904), 1575–1586.

Whiteford, H. A., Ferrari, A. J., Degenhardt, L., Feigin, V., & Vos, T. (2016). Global burden of mental, neurological, and substance use disorders: An analysis from the Global Burden of Disease Study 2010. In V. Patel, D. Chisholm, T. Dua, R. Laxminarayan, & M. E. Medina-Mora (Eds.), *Mental, Neurological, and Substance Use Disorders: Disease Control Priorities, Third Edition (Volume 4)*. Washington (DC): The International Bank for Reconstruction and Development and The World Bank.

World Health Organization. (1994). *International statistical classification of diseases and related health problems tenth revision*. Geneva: World Health Organization.

World Health Organization. (2013). *Mental health action plan 2013–2020*. Geneva: World Health Organization.

World Health Organization. (2014a). *Mental health: A state of well-being*. Retrieved from http://www.who.int/features/factfiles/mental_health/en/ on 7/11/2016.

World Health Organization. (2014b). *Preventing suicide: A global imperative*. Geneva: World Health Organization.

World Health Organization. (2015). *International classification of diseases (ICD)*. Retrieved from <http://www.who.int/classifications/icd/en/> on 16/11/2015.

World Health Organization. (2016a). *ICD 10 version: 2016*. Retrieved from <http://apps.who.int/classifications/icd10/browse/2016/en> on 9/05/2016.

World Health Organization. (2016b). *Investing in treatment for depression and anxiety leads to fourfold return*. Retrieved from <http://www.who.int/mediacentre/news/releases/2016/depression-anxiety-treatment/en/> on 9/12/2016.

World Health Organization. (2016c). *Mental disorders*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs396/en/> on 9/12/2016.

World Health Organization. (2016d). *Suicide: Fact sheet*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs398/en/> on 12/12/2016.



Royal Flying Doctor Service