

This file is part of the following work:

**Wright, Laura (2021) *The Remote Area Safety Project (RASP): analysing workplace health and safety for remote area nurses in Australia*. Masters (Research) Thesis, James Cook University.**

Access to this file is available from:

<https://doi.org/10.25903/76ev%2Dca82>

Copyright © 2021 Laura Wright.

The author has certified to JCU that they have made a reasonable effort to gain permission and acknowledge the owners of any third party copyright material included in this document. If you believe that this is not the case, please email

[researchonline@jcu.edu.au](mailto:researchonline@jcu.edu.au)

# *The Remote Area Safety Project (RASP)*

*Analysing workplace health and safety for Remote Area Nurses in  
Australia*

Thesis submitted by

Laura Wright

Registered Nurse

Bachelor of Nursing

For the degree of Master of Philosophy (Health)

College of Healthcare Sciences

James Cook University

[December 2021]

## Dedication

This thesis is dedicated to Gayle Woodford, the Remote Area Nurse whose tragic abduction, rape, and murder was a catalyst for this project. I extend my condolences to Gayle's family, friends and colleagues for their loss.

## Acknowledgements

First, I would like to acknowledge James Cook University's Murtupuni Centre for Rural and Remote Health for employing me to conduct the RASP. Without the financial support, I would not have been able to take on this project.

I would also like to thank my wonderful advisors for their support and advice over the past two years. My primary advisor, Associate Professor Santosh Jatrana has supported me through the ups, downs, and upheavals of my MPhil, providing the guidance and the freedom to expand my research skills and knowledge. My secondary advisor, Associate Professor David Lindsay joined the team just before Confirmation of Candidature and has been a valuable source of wisdom and support, helping keep this project on track.

A massive thanks also go to my original group of collaborators: Kylie McCullough, Katie R Pennington, Sue Lenthall, Sabina Knight, and Sue Crocker. When I first came onboard in February 2020, I had no research experience, no access to research training, and a ticking two-year deadline to complete what appeared to be a PhD-sized project. The researchers of the group took me under their wing, guiding me towards the processes and paperwork needed to get access to formal training and get this project off the ground. They were much needed mentors during those early months, and their input in the construction of the survey tool was invaluable. Thanks also to CRANaplus, the peak body for remote health professionals, for their interest in this project and assistance with survey recruitment.

I also thank the collaborators who came along later: John Wright and Sally West provided feedback on the project and survey tool to ensure it was relevant to RANs from all regions. Rhondda Jones from JCU StatsHelp provided statistical advice during data analysis. My lecturers from the coursework subjects I did as part of this MPhil (especially Michelle Redman-MacLaren and Daniel Lindsay) provided feedback on my project proposal and data collection tools, as well as teaching me the skills and knowledge to be able to conduct this project rigorously.

Thank you to Meryl Churchill from the JCU Cohort Doctoral Studies Program, who has been an approachable and supportive mentor over the past year and a half, and to the Cohort Program in

general for teaching me so much in such a short time. Without the program, I wouldn't have been able to meet so many wonderful, diverse clinician researchers, or build such a broad knowledge of different fields of research. Thanks also go to the amazing Shut Up & Write group for keeping me motivated and inspired: Kelly Paterson, Bronwyn Charles, Meg Davis, and Sandra Croaker.

Lastly, I'd like to thank my participants for giving up their time to participate in this study and share their stories with me. I hope that through this project, their efforts will contribute to a safer future.

## Funding

The Remote Area Safety Project (RASP) received \$3,320 funding through the Tropical Australian Academic Health Centre Seed Funding Scheme 2020.

My course fees for this Master of Philosophy (Health) were paid by the Australian Government's Research Training Program Fee Offset.

## Ethics

The RASP was conducted in accordance with the National Statement on Ethical Conduct in Human Research (NHMRC, 2007). Ethics approval for the RAN survey and interviews was granted by the James Cook University Human Research Ethics Committee, application ID: H8255.

For the policy review, an ethics exemption was granted by Townsville Hospital and Health Service Human Research Ethics Committee (reference: HREC/2020/QTHS/67875). Additional approvals were granted by the Human Research Ethics Committee of the Northern Territory Department of Health and Menzies School of Health Research, and the Central Australian Human Research Ethics Committee (reference: 2020-3873). Site specific approval applications were also submitted to the health services that required those approvals. Site specific approvals were granted by six health services (reference numbers: SSA/2020/QCW/67875, SSA/2020/QNW/67875, SSA2021/FNQ72082, SSA/2020/QTHS/67875, EFILE2020/42408, and EFILE2020/42408/20-97).

## Statement on sources

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

Every reasonable effort has been made to gain permission and acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

## Data availability

Data from the policy review is stored on Research Data JCU with restricted access. Survey and interview data produced during this project will be published with conditional access, for re-use in future research about workplace health and safety in remote health. At the time of writing, this data publication was embargoed, awaiting the submission of journal articles from the results chapters of this thesis. This embargo is expected to be lifted on the 31/05/2022. The data publication reference will be:

Wright, L. (2022). *Remote Area Safety Project (RASP): Data from a mixed methods study of workplace health and safety in Australian remote primary health clinics*. [Data set]. James Cook University. <https://doi.org/10.25903/er8v-qp33>

Future studies using this data must maintain the confidentiality of participants' information and be conducted in accordance with the National Statement on Ethical Conduct in Human Research.

## Publications on which this thesis is based and contribution of others

Chapter No.	Publication	Nature and extent of the intellectual input of each author, including the candidate
1 & 2	<p><b>Wright, L.K.</b>, Jatrana, S., &amp; Lindsay, D. (2021). Workforce safety in the remote health sector of Australia: a scoping review. <i>BMJ Open</i>, 11. Article e051345.</p> <p><a href="https://doi.org/10.1136/bmjopen-2021-051345">https://doi.org/10.1136/bmjopen-2021-051345</a></p>	<p>LW conceived and designed the review, with guidance from advisors SJ &amp; DL. LW &amp; SJ independently screened the articles for inclusion, and LW, SJ &amp; DL assessed the full-text articles. Data extraction was conducted by LW and checked by SJ &amp; DL. LW wrote the manuscript, which was then revised by LW with feedback from SJ &amp; DL.</p>

As mentioned in the acknowledgements, several collaborators aided me during this project. Dr Kylie McCullough and Katie R Pennington of Edith Cowan University, A/Prof Sue Lenthall of Flinders University, Sue Crocker of Torres and Cape Hospital and Health Service, and Prof Sabina Knight of James Cook University provided guidance during the development of the project, detailed feedback during the development of the survey tool, and some provided feedback on the interview guide.

Emeritus Professor Rhondda Jones of StatsHelp (James Cook University) provided statistical advice during the survey data analysis, particularly for the more complex analyses such as the regression and multiple regression tests. A/Prof Meryl Churchill provided detailed feedback on drafts of the scoping review, survey tool, and a conference presentation. John Wright provided feedback on drafts of the manuscript, survey tool and interview guide.

As my advisors, A/Prof Santosh Jatrana and A/Prof David Lindsay provided advice during all stages of the project. In addition to the above contributions to my publication, they also provided advice during data analysis, and feedback on my conference presentations and all sections of this manuscript.

## Conference and invited presentations arising from this project

Chapter no.	Conference or formal symposium (green), or industry engagement (blue)
3	01/10/2020 <b><i>Are You Remotely Interested? Conference</i></b> : The Remote Area Safety Project (RASP): A mixed methods study of health workforce safety policies and implementation. <i>Online.</i>
2 & 6	6-8/09/2021 <b><i>Cohort Doctoral Studies Program 10 year anniversary conference</i></b> : The Remote Area Safety Project (RASP): A review of workplace health and safety policies and guidelines for Australian remote primary health clinics. <i>Townsville.</i>
2, 4 & 5	17/09/2021 <b><i>CRANaplus Symposium</i></b> : The Remote Area Safety Project (RASP): Findings from a mixed methods study of workplace safety for Remote Area Nurses in Australia. <i>Online.</i>
4	6-7/10/2021 <b><i>8<sup>th</sup> Rural and Remote Health Scientific Symposium</i></b> : Assessing workplace safety and wellbeing for Remote Area Nurses in Australia. <i>Online.</i>
4	22/11/2021 <b><i>NT Health Research Symposium</i></b> : Identifying safety needs for a sustainable Remote Area Nurse (RAN) workforce. <i>Online.</i>
2, 4 & 5	29/09/2021 <b><i>Tennant Creek Hospital in-service</i></b> : Research in action. <i>Tennant Creek.</i>
4	1/10/2021 <b><i>JCU MCRRH research seminar</i></b> : Assessing workplace safety and wellbeing for Remote Area Nurses in Australia. <i>Online.</i>
4	21/10/2021 <b><i>NT Office of the Chief Nurse &amp; Midwifery Officer meeting</i></b> : The Remote Area Safety Project, NT results: Assessing workplace safety and wellbeing for Remote Area Nurses. <i>Online.</i>
2, 4, 5, & 6	16/11/2021 <b><i>NT Health Nursing and Midwifery Grand Rounds</i></b> : The Remote Area Safety Project: Assessing workplace safety and wellbeing for Remote Area Nurses. <i>Palmerston.</i>

## Media mentions to date

<b>Date</b>	<b>Outlet</b>
21/09/2021	<b>Radio National Breakfast:</b> Calls for urgent safety reforms to protect outback nurses
21/09/2021	<b>Australian Broadcasting Corporation North Queensland:</b> Mentioned during 06:30 and 07:30 News
21/09/2021	<b>Australian Broadcasting Corporation North West Qld, Star 106.3, 4CA AM 846 and Power100:</b> JCU researcher finds remote nurse safety an issue
21/09/2021	<b>Australian Nursing &amp; Midwifery Journal:</b> New study pinpoints the need for better workplace safety for RANs
22/09/2021	<b>Australian Nursing &amp; Midwifery Federation, SA Branch:</b> Improvements to workplace safety for nurses working in regional and remote areas urgently needed



## Abstract

### Background/objectives

In 2016, the issue of poor Work Health and Safety (WHS) in Australian very remote primary health clinics was brought into the spotlight by the murder of Remote Area Nurse (RAN) Gayle Woodford. The remote health sector in Australia is chronically understaffed and serves an isolated, culturally diverse population with a significantly higher burden of disease than those living in the cities. Poor WHS is linked to reduced quality of care and contributes to burnout and high turnover of staff. To address this, many WHS recommendations and strategies have been developed for the remote health sector, but it is unclear whether they have been implemented.

This project aims to explore the current approaches to WHS in very remote primary health clinics within Australia, from the perspectives of RANs and their health services. To achieve this aim, the project has four research questions:

1. What WHS hazards, risks and recommendations have been identified in the literature for the remote health sector of Australia?
2. From RANs' perspective, what WHS strategies have been implemented in very remote primary health clinics within Australia?
3. What are the experiences of RANs in the implementation of those WHS strategies and policies?
4. From the perspective of Australian remote health services, what WHS policies and procedures are in place?

### Methods

This project utilises a convergent mixed-methods design. Initially, a scoping review was conducted to identify what WHS risks and recommendations had previously been identified for the Australian remote health sector. The findings of the scoping review informed the subsequent stages of the project: a RAN survey, RAN interviews, and analysis of health services' WHS policy documents. These stages enabled WHS in remote clinics to be explored from different viewpoints, to reflect the nuance found in practice and provide meaningful recommendations for how to improve WHS in very remote primary health clinics.

A cross-sectional survey of 173 RANs was conducted online during December 2020 and January 2021. The survey was open to all RANs who had worked in a very remote primary health clinic in Australia

more recently than January 2019, with a convenience sampling approach used. Participants identified which preventative WHS recommendations had been met in their most recent clinic, the rate of incidents experienced in the preceding 12 months, their exposure to occupational stress, and other wellbeing measures.

Semi-structured interviews were conducted with 15 RANs from February to May 2021, to explore their experiences of the implementation of WHS policies and strategies. Participants were purposively sampled from consenting survey participants, to ensure the inclusion of a broad mix of states/territories and health service types. A reflexive thematic analysis approach was used for data analysis.

A review of 67 WHS policy documents from eight government-run health services was conducted from September 2020 to July 2021, to explore health services' WHS goals and strategies. All 35 health services with at least one very remote primary health clinic in Australia were invited to provide a copy of their WHS policy documents for inclusion in the review. A basic content analysis approach was used for data analysis.

## Results

In the scoping review, 20 relevant peer reviewed articles and industry reports were identified. The review found that WHS in remote clinics, particularly for RANs, had been discussed in the literature for decades. A range of WHS risks and recommendations had been identified. These related to the safety culture within organisations and teams, isolation, the safety of the work environment, and access to relevant education and training. However, little evidence around the implementation of the WHS strategies was found within the literature.

The survey found that on average, 53% of the recommended preventative WHS strategies were in place in participants' most recent workplace. This score varied significantly between different states/territories, highlighting the fragmented approach to WHS within the remote health sector. Some WHS strategies had been implemented well (e.g. 81% had call-out systems that discouraged patients from attending staff's accommodation to initiate a call-out), but significant gaps remained around staff preparation, infrastructure safety, and fatigue management. There was also an apparent rise in the rates of workplace violence, and 51% of participants had personally experienced physical violence in the preceding 12 months. Lastly, good WHS was significantly associated with greater RAN wellbeing.

The interviews enabled an exploration of the nuance behind the WHS recommendations, to inform future improvements to the safety strategies. The major themes, *commitment to safety*, *knowledge and relationships*, and *resources*, explored both the underlying factors influencing WHS and the specific strengths and weaknesses of individual safety strategies. Key findings included the need for health services to prioritise safety and ensure the strategies are appropriate for the local context, improve infrastructure maintenance, and establish sustainable second responder systems such as a pool of local drivers.

In the policy review, while there was a largely uniform approach to some WHS topics (e.g. workplace violence, communication for remote workers, and incident reporting), most WHS topics had broad variation in strategies, even between different health services within the same state/territory. Topics such as accommodation safety, fatigue management, safe staffing levels, and psychological safety had particularly broad variation in approaches.

## Conclusion

Despite the ongoing exposure of RANs to high levels of risk at work, there were significant, ongoing gaps in the approach to WHS in very remote primary health clinics within Australia. To address this, I recommend:

1. The remote health sector should use an iterative, continuous quality improvement approach in the design, implementation and review of WHS policies.
2. The remote health sector should establish a process for assessing the efficacy of its WHS strategies. Those findings should be disseminated in a timely manner to assist with the implementation of recommendation 1.
3. A national WHS standard for remote clinics should be developed, in collaboration with health services, professional bodies, WHS bodies, and current remote health practitioners. This should provide a set of minimum safety standards for clinics to be assessed against, supported by a suite of model WHS policies based on best-practice safety strategies.
4. Health services' compliance with the WHS standard should be monitored and publicly reported.
5. WHS regulators should conduct targeted monitoring of all remote health services' compliance with existing WHS legislation. Enforcement actions should be taken to resolve the breaches.
6. Further research should strengthen the evidence base around WHS in remote health and explore the perspectives of a wider range of stakeholders.

With rigorous publicly visible monitoring, a national WHS standard for remote health could lead to widespread positive change. Additionally, future implementation of WHS strategies in remote clinics should be paired with research to strengthen the currently weak evidence base. This work is essential to help secure a sustainable workforce in the remote health sector.

# Table of Contents

Dedication.....	ii
Acknowledgements .....	ii
Funding .....	iii
Ethics .....	iii
Statement on sources.....	iv
Data availability .....	iv
Publications on which this thesis is based and contribution of others.....	v
Conference and invited presentations arising from this project.....	vi
Media mentions to date .....	vii
Abstract .....	viii
Background/objectives .....	viii
Methods .....	viii
Results .....	ix
Conclusion .....	x
List of tables.....	xvi
List of figures .....	xvii
Table of abbreviations .....	xvii
Chapter 1. Introduction .....	1
1.1 Background and context.....	1
1.2 Aim.....	2
1.3 Objectives .....	3
1.4 Rationale for thesis methodology.....	4
1.5 Researcher background and reflexivity .....	4
Chapter 2. Workforce safety in the remote health sector of Australia: a scoping review .....	6
2.1 Methods.....	6
2.1.1 Research questions.....	7
2.1.2 Identification of relevant literature .....	7

2.1.3 Study selection.....	7
2.1.4 Charting the data .....	8
2.1.5 Patient and public involvement.....	15
2.2 Results .....	15
2.2.1 Safety culture.....	16
2.2.2 Isolation .....	18
2.2.3 Safe environment .....	20
2.2.4 Education and training.....	22
2.3 Discussion .....	24
2.4 Conclusion .....	27
2.5 Literature update.....	27
Chapter 3. Methods: The making of a project.....	29
3.1 Introduction .....	29
3.2 Project design .....	29
3.3 Survey .....	30
3.3.1 Approach .....	30
3.3.2 Development of the questionnaire.....	31
3.3.3 Data analysis .....	32
3.4 Interviews .....	33
3.4.1 Approach .....	33
3.4.2 Methods.....	33
3.4.3 Data analysis .....	34
3.5 Policy review .....	35
3.5.1 Approach .....	35
3.5.2 Methods.....	35
3.5.3 Data analysis .....	36
3.6 Ethics.....	36
Chapter 4. Quantifying workplace safety and the wellbeing of Remote Area Nurses .....	38

4.1 Methods.....	39
4.2 Results .....	39
4.2.1 Respondent characteristics.....	39
4.2.2 Workplace safety scores .....	43
4.2.3 Variation in safety scores.....	47
4.2.4 Workplace safety culture.....	49
4.2.5 Downstream indicators of safety.....	49
4.2.6 Predicting workplace safety.....	54
4.3 Discussion .....	55
4.4 Limitations .....	58
4.5 Conclusion .....	59
Chapter 5. WHS policies and risk mitigation strategies: RAN’s experiences of implementation .....	60
5.1 Introduction .....	60
5.2 Methods.....	61
5.3 Results .....	61
5.3.1 Commitment to safety.....	62
5.3.2 Knowledge and relationships:.....	66
5.3.3 Resources.....	70
5.4 Discussion .....	75
5.5 Strengths and limitations.....	78
5.6 Conclusion .....	78
Chapter 6. WHS policies in very remote primary health clinics across Australia .....	79
6.1 Introduction .....	79
6.2 Methods.....	79
6.3 Results .....	80
6.3.1 Overview .....	80
6.3.2 Policy detail.....	83
6.4 Discussion .....	91

6.5 Strengths and limitations.....	93
6.6 Conclusion .....	94
Chapter 7. Synthesis and recommendations.....	95
7.1 Introduction .....	95
7.2 Findings and implications .....	96
7.2.1 Gaps in the implementation of recommendations.....	96
7.2.2 A failure in risk management.....	98
7.2.3 Risk perception and organisational safety climate .....	99
7.3 Recommendations.....	100
7.3.1 Create a national WHS standard for remote clinics.....	100
7.3.2 Monitor compliance .....	102
7.3.3 Future research.....	103
7.4 Strengths and limitations.....	103
7.5 Conclusion .....	104
References.....	106
Appendix 1: Search strategy with MeSH headings .....	111
Appendix 2: Survey questionnaire.....	112
Appendix 3: Interview information sheet and interview guide.....	146



## List of tables

<b>Table</b>	<b>Page</b>
Table 2.1 Overview of included literature	9
Table 2.2 Summary of key findings	11
Table 2.3 Characteristics of included literature	15
Table 4.1 Respondent demographics	41
Table 4.2 Respondent work characteristics	42
Table 4.3 Number of RANs and ATSIHPs/AHWs employed per clinic	43
Table 4.4 Perceived adequacy of funding for workplace safety	46
Table 4.5 Overall workplace safety scores by state/territory	47
Table 4.6 Perceived workplace safety culture by state/territory	49
Table 4.7 Comparing historical and current frequencies of incidents experienced by RANs	50
Table 4.8 RANs' satisfaction with their employer's response to reported incidents	51
Table 4.9 Relationships between workplace safety scores and individual RANSS domains	52
Table 4.10 Average overall workplace safety scores by 'would recommend clinic as a good place to work'	54
Table 5.1 Interview participant characteristics	62
Table 6.1 Overview of policy review results	82

## List of figures

<b>Figure</b>	<b>Page</b>
Figure 2.1 PRISMA diagram	8
Figure 4.1 Overview of Australia-wide workplace safety scores	43
Figure 4.2 Overview of workplace safety scores by state/territory	47
Figure 4.3 Frequency of incidents personally experienced by RANs in the previous 12 months	50
Figure 4.4 Regression plot of the relationship between workplace safety and RAN stress	52
Figure 4.5 Predicting workplace safety scores using health service safety culture ratings and frequency of poor management	55
Figure 5.1 The risk management process	76
Figure 6.1 Recruitment outcomes of health services invited for the policy review	81

## Table of abbreviations

<b>Abbreviation</b>	<b>Definition</b>
<b>ACCHO</b>	Aboriginal Community Controlled Health Organisation
<b>ACT</b>	Australian Capital Territory
<b>AHW</b>	Aboriginal Health Worker
<b>AMS</b>	Aboriginal Medical Service
<b>ATSIHP</b>	Aboriginal and Torres Strait Islander Health Practitioner
<b>CCTV</b>	Closed-circuit Television
<b>CPTED</b>	Crime Prevention Through Environmental Design
<b>CRANApplus</b>	Name of the peak body for remote health professionals
<b>GPS</b>	Global Positioning System
<b>HF</b>	High Frequency (radio)
<b>IOT</b>	Indian Ocean Territory
<b>IQR</b>	Interquartile Range
<b>JCU</b>	James Cook University

**Abbreviation    Definition**

<b>Medevac</b>	Medical evacuation (the transfer of a critically unwell patient to a hospital)
<b>MeSH</b>	Medical Subject Headings
<b>MM7</b>	A 'very remote' area, as measured by the Modified Monash Model
<b>MVA</b>	Motor Vehicle Accident
<b>NGO</b>	Non-government Organisation
<b>NHMRC</b>	National Health and Medical Research Council
<b>NSW</b>	New South Wales
<b>NT</b>	Northern Territory
<b>NUL</b>	National Uniform Legislation
<b>OHS/OSH</b>	Occupational Health and Safety
<b>PLB</b>	Personal Locator Beacon
<b>PTSD</b>	Post-traumatic Stress Disorder
<b>Qld</b>	Queensland
<b>RAM</b>	Remote Area Midwife
<b>RAN</b>	Remote Area Nurse
<b>RANSS</b>	Remote Area Nursing Stress Scale
<b>RASP</b>	Remote Area Safety Project
<b>RN</b>	Registered Nurse
<b>SA</b>	South Australia
<b>SD</b>	Standard Deviation
<b>UHF</b>	Ultra High Frequency (radio)
<b>Vic</b>	Victoria
<b>WA</b>	Western Australia
<b>WHS</b>	Work Health and Safety
<b>WPV</b>	Workplace Violence
<b>4WD</b>	Four-wheel drive

# Chapter 1. Introduction

## 1.1 Background and context

In Australia, the remote health sector serves isolated, culturally diverse populations, with high health needs and burden of disease compared to those living in the cities (Australian Institute of Health and Welfare., 2019). Though some towns and larger communities have small hospitals, most very remote communities have primary health clinics without inpatient facilities, which are generally open during office hours and provide after-hours emergency care through on-call arrangements by the remote health staff (Lenthall et al., 2011). These clinics vary in size, from single nurse posts to much larger teams of seven or more Remote Area Nurses (RANs) (CRANaplus, 2017a). Wherever possible, the clinics are also staffed by Aboriginal and Torres Strait Islander Health Practitioners and Aboriginal or Torres Strait Islander support staff from the local community (Department of Health., 2016). These small teams are at the front line for remote health, responsible for providing or facilitating all healthcare for their local communities (NHMRC, 2002).

Work Health and Safety (WHS) responsibilities for employers and employees within Australia are set out in each State/Territory's WHS legislation, with most jurisdictions adopting the National Uniform Legislation to ensure consistency. Despite this, safety strategies for remote health are developed on a state-by-state, and often a health service-by-health service basis (Kurti et al., 2012), leading to significant fragmentation in approaches (CRANaplus, 2017a; Department of Health., 2016; Queensland Health., 2016). In 2016, national attention was drawn to RAN safety following the murder of RAN Gayle Woodford in South Australia. The call for change led health services and professional bodies to review existing safety policy frameworks and sparked changes to safety legislation in South Australia (Clark, 2018; Fyles, 2017).

Poor WHS is a longstanding issue in the remote health sector (Fisher et al., 1995). Among research measuring rates of workplace violence towards RANs in Australia, almost all participants experienced some form of workplace violence within a 12-month period, with an increase from 1995 to 2008 (Fisher et al., 1995; Opie et al., 2010b). RANs have also reported a lack of commitment to staff safety among management, unsafe infrastructure and equipment, isolation (including geographical, professional and social isolation), and limited access to the education and training needed to safely carry out their role (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995).

Concerns for workplace safety can lead to increased stress and anxiety, and is linked to higher turnover (Kurti et al., 2012). The increased stress has also been linked with reduced productivity,

disengagement and reduced clinical decision-making (Beattie et al., 2018). All these factors have a potential negative impact on the quality of patient care. For example, short term staff may have trouble developing a therapeutic relationship with the community, as the required level of trust takes considerable time to develop (Davy et al., 2016). Therefore, effective WHS strategies are crucial to support the wellbeing of remote health staff and quality of care for patients.

## 1.2 Aim

The overall aim of this project is to explore the current approaches to WHS in very remote primary health clinics within Australia, from the perspectives of RANs and the health services themselves. To achieve this aim, the project has four research questions:

1. What WHS hazards, risks and recommendations have been identified in the literature for the remote health sector of Australia?
2. From RANs' perspective, what WHS strategies have been implemented in very remote primary health clinics within Australia?
3. What are the experiences of RANs in the implementation of those WHS strategies and policies?
4. From the perspective of Australian remote health services, what WHS policies and procedures are in place?

Given the call for change following the murder of RAN Gayle Woodford in 2016 and the ongoing interest in safety by professional bodies such as CRANaplus, this project focussed on exploring the contemporary approaches to WHS in remote clinics. For this project, the setting of interest was the very remote primary health clinics within Australia, classified as MM7 (very remote) using the 2019 Modified Monash Model remoteness classification system (Department of Health., 2019). RANs working in those clinics between 2019 and 2021 were the target population.

As stated in the acknowledgements, I was employed to conduct the Remote Area Safety Project (RASP) by James Cook University's Murtupuni Centre for Rural and Remote Health. At the time of writing, there were no branches of the RASP beyond those conducted by me, all of which are presented in this thesis.

### 1.3 Objectives

Chapter two answers the research question “What WHS hazards, risks and recommendations have been identified in the literature for the remote health sector of Australia?” A scoping review approach was used to search and analyse the peer reviewed and industry literature. The WHS hazards/risks and recommendations identified in this chapter guided the remainder of the project, by informing the development of the questionnaire, interview guide, and policy data extraction tool.

In chapter three, the methodology and methods of the project are explored in detail.

Chapter four quantitatively explores the research question “From RANs’ perspective, what WHS strategies have been implemented in very remote primary health clinics within Australia?”. By identifying the proportion of detailed preventative WHS recommendations that had been met in participants’ clinics, the survey provided an objective measure of how well WHS had been addressed within the remote health sector. The findings were presented in sufficient detail for industry bodies to be given specific priorities for change. Downstream safety indicators and RAN wellbeing measures were also presented.

In chapter five, the research question “What are the experiences of RANs in the implementation of those WHS strategies and policies?” is explored. In the interviews, RANs were asked what official and unofficial WHS strategies were in place at their clinic, their experiences of the strengths and weaknesses of those strategies, and what they felt should be the priorities for change. This chapter provides context to the safety strategies, and begins to tease out the difference between needless inconsistencies in approaches to WHS within the Australian remote health sector and having the necessary flexibility to ensure strategies fit the local context.

Chapter six qualitatively explores the research question “What WHS policies and procedures are in place within Australian remote health services?” by analysing the official WHS policy documents of remote health services. This shows the health services’ perspectives on their goals and strategies for improving staff safety in remote clinics, for comparison with the RAN survey. WHS policy gaps and exemplary safety strategies within the remote health sector were identified, to provide further clarity around how the sector’s approach to WHS could be improved.

Lastly, chapter seven brings together the findings from all stages of the project, discusses their implications, and identifies recommendations for future action and research.

## 1.4 Rationale for thesis methodology

I believe that objective truths exist, but that individuals perceive the world differently based on underlying factors such as their background and ethics, with no single correct way of looking at the world. In this way, my standpoint incorporates aspects of both realist and constructionist approaches (Bøe, 2021; Wiltshire & Ronkainen, 2021). For this project I used a realist approach with aspects of constructionism, by exploring the reality of remote WHS from different viewpoints, then discussing the similarities and inconsistencies between them. In this way, the project attempted to reflect and explore the nuance found in practice, to provide meaningful recommendations for how to improve the reality of remote WHS.

By asking RANs what specific WHS recommendations were in place in their clinics, the survey attempted to measure the reality of what safety strategies were and were not in place. The interviews and policy review then provided the nuance. For the interviews, an exploration of the perspectives of RANs from a diverse range of backgrounds and work settings enabled a look at factors and forces that contribute to or hinder the safety of RANs, and identified what strategies they found most beneficial. For the policy review, health services' stated values around WHS were explored.

## 1.5 Researcher background and reflexivity

I (Laura Wright) am a Registered Nurse who usually works in Tennant Creek Hospital Emergency Department in the very remote Barkly region of the Northern Territory. Working as a nurse in a remote area does not make me a Remote Area Nurse (as it is a distinct advanced-practice generalist role), but I was raised as the daughter of a RAN in remote Aboriginal communities of South Australia and Central Australia, giving me a unique – neither insider nor outsider – perspective of the role.

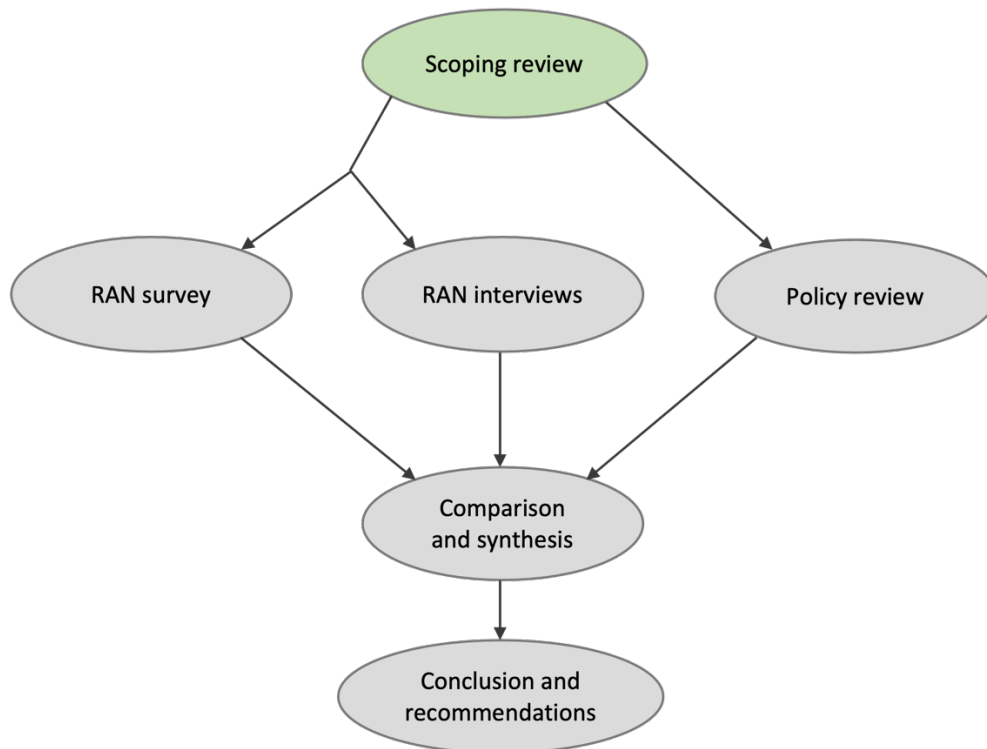
Overall, this positionality was a strength for the study, as my long connection with remote health meant I was able to 'get it' when RANs shared their stories with me. Being a young clinician who is not yet a RAN also reduced the power imbalance between interviewer and interviewee.

However, I am a proud Territorian and as a nurse I have only ever worked for government health services. For this national study, I have maintained an awareness of the potential impact these experiences could have on my research. To this end, a group of experienced RANs collaborated with me for the development of the project, improving my understanding of the interstate and non-government health systems. This enabled me to be more aware of the context and my own underlying assumptions when analysing and interpreting the findings.

Although reflexivity is particularly essential for improving rigour and trustworthiness in qualitative research, I have found it useful during all stages of the project (Berger, 2015; Dodgson, 2019). For each hypothesis that I wanted to test during the survey data analysis, reflexivity helped me to assess why I was asking each question. Was it driven by prior research, interview participants' anecdotes, or my own biases? For the policy review, with its endless cycle of seeking advice, making phone calls, writing applications, and sending emails to try to recruit 35 separate health services, knowledge of the importance of diverse perspectives kept me going long after I would have given up.



## Chapter 2. Workforce safety in the remote health sector of Australia: a scoping review



This scoping review aims to address the first research question of this project, by examining the known work health and safety risks in the Australian remote health sector and collating the recommendations to address those risks. A scoping review method was chosen as it allows a rigorous and transparent exploration of multifaceted topics. As this chapter has been published, the results of the updated search are presented at the end of the chapter.

### 2.1 Methods

This scoping review is guided by a five-stage methodological framework refined by Cooper et al. in 2019, which builds upon the well-known Arksey & O'Malley scoping review framework (Cooper et al., 2019). The stages are: identifying the research question, identifying relevant literature, study selection, charting the data, and collating, summarising and reporting the results (Cooper et al., 2019). The optional phase of the framework 'consultation exercise' was not undertaken. Unlike systematic reviews, quality appraisal of studies in a scoping review is optional and depends on the purpose of the review (Munn et al., 2018). This review's purpose is to scope what WHS risks and recommendations

have been identified for the remote health sector of Australia. As no recommendations are prioritised over others and a quality appraisal of included studies would not affect the results of this review, it was not included. No protocol was registered for this review.

### 2.1.1 Research questions

The research questions are:

- What hazards/safety risks have been identified for the remote health workforce in Australia?
- What recommendations exist to address those risks?

### 2.1.2 Identification of relevant literature

Search terms to address the research questions were developed, trialled, and refined. The final searches were database-specific. Where databases could not map search terms to MeSH headings, the following terms were used: *(remote OR isolated) AND health\* AND (workplace OR workforce OR occupational) AND (safety OR security OR violence) AND Australia\**. Where possible, the equivalent MeSH terms were used, such as when searching Ovid Emcare (see Appendix 1). *English language* was the sole limiter used. There was no date restriction on the search.

Four database searches were performed in October 2020, with Informit Health Collection, Ovid Emcare, Web of Science (Core Collection and Medline), and ProQuest (Australia & New Zealand Database, Health & Medical Collection, Healthcare Administration Database, Nursing and Allied Health Database, Public Health Database, Publicly Available Content Database). To identify additional articles and grey literature, reference lists from retrieved articles and the websites of health services and relevant professional bodies were manually searched.

An additional search was done on the 06/12/2021 to identify any literature released following the publication of this scoping review. The same search terms were used, with the output restricted to literature published more recently than October 2020. The findings of the updated search can be found in section 2.5 of this chapter.

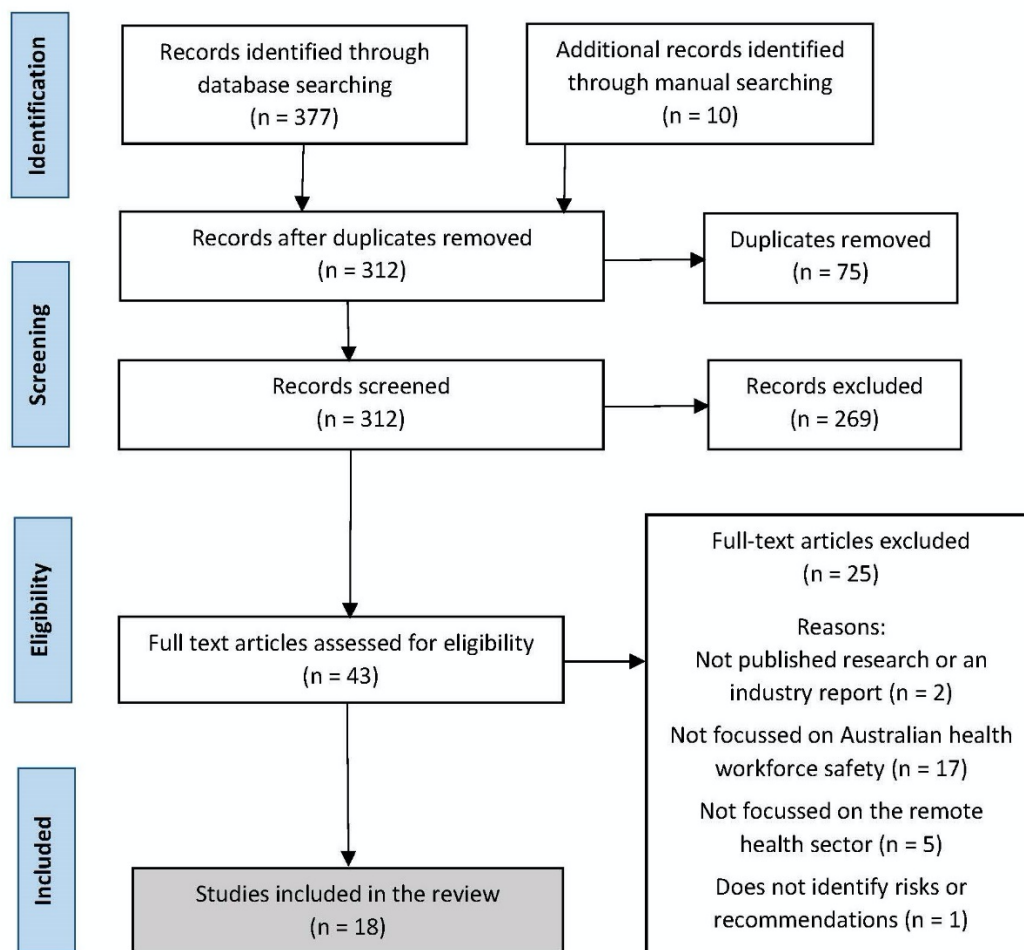
### 2.1.3 Study selection

Two reviewers (Laura Wright and Santosh Jatrana) independently screened all articles against the inclusion criteria: (a) English language, (b) published research or industry reports, (c) focussed on Australian health workforce safety, (d) focussed on the remote health sector, and (e) identifies hazards/safety risks and/or recommendations to reduce risk. All reviewers (Laura Wright, Santosh

Jatrana and David Lindsay) then assessed the full-text articles selected for possible inclusion and disagreements were discussed until consensus was reached. Results of the screening process are detailed in Figure 2.1.

### 2.1.4 Charting the data

For data extraction, a data charting table was developed and agreed upon by all reviewers. Using the table, the author, date, study location, title, study design, sample, and key findings were extracted from each of the 18 articles identified for inclusion. Data extraction was completed by Laura Wright, then reviewed by Santosh Jatrana and David Lindsay. For ease of reading, the data charting table was split into an overview of included literature table (see Table 2.1) and a summary of key findings table (see Table 2.2).



**Figure 2.1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram (Moher et al., 2009)**

**Table 2.1 Overview of included literature**

<b>Lead author (year) and location</b>	<b>Title</b>	<b>Study design</b>	<b>Sample</b>
Fisher et al. (1995) Australia wide	“Context of silence” Violence and the Remote Area Nurse	<u>Thesis.</u> Mixed methods: Survey and focus group.	Survey participants (n=98) Focus group participants (n=4)
NHMRC (2002) Australia wide	When it’s right in front of you: Assisting health care workers to manage the effects of violence in rural and remote Australia	<u>Industry report.</u> Literature review and qualitative: Stakeholder consultation and workshop.	Literature review conducted externally (n=unknown), Public consultation submissions (n=28), Workshop (n=14 participants, plus 11 project team members)
Weymouth et al. (2007) NT, SA & WA	What are the effects of distance management on the retention of Remote Area Nurses in Australia?	<u>Peer reviewed.</u> Mixed methods: Survey and interviews.	Participants (n=87)  RAN survey (n=61) Ex-RAN interviews (n=26)
Timmins et al. (2008) Australia wide	Occupational health and safety risk factors for rural and metropolitan nurses: Comparative results from a national nurses survey	<u>Industry report.</u> Quantitative: Survey	Participants (n=955)  Rural or remote (n=219) Metropolitan (n=736)
Lenthall et al. (2009) Australian studies	What stresses Remote Area Nurses? Current knowledge and future action	<u>Peer reviewed.</u> Literature review	Publications (n=26)
Petrie et al. (2009) State unknown	Informing and implementing policy to advance mental health and wellbeing through action research in a rural remote community mental health setting	<u>Peer reviewed.</u> Action research	Participants (1 Community Mental Health Team, n=unknown)
Opie et al. (2010a) Australia wide	Levels of occupational stress in the remote area nursing workforce	<u>Peer reviewed.</u> Quantitative: Survey	Participants (n=349)
Opie et al. (2010b) Australia wide	Trends in workplace violence in the remote area nursing workforce	<u>Peer reviewed.</u> Quantitative: Survey	Participants (n=349)
Kurti et al. (2012) Australia wide	Working safe in rural and remote Australia: Final report	<u>Industry report.</u> Literature review and mixed methods: Interviews and a survey.	Publications (n=80) Interview participants (n=13) Survey participants (n=624)
McCullough et al. (2012a) Australia wide	Reducing the risk of violence towards Remote Area Nurses: A violence management toolbox	<u>Peer reviewed.</u> Qualitative: Delphi study	Participants (n=10)
McCullough et al. (2012b) Australia wide	Voices from the bush: Remote Area Nurses prioritise hazards that contribute to violence in their workplace	<u>Peer reviewed.</u> Qualitative: Delphi study	Participants (n=10)
Terry et al. (2015) Tasmania	Workplace health and safety issues among community nurses: A study regarding the impact on providing care to rural consumers	<u>Peer reviewed.</u> Qualitative: Interviews	Participants (n=15)
NT Department of Health (2016) NT	Remote Area Nurse safety: On-call after-hours security	<u>Industry report.</u> Literature review and mixed methods: Audits, policy review, interviews and stakeholder consultation forums.	Interviews (51 remote primary health clinics, one or more participants from each)  Consultation forums (n=3)

<b>Lead author (year) and location</b>	<b>Title</b>	<b>Study design</b>	<b>Sample</b>
Qld Health (2016) Queensland	Occupational violence prevention in Queensland Health's Hospital and Health Services: Taskforce report	<u>Industry report.</u> Literature review and mixed methods: Audits, policy review, site visits, interviews and focus groups.	Literature review and interviews conducted externally ( <i>n</i> =unknown). Focus group participants ( <i>n</i> =103 face-to-face participants, unknown additional over videoconference)
CRANaplus (2017) Australia wide	Remote health workforce safety & security report: Literature review, consultation & survey results	<u>Industry report.</u> Literature review and mixed methods: Stakeholder consultation and a survey	Literature review: Publications ( <i>n</i> =60)  Symposia ( <i>n</i> =189) Meetings ( <i>n</i> =49) Survey ( <i>n</i> =85)
Lenthall et al. (2018) NT	Reducing occupational stress among registered nurses in very remote Australia: A participatory action research approach	<u>Peer reviewed.</u> Mixed methods: Action research model of planned change	Participants ( <i>n</i> =unknown for workshops, 430 for survey)
Wressell et al. (2018) Australia wide	Exploring the workplace violence risk profile for Remote Area Nurses and the impact of organisational culture and risk management strategy	<u>Peer reviewed.</u> Quantitative: Survey.	Participants ( <i>n</i> =99)
Adams et al. (2019) Mine sites within Australia	The implications of isolation for remote industrial health workers	<u>Peer reviewed.</u> Qualitative: Interviews	Participants ( <i>n</i> = 7)  Medics ( <i>n</i> = 2) Paramedics ( <i>n</i> = 2) Registered Nurses ( <i>n</i> = 3)

**Table 2.2 Summary of key findings**

Lead author (year) and location	Risks	Recommendations
Fisher et al. (1995) Australia wide	<p>Most Remote Area Nurse (RAN) participants reported experiencing verbal aggression or obscene behaviour within the past 12 months, and almost half had experienced physical violence or property damage.</p> <p>Risk factors for experiencing violence included working in small communities, having 24 hour on-call responsibilities, and working alone.</p> <p>Poor or no local/cultural orientation, alcohol in the community, poor clinic and accommodation security, poor access to police, working long hours and difficulties taking leave were identified safety issues. Underreporting, the normalisation of violence, and poor management support when reporting incidents were also common issues.</p>	<p>Training on handling violent incidents was recommended.</p> <p><u>Protective factors:</u> RANs with a sense of belongingness to the community reported significantly less concern for their personal safety, but there was little change to rates of violence.</p>
NHMRC (2002) Australia wide	<p>Remote specific safety concerns include a lack of anonymity, limited access to police, and unsecure buildings.</p>	<p>Staff and employers must understand their WHS responsibilities. Employers should utilise a risk-management approach: involving hazard identification and risk assessment, followed by collaborative risk control development, implementation, monitoring, and review.</p> <p>Incident reporting is part of this process and requires fit for purpose reporting and feedback systems. Post-incident support is also essential and requires pre-existing procedures and manager training to be done well.</p> <p>Good self-care was recommended to improve staff resilience and protect against the psychological impact of violence.</p>
Weymouth et al. (2007) NT, SA & WA	<p>RANs reported several poor management practices, including inadequate post-incident support and poor responses to reported issues, especially in regards to WHS. Poor recruitment practices and lack of leave replacement were common, with a significant impact on staff safety, wellbeing, professional development and RANs' clinical work. Unrealistic expectations, with excessive on-call and high workload compounded this.</p> <p>Inadequate infrastructure and poor maintenance were a common concern. Safety concerns had a significant impact on staff and included working alone, accommodation safety, security systems and access to police support. Poor support from management worsened RANs' frustration and stress, the perception that RANs are undervalued, and was linked to higher turnover.</p>	<p>Managers should have education and mentoring in management and leadership, as well as experience in remote health practice. There were generally positive perceptions of orientation, though local orientation with community collaboration was recommended.</p> <p><u>Protective factors:</u> Despite the stated difficulties, many RANs described remote area nursing practice as a highly enriching and deeply satisfying experience, both personally and professionally.</p>
Timmins et al. (2008) Australia wide	<p>Perception of risks were similar between rural/remote and metropolitan nurses. Workplace stress was perceived as the greatest hazard, followed by heavy lifting, needlestick injury, prolonged standing and violence. Temperature extremes were a much higher perceived risk for rural/remote nurses than metropolitan nurses. Both groups reported moderate stress and fatigue. Lack of staff, exposure to dangerous situations, poor training in handling workplace violence (WPV), and poor support from management were other issues identified.</p>	<p><u>Protective factors:</u> Rural/remote nurses reported better WHS training and inspections at their workplace than their metropolitan counterparts.</p>

Lead author (year) and location	Risks	Recommendations
Lenthall et al. (2009) Australian studies	There was limited clear evidence regarding occupational stress among RANs. RANs face personal isolation, a lack of anonymity and unrealistic expectations. RANs also face high rates of WPV and are at risk of the resulting adverse effects. Poor management practices were identified as a significant issue in remote health, including poor human resource management, poor communication, and poor responsiveness to reported issues.	Preparation for RANs' extended practice role through remote-specific education was recommended, as was adequate funding for safe workplaces and sufficient staffing levels. Improved management systems and practices were also recommended. The recognition of management as a health discipline, with associated training and accreditation, was identified as a strategy to achieve it.
Petrie et al. (2009) State unknown	Rural and remote nurses provide care to patients with mental health issues, often with limited training or access to mental health specialists. WPV risk factors include poor communication, understaffing, inadequate safety knowledge, and poor workplace security. WPV can lead to burnout among staff.	Staff ownership of the policy improvement process and involvement in decision-making had a positive impact on staff stress. Inter-agency collaboration drove improvements to safety policies and the processes in place for managing mental health consumers. Previous recommendations to reduce WPV include de-escalation training, procedural changes, and improved building safety. Managing staff stress caused by a hostile work environment requires staff at all levels to consider the types of support and intervention required to ensure employee and patient safety.
Opie et al. (2010a) Australia wide	RANs reported high rates of occupational stress, including psychological distress and emotional exhaustion, compared with other professional populations. This was most strongly correlated with emotional demands, staffing issues, workload, unrealistic expectations, violence and safety concerns, and ultimately RAN recruitment and retention difficulties and high turnover rates.	Increased job resources, both human and physical, greater occupational support and targeted strategies to reduce occupational stress were proposed as ways in which RANs could be better supported and sustained.  <u>Protective factors:</u> Despite this, RANs also reported high levels of work engagement and moderate job satisfaction, most strongly correlated with supervision, professional development opportunities and job control.
Opie et al. (2010b) Australia wide	66% of RAN participants were concerned about their personal safety. 29% of participants had been the victim of physical violence within the previous 12 months and 80% had experienced verbal aggression. WPV and PTSD symptoms had weak but statistically significant positive correlations. The rates of WPV experienced by RANs had significantly increased in the thirteen years from 1995 to 2008, for physical violence, verbal aggression, property damage, and stalking.	Collaboration among stakeholders for the implementation of existing policies and industry recommendations was identified as a strategy for reducing WPV. Improved manager training, post-incident processes, workplace safety and evaluation of WPV reduction strategies were also recommended.
Kurti et al. (2012) Australia wide	WPV risk factors related to location (such as home visits) or clients (such as intoxication or mental illness) are applicable across regions. Remote-specific risk factors include lack of anonymity, working long hours, cultural issues, remote driving and isolation from management, personal and emergency supports. Concern about WPV led to stress, anxiety, decreased confidence, and turnover intentions. Underreporting was a common issue, but varied by incident type. Normalisation and the perception that nothing would be done about it anyway were contributing factors. When incidents were reported, dissatisfaction with the employer's response was common.	Employers have a responsibility to identify hazards, implement risk mitigation strategies, and monitor for incidents. Workplaces need relevant and implementable policies and procedures to address WPV. WHS legislation often used as a framework to build them on. Good workplace design can reduce the risk of violence. Education and training on recognising and handling potential violent incidents was also recommended. Check-in systems can support staff working off-site. If an incident occurs, post-incident support should be prompt and include good follow-up. Inter-sector and community collaboration is essential for violence prevention strategies.
McCullough et al. (2012a)		Primary prevention of violence through local orientation, collaborative development of safety plans and appropriate safety policies, reducing the isolation of staff, and prompt action from employers when hazards are identified.

Lead author (year) and location	Risks	Recommendations
Australia wide		Secondary prevention through appropriate staffing, the use of second responders, and training for RANs to recognise, de-escalate and appropriately handle potentially violent situations. Tertiary prevention through post-incident support.
McCullough et al. (2012b) Australia wide	Major hazards for WPV include treating patients at staff accommodation, poor infrastructure safety and security, lack of RAN experience and/or poor risk assessment skills, a lack of backup, fatigue, stress, burnout, patient intoxication, normalisation of violence, and a lack of management support.	
Terry et al. (2015) Tasmania	Several safety issues were identified by the community nurses working in isolated areas, including driving long distances in variable conditions, and working alone with poor communications. Safety issues around home visits include aggressive clients, poor home condition, dog attack and client smoking habits. Organisational safety issues include bullying, vertical and horizontal violence, unrealistic workloads, long working hours, stress and burnout, staffing issues and lack of role-specific training.	<u>Protective factors:</u> Learning from experience and colleagues, collaborative problem solving with clients, and supportive team members.
NT Department of Health (2016) NT	The NT Department of Health's existing policy framework had limited staff safety policies and procedures for call-outs and home visits, and placed responsibility for call-out risk management on the RANs. Risk assessments often based on mental cues learned from experience. There was also no consistency in recording call-outs. Concerns about the repercussions of putting staff safety above clients' clinical needs hampered safety policy implementation. Other issues identified included access to police, poor orientation of new staff for safety considerations, limited access to relief or support staff in small clinics, unreliable communications technology, poor post-incident support, and poor building security and maintenance.	14 recommendations arose from the review of RAN safety across 51 sites in the NT. The use of second responders for all call-outs and home visits was a key recommendation, especially by employing a local respected community member as second responder. Most call-outs occurred in the evenings on weekdays or during the day on weekends. Some clinics significantly reduced their call-outs by extending clinic opening hours. Improved orientation, policy framework, infrastructure, equipment, incident reporting and follow-up, and stronger inter-agency communication and collaboration were also recommended.
Qld Health (2016) Queensland	Health services and staff in isolated and remote communities were identified as 'high risk' for WPV. Healthcare staff have regular exposure to client-related risk factors for WPV, in stressful situations. Nurses were the victim of the majority of WPV incidents reported within Qld Health.	A strong safety culture based on proactive management, support and staff reporting incidents and hazards was identified as essential for preventing WPV and overcoming the barriers of normalisation and ethical dilemmas. Training was also recommended, including education about WHS responsibilities, post-incident processes, risk assessment, communication, and de-escalation. This must be part of a broader approach. Peer support programs and communications technology were recommended remote-specific safety measures. The suitability of emergency/duress alarm systems, including personal duress alarms, should be investigated. Adequate resourcing, a focus on continuous improvement, interagency collaboration and a fit for purpose reporting system were also recommended. Good post-incident support is demonstrated when the victim's physical and mental wellbeing are supported. It should also involve prompt, rigorous incident investigation to develop or refine prevention strategies, including open communication with the victim.
CRANaplus (2017) Australia wide	Poor organisational safety culture and understanding of WHS responsibilities among managers and staff was a barrier to safety in some services.	Incident reporting should be encouraged. A cross-jurisdictional register to monitor assault and trauma faced by the remote health workforce was recommended as a strategy to inform preventative measures.



Lead author (year) and location	Risks	Recommendations
	<p>Only 55% of respondents had workplaces that required second responders for all call-outs. Poor clinic and accommodation safety and security was an issue for 25% of respondents. Most of the recorded significant episodes of workplace violence occurred in or around staff accommodation.</p> <p>Driving in remote areas is a risk, but training for this was rarely provided. Dog attack was a common safety concern for RANs.</p> <p>High turnover was a barrier to safety, limiting local knowledge and increasing the need for good local orientation and training. Bullying by peers or management was a significant driver of staff turnover.</p>	<p>Support from management was recommended, including good post-incident support, a proactive approach to safety, and good fatigue management strategies. Local orientation, training, 'never alone' guidelines, improved building safety and security, including functional alarms, were also recommended.</p> <p>Collaboration with the community and employment of local staff were identified as important safety strategies that should be undertaken despite the barrier of social disruption.</p>
Lenthall et al. (2018) NT	<p>Key areas of interest included inadequate staffing, unrealistic workloads, poor management, poor orientation and advanced-practice education, physical safety, and inadequate infrastructure and equipment.</p>	<p>Some of the proposed interventions were implemented within the NT Department of Health, particularly around orientation, education, and equipment and infrastructure management.</p> <p>The outcome evaluation showed a significant reduction in infrastructure and equipment difficulties in the Top End. There was also an improvement to lack of support in Central Australia, but this was mirrored in the control group.</p> <p>Barriers to implementation included high turnover, lack of funding, normalisation of unsafe workplaces, and interagency ownership issues.</p>
Wressell et al. (2018) Australia wide	<p>Many RANs could not report violent incidents without fear of reprisal, especially if their employer offered poor post-incident support and lacked reporting systems. Underreporting hampers the monitoring and improvement of prevention strategies.</p> <p>Normalisation of violence also contributes to poor implementation of policies by staff and organisations.</p>	<p>To address workplace violence, it was recommended that relevant safety policies, support to report, a strategy to address 'risk normalisation', and a comprehensive, targeted risk assessment and management approach be implemented. Having robust governance systems in place and creating and sustaining a workplace culture that promotes safety, were perceived as key elements to RANs feeling safe in the workplace.</p> <p><u>Protective factors:</u> Organisations' safety culture, workplace characteristics (shift work, built environment factors, client specific factors), risk management practices and post-incident support were linked with RANs feeling safe at work.</p>
Adams et al. (2019) Mine sites within Australia	<p>Remote industrial health worker participants experienced significant geographical, personal and professional isolation. Geographical isolation meant participants worked alone in high-risk environments, with limited access to support from other clinicians, such as for medical evacuations. Personal isolation, especially with separation from family for extended periods of time impacted participants' wellbeing.</p> <p>Professional isolation was identified as a major issue. Industrial medics work within an unregulated industry, combined with employer expectations of a very broad scope of practice. Participants reported a lack of education or training for their role, limited opportunities for information sharing and socialisation with other health professionals, poor professional identity, and poor career mobility.</p>	<p>Reduce professional isolation through the formation of a professional identity for industrial health workers and improved integration with rural/remote health frameworks, to improve access to collegial interaction and professional development.</p> <p>Role-specific education was also recommended, especially mental health training.</p>

A qualitative thematic analysis was conducted by Laura Wright, with NVivo 12 used to aid data management. Nodes were created from the key findings in the data charting table. Articles were then read and re-read, and sections of text relevant to the research questions were sorted into nodes. These were then condensed into sub-themes and themes, with NVivo used to check the themes against the original articles to ensure content validity.

### 2.1.5 Patient and public involvement

Patients and the public were not involved in the development of this review.

## 2.2 Results

Of the 18 included articles, the earliest was published in 1995 and the most recent in 2019 (Adams et al., 2019; Fisher et al., 1995). Characteristics of the included literature are detailed in Table 2.3. Industry (grey) literature comprised 33% of the articles, with three industry reports published in 2016/2017, in the aftermath of the Gayle Woodford murder mentioned above (CRANApplus, 2017a; Department of Health., 2016; Queensland Health., 2016). Two of the most recent reports focussed solely on remote health (CRANApplus, 2017a; Department of Health., 2016), while the remainder combined rural and remote (Kurti et al., 2012; NHMRC, 2002; Queensland Health., 2016; Timmins et al., 2008). Among the peer reviewed literature, 83% of articles focussed solely on remote health, and the vast majority of those on Remote Area Nurses (Adams et al., 2019; Fisher et al., 1995; Lenthall et al., 2018; Lenthall et al., 2009; McCullough et al., 2012a; McCullough et al., 2012b; Opie et al., 2010a; Opie et al., 2010b; Weymouth et al., 2007; Wressell et al., 2018).

**Table 2.3 Characteristics of included literature.**

<b>Characteristics</b>	<b>Number of references</b>
<b>Type of study:</b>	
Quantitative	3
Qualitative	4
Mixed methods	3
Literature review	1
Industry report	6
Unspecified	1
<b>Location:</b>	
Australia wide	12
Multi-state (NT, SA & WA)	1
Northern Territory (NT)	2
Queensland (Qld)	1
Tasmania (Tas)	1
Unknown (single state)	1
<b>Total</b>	<b>18</b>

In the thematic analysis, the safety risks and recommendations identified in the literature followed four themes: safety culture, isolation (both physical and social), safe environment, and education and training.

### 2.2.1 Safety culture

Safety culture was the broadest theme identified from the literature, encompassing the attitudes, behaviours and available supports which prevent or promote staff safety in remote health. A strong safety culture, where workplace safety is valued and promoted by organisations, managers, and staff, was highlighted as essential to workplace safety. Several industry reports discussed the need for an overarching culture of safety (Kurti et al., 2012; NHMRC, 2002; Queensland Health., 2016), while the peer reviewed literature primarily explored individual aspects such as poor support from management (Fisher et al., 1995; Lenthall et al., 2018; Lenthall et al., 2009; McCullough et al., 2012b; Terry et al., 2015; Weymouth et al., 2007; Wressell et al., 2018).

#### *2.2.1.1 Risks:*

A lack of understanding and commitment to workplace health and safety (WHS) responsibilities within organisations was identified as a barrier to achieving a culture of safety in the workplace (NHMRC, 2002; Queensland Health., 2016). Despite employers' legislated responsibility for the safety of their staff, two recent industry reports found some employers still placed the primary responsibility for safety on the clinicians themselves (CRANaplus, 2017a; Department of Health., 2016). A lack of commitment to safety could also be a problem among employees, as some remote clinicians reported feeling bullied by colleagues into ignoring workplace safety policies (CRANaplus, 2017a). Managers failing to follow safety guidelines, allocate funding for their implementation, or address reported hazards provided further examples of poor commitment to WHS responsibilities (CRANaplus, 2017a; McCullough et al., 2012b; Timmins et al., 2008; Weymouth et al., 2007). Studies over a wide time period reported RANs felt unsupported by management (CRANaplus, 2017a; Fisher et al., 1995; Lenthall et al., 2018; Lenthall et al., 2009; Weymouth et al., 2007), an issue that influences organisations' safety culture, incident reporting, turnover rates, stress, fatigue and burnout among staff (CRANaplus, 2017a; NHMRC, 2002; Opie et al., 2010a; Weymouth et al., 2007).

Insufficient staffing and high turnover are endemic in remote healthcare, and can be both a result of and contributing factor to the issues of poor management and a poor organisational safety culture (Lenthall et al., 2009; Weymouth et al., 2007). Fisher et al. (1995) found that only 58.5% of RAN respondents had a fully staffed workplace, a theme which continued throughout the subsequent literature (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; Lenthall et al., 2018;

Terry et al., 2015; Timmins et al., 2008). The NT Department of Health (2016) report identified high turnover of staff as a significant barrier to compliance with call-out safety policies. A study aimed at implementing a range of occupational stress interventions, including staff safety strategies, found that many of the proposed system changes were unable to be implemented, with high staff turnover and a lack of funding identified as barriers (Lenthall et al., 2018). Additionally, high turnover causes poor continuity of knowledge for both safety strategies and patient care (Department of Health., 2016; NHMRC, 2002).

Underreporting of WHS incidents is a widespread issue in the health sector, with a negative impact on health services' ability to monitor rates of incidents, develop targeted interventions, and provide proactive support (Department of Health., 2016; Kurti et al., 2012; NHMRC, 2002; Queensland Health., 2016). Several causes of underreporting were identified in the literature, including the normalisation of workplace violence, lack of prompt investigation and action on previous reports, fear of reprisal, and the usability of the reporting system (Fisher et al., 1995; Kurti et al., 2012; Queensland Health., 2016; Wressell et al., 2018). Normalisation occurs when incidents are a common occurrence and are seen by staff and organisations as 'part of the job'. This is compounded by a lack of support or action from employers when incidents are reported, reinforcing the perception that there's no point in doing so (Fisher et al., 1995; Kurti et al., 2012; McCullough et al., 2012b; Queensland Health., 2016).

#### *2.2.1.2 Recommendations:*

A 'risk management' approach was a key recommendation in the NHMRC report (NHMRC, 2002), with the need for this proactive approach to staff safety echoed in subsequent literature. This involves the early identification of hazards, risk assessments to determine the likelihood an incident will occur and the consequences if it does, collaborative development of risk mitigation strategies, implementation of those strategies, monitoring via incident reports and regular audits, and regular reviews of the strategies (CRANaplus, 2017a; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016; Terry et al., 2015). This cycle can greatly improve the safety of a workplace, but missed steps have a significant impact, such as when a panel of experienced RANs reported that safety policies were often developed without staff consultation or continuing evaluation, resulting in policies of little practical use (McCullough et al., 2012a).

Good post-incident support was identified by both industry and peer reviewed literature as an essential aspect of workplace safety. It includes prompt, confidential one-on-one debriefing with an appropriately trained person (such as an external counselling service), allowing staff time to recover from the incident, incident investigation, a review of safety strategies to prevent recurrence, and clear

communication about this process with the staff involved (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016).

An effective incident reporting system must enable quick and easy lodgement of incidents, especially those that occur frequently (Department of Health., 2016; Kurti et al., 2012; NHMRC, 2002; Queensland Health., 2016). Staff access to a reporting system and training on how to use it is also an important factor (Lenthall et al., 2018; Wressell et al., 2018). To address the issue of underreporting, a blame-free, multifaceted approach that addresses the normalisation of workplace violence, fear of reprisal, usability of the incident reporting system, and prompt investigation and action will be necessary (Adams et al., 2019; Fisher et al., 1995).

### 2.2.2 Isolation

#### *2.2.2.1 Risks:*

Isolation is a risk for staff working in remote health. Working alone was the most widely discussed aspect of this, from the earliest article in 1995, to the most recent in 2019 (Adams et al., 2019; CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Kurti et al., 2012; Lenthall et al., 2018; McCullough et al., 2012a; Terry et al., 2015; Weymouth et al., 2007; Wressell et al., 2018). The early literature identified working alone with no or limited access to police or other health professionals as a risk to staff safety, with single nurse posts at particularly high risk (Fisher et al., 1995; Lenthall et al., 2009; McCullough et al., 2012b; NHMRC, 2002). Weymouth et al. (2007) identified being on-call alone as a particular concern for RANs. Following the 2016 call for change, industry literature also began to discuss the risks of attending call-outs alone and develop strategies to address this issue (CRANaplus, 2017a; Department of Health., 2016). Terry et al. (2015) showed these risks are not limited to call-outs, as community health nurses conducting scheduled home visits faced similar issues. Poor communication technology was identified as a compounding factor, limiting nurses' ability to call for help if an incident occurred (CRANaplus, 2017a; Department of Health., 2016; Terry et al., 2015).

Opie et al. (2010) identified high levels of stress and fatigue as a risk to the physical and mental health of RANs. Working in small teams, with limited access to medical or allied health professionals, means RANs often have high workloads and significant on-call responsibilities. Limited access to relief staff to cover sick leave or recreation leave further compounds this problem, and has been a longstanding issue in remote health (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Lenthall et al., 2018; Lenthall et al., 2009; Weymouth et al., 2007).

Social and professional isolation with limited access to support networks is a risk in remote health (Department of Health., 2016; Lenthall et al., 2009; Timmins et al., 2008). This can adversely affect staff wellbeing by increasing psychological distress and emotional exhaustion, with the attendant implications for staff turnover and quality of care (Adams et al., 2019; Opie et al., 2010a). Remote health professionals working in an industrial setting can be particularly vulnerable, as the hazards of geographical isolation and working alone are compounded by their isolation from the professional supports and regulation of the mainstream health system (Adams et al., 2019).

With regards to geographical isolation, driving on remote roads can be a significant risk to staff safety (CRANaplus, 2017a; Terry et al., 2015). Driving long distances, often on unsealed roads, day or night, in all weather conditions, and under pressure of clinical urgency, is often a requirement of the job. The risk of accidents is high, and the CRANaplus (2017a) national report found that many RAN respondents had not received driver training to prepare them for this role.

#### **2.2.2.2 Recommendations:**

Several recommendations have been developed to reduce the negative impacts of isolation in remote health. Second responders were identified as an important strategy for improving RAN safety during call-outs (CRANaplus, 2017a; Department of Health., 2016; Lenthall et al., 2018; McCullough et al., 2012a). However, understaffing has been identified as a significant barrier to this strategy, as outlined within the *safety culture* theme. Due to the need to manage clinician fatigue and provide a continuous service, RANs can be reluctant to call in another clinician as second responder (CRANaplus, 2017a). Instead, the NT Department of Health (2016) report recommended that local community members be employed as drivers to act as second responders. However, participants in the CRANaplus (2017a) report cautioned that many communities are experiencing considerable social disruption and may not always be able to support health services in this way. To improve staff safety both on call-outs and during clinic hours, ensuring all communities have a police presence and streamlining processes for contacting the police was also recommended (Department of Health., 2016; Fisher et al., 1995; McCullough et al., 2012a).

Appropriate communications systems and equipment were recommended by McCullough et al. (2012a) and the industry literature as a strategy to reduce isolation and improve safety. Portable duress alarms help staff call for help when off site (CRANaplus, 2017a; NHMRC, 2002; Queensland Health., 2016). Check-in systems were also recommended (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; McCullough et al., 2012a; NHMRC, 2002). Automated check-in systems circumvent the problem of relying on staff to report their movements (CRANaplus, 2017a; Department of Health., 2016). For long-distance travel, recommendations include vehicle GPS

tracking, satellite phones and Personal Locator Beacons (PLBs) (CRANApplus, 2017a; Department of Health., 2016).

Peer support programs were recommended to offset professional isolation, including access to clinical supervision, mentoring and professional networks (Adams et al., 2019; Kurti et al., 2012; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016). Recommendations to reduce social isolation and improve staff resilience include internet and phone access in staff accommodation, a supportive team environment, staff taking regular leave, and staff engagement in social activities with community residents and others (CRANApplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Weymouth et al., 2007). To reduce difficulties in accessing leave replacement, it was recommended that health services maintain a permanent pool of experienced relief staff (CRANApplus, 2017a; Department of Health., 2016; Lenthall et al., 2018).

### 2.2.3 Safe environment

#### 2.2.3.1 Risks:

Workplace violence is one of the main workplace safety risks discussed in the literature. It includes physical abuse, verbal abuse, threatening behaviour, bullying, sexual abuse, sexual harassment, and property damage (Opie et al., 2010b). Opie et al. (2010b) found violence towards RANs was an ongoing issue, as 28.6% of participants had personally experienced physical violence in the preceding 12 months. Research combining rural and remote nurses reported lower but still significant rates of workplace violence (Kurti et al., 2012; Queensland Health., 2016; Terry et al., 2015; Timmins et al., 2008). This issue had significant implications for the mental and physical wellbeing of RANs, contributing to increased stress, burnout, PTSD symptoms, and high turnover (CRANApplus, 2017a; Lenthall et al., 2009; Opie et al., 2010b; Queensland Health., 2016).

Recent literature explored which remote health professionals were at greatest risk of workplace violence. Wressell et al. (2018) and the NT Department of Health (2016) found locum/agency RANs were less likely to receive training in workplace violence prevention, and were more likely to work alone, work after hours, conduct home visits, and respond to non-urgent call-outs compared to their colleagues who had more experience with the community. The CRANApplus (2017) report found that Aboriginal and Torres Strait Islander Health Practitioners were at greater risk of 'payback' (assault by people projecting blame onto the health practitioner).

Lack of anonymity is also a hazard for staff working in remote areas. McCullough et al. (2012) identified patients visiting staff accommodation for treatment as the greatest hazard impacting RAN safety. In

the Kurti et al. (2012) report, the majority of rural/remote health sector respondents felt the line between professional and personal was blurred, and 45% reported they were vigilant when out in public due to the risks associated with their role.

Unsafe infrastructure was a common, ongoing concern in the literature, including poor building design, poor maintenance practices and a lack of security technology (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Lenthall et al., 2018; McCullough et al., 2012a; Weymouth et al., 2007). Poor clinic building and staff accommodation safety has been discussed for decades in the peer reviewed literature, but the CRANaplus (2017) report found 25% of participants still did not have safe and secure accommodation or workplaces (Fisher et al., 1995; McCullough et al., 2012b). Proactive maintenance schedules are not widespread, and RANs encountered poor management responsiveness to reported faults (CRANaplus, 2017a; Lenthall et al., 2009; McCullough et al., 2012a; Weymouth et al., 2007). Of the major incidents of workplace violence identified in the CRANaplus (2017) report, many had occurred in or around staff accommodation.

#### *2.2.3.2 Recommendations:*

Several strategies were recommended to address workplace violence, but ethical considerations make some of them difficult to implement. For example, zero tolerance policies are common, but not always enforceable, as violence can have clinical causes such as delirium or mental illness (Department of Health., 2016; Kurti et al., 2012; Queensland Health., 2016). Even when violence is criminally motivated, denying a patient access can be ethically difficult, especially when there is no other health service in a community (Kurti et al., 2012; McCullough et al., 2012a). Flagging high risk patients is another example. On one hand, it facilitates the sharing of information useful for risk assessments, in a sector characterised by high staff turnover that reduces the level of local knowledge (Kurti et al., 2012). On the other hand, clinicians can be hesitant to label a patient as violent, as it could adversely affect their future care (Kurti et al., 2012; McCullough et al., 2012b). To balance these concerns, a protocol for when and how to flag a client as violent could be developed as part of a local response plan.

Local response plans build upon services' policies and procedures, using formal consultation between the health service, community and relevant stakeholders to identify how staff can obtain help in a risky situation, what to do if an incident occurs, how and where to get to safety, and consequences for violent behaviour (McCullough et al., 2012a; NHMRC, 2002). Where inadequate local resources are a barrier to the development of these plans, the NHMRC (2002) recommends that small services form networks.



For infrastructure safety, McCullough et al. (2012) and the industry literature outlined several recommendations. First was building design, such as adequate locks on doors, security screens on windows, having multiple exits, minimising public access to clinical areas, comfortable waiting areas, a safe/escape room with access to communications, ensuring clear sightlines around exits and walkways, and good security lighting (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; McCullough et al., 2012b; NHMRC, 2002). Security technology was also recommended, including duress alarms, security systems, client screening technology for call-outs, reliable communications technology, and internet access in staff accommodation to check patient records before call-outs (CRANaplus, 2017a; Department of Health., 2016; McCullough et al., 2012a; NHMRC, 2002). Lastly, timely maintenance and repair of infrastructure and equipment was highly recommended, with regular audits to ensure this is being done (CRANaplus, 2017a; Department of Health., 2016; Queensland Health., 2016).

#### 2.2.4 Education and training

##### 2.2.4.1 Risks:

Insufficient local orientation for new staff was highlighted as a significant safety issue. RAN participants in several studies reported receiving no local orientation or handover when commencing at a new workplace, with little apparent improvement to this issue between 1995 and 2017 (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Lenthall et al., 2018). Where orientation was offered, many RANs found it to be inadequate, such as a focus on service requirements without the inclusion of workplace safety or cross-cultural information (CRANaplus, 2017a; Fisher et al., 1995; Lenthall et al., 2018; Weymouth et al., 2007). Lenthall et al. (2018) and the NT Department of Health (2016) identified high turnover as a contributing factor to poor local orientation, as the frequent need to orientate short-term staff further added to the workload of longer-term staff. This further adds to the risks faced by locum RANs, as outlined in the *safe environment* theme.

Inexperience and inadequate preparation for the specific safety risks inherent in remote practice are also risks to staff safety. For example, inexperience with conducting mental health assessments was identified as a significant hazard by Petrie et al. (2009) and McCullough et al. (2012). Insufficient training in risk assessment and de-escalation skills increased the risk of workplace violence. In remote health, this issue is compounded by the risks of isolated work outlined in the *isolation* theme (NHMRC, 2002). Despite more rural/remote nurses receiving training in recognising and responding to workplace violence than their metropolitan counterparts or other rural/remote professionals, the rate

of training remained low, at 67% in 2008 and 45% in 2012 (Kurti et al., 2012; Timmins et al., 2008). Although most respondents in the CRANaplus (2017) report were confident in their de-escalation skills, many noted that refresher training would be beneficial. This problem is compounded by managers also experiencing poor preparation for their role, limiting their ability to fulfil their WHS responsibilities (Terry et al., 2015).

#### *2.2.4.2 Recommendations:*

Good local orientation was recommended as a strategy to improve staff safety, by providing the knowledge needed to practice safely in a new workplace. To achieve this, several orientation requirements were identified. An introduction to the local policies and practices related to workplace safety and security was recommended by most of the industry reports (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; NHMRC, 2002). The inclusion of cross-cultural information was also recommended, with a particular need for community-specific cultural safety knowledge (Fisher et al., 1995; Kurti et al., 2012; Lenthall et al., 2018). The inclusion of strategies for maintaining personal wellbeing was a less widespread recommendation (CRANaplus, 2017a; Fisher et al., 1995).

Training in safety skills such as risk assessment and de-escalation was highly recommended for remote health staff (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; McCullough et al., 2012a; NHMRC, 2002; Petrie et al., 2009; Queensland Health., 2016). In the absence of formal training or policies, staff developed skills to reduce workplace violence through personal experience and learning from colleagues (Department of Health., 2016; Terry et al., 2015). Experience in a role was found to improve staff safety (McCullough et al., 2012b; Wressell et al., 2018).

Remote-specific education to prepare and support remote health professionals for their advanced practice role was also recommended (Adams et al., 2019; Fisher et al., 1995; Lenthall et al., 2009). Lenthall et al. (2009) discussed short courses and postgraduate courses that were developed to meet this need. However, Weymouth et al. (2007) had found understaffing was a barrier to access, especially a lack of relief staff to cover for clinicians attending professional development outside the community.

Role-specific education and training for managers was also recommended. Managers in remote health must be accessible and supportive to staff, responsive to issues that arise, show strong leadership and manage the service, often with the disadvantage of not being physically present at the workplace (Weymouth et al., 2007). The *safety culture* theme highlighted the significant impact of poor management on workplace safety, so it is essential that managers be properly prepared to fill this role. In the older literature, this was most commonly discussed in the context of managers' overall ability

to support staff, such as through post-incident support (Lenthall et al., 2009; NHMRC, 2002; Opie et al., 2010b; Weymouth et al., 2007). More recent literature also discussed managers' understanding of the remote context, WHS issues and their responsibility for proactive risk management (CRANApplus, 2017a; Lenthall et al., 2018; Terry et al., 2015).

### 2.3 Discussion

This review found a modest body of literature investigating the workplace safety risks faced by RANs and developing recommendations to overcome them. A wide range of hazards and safety risks were identified within the literature. Safety culture was an overarching theme, with a lack of commitment to WHS (particularly at an organisation level) identified as a barrier to addressing identified hazards (CRANApplus, 2017a; McCullough et al., 2012b; Timmins et al., 2008; Weymouth et al., 2007).

Isolation was another major theme, with working alone, such as with single nurse posts or during call-outs, highlighted as a major hazard (CRANApplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Lenthall et al., 2009; McCullough et al., 2012b; NHMRC, 2002). Within the safe environment theme, workplace violence and unsafe infrastructure (including clinic buildings and staff accommodation) were identified as significant ongoing risks (CRANApplus, 2017a; Fisher et al., 1995; Kurti et al., 2012; McCullough et al., 2012b; Opie et al., 2010b; Queensland Health., 2016; Terry et al., 2015; Timmins et al., 2008). The final theme was education and training, where inadequate local orientation and preparation of staff and managers for their roles were barriers to safety (CRANApplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Lenthall et al., 2018; Terry et al., 2015; Weymouth et al., 2007).

While there are some contemporary recommendations to address these issues, others have been around much longer, with a high level of agreement on their importance. In addition, many of these recommendations are included in Australian WHS legislation and codes of practice, meaning employers are legally obligated to implement them. For example, the WHS (National Uniform Legislation [NUL]) Act 2011, Part 2, Division 2 states the employer must maintain staff accommodation [in specified circumstances] so the worker is not exposed to health and safety risks (NT, 2011a). With staff accommodation a high-risk location for workplace violence in remote health, it is particularly important that these facilities are secure and well maintained (CRANApplus, 2017a). Despite this, a recent national survey found that 25% of RAN participants did not have safe and secure accommodation, as outlined in the *safe environment* theme (CRANApplus, 2017a).

This review highlighted the significant impact of safety culture on workplace safety. In particular, the use of a risk management approach was identified as an overarching strategy with an impact on all other themes identified in this review (Department of Health., 2016; NHMRC, 2002; Queensland Health., 2016). This cycle of hazard identification, risk assessment, and the selection, implementation, monitoring and review of controls is a standard approach to WHS, echoing employers' legislated responsibilities regarding the management of risks to health and safety (NHMRC, 2002; NT, 2011b). Codes of practice provide practical guidance for employers on how to achieve this (Safe Work Australia., 2020a, 2020c). Some recommendations within the literature surpass these legal requirements, by calling for community members and other stakeholders to be included in consultation as well as the employees (NT, 2011b).

Several risk mitigation strategies were identified to reduce the risks associated with isolation. Personnel related strategies included second responders, relief staff and access to police (CRANaplus, 2017a; Department of Health., 2016; Lenthall et al., 2018; McCullough et al., 2012a). Recommendations related to communication systems and equipment included duress alarms, check-in systems, and communications equipment for long-distance travel (CRANaplus, 2017a; Department of Health., 2016; Kurti et al., 2012; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016). Supervision and mentoring were recommended to reduce professional isolation (Adams et al., 2019; Kurti et al., 2012; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016). Many of these recommendations are mirrored in the *Managing the work environment and facilities Code of Practice*, including the buddy system, communication system and movement records (Safe Work Australia., 2020b). The provision of effective systems of communication for remote or isolated workers is also specifically required by the WHS (NUL) Regulations (NT, 2011b), providing additional incentive for employers to implement this.

Another critical component of workforce safety is sufficient education and training, including good local orientation and role-specific education (CRANaplus, 2017a; Department of Health., 2016; Fisher et al., 1995; Kurti et al., 2012; Lenthall et al., 2009; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016; Terry et al., 2015; Weymouth et al., 2007). Factors such as high turnover can make implementing this a very resource-intensive process (Department of Health., 2016; Russell et al., 2017), but there are significant benefits to overcoming the barriers, as opportunities for professional development, skill development and application are strongly linked with job satisfaction and work engagement among RANs (Opie et al., 2010a). In addition, the WHS (NUL) Act states that one of the primary duties of care of employers is the provision of information and training to protect workers from WHS risks (NT, 2011a).

Despite the above recommendations and requirements, there is limited literature assessing what has been implemented, or the impact of that implementation on staff and health services. Importantly, there is not yet any literature following up on the changes within the remote health sector following the 2016 murder of RAN Gayle Woodford, though some recommendations had allegedly been implemented since then, such as mandatory second responders, improved orientation, increased relief staff, safety equipment and infrastructure improvements (Clark, 2018; Fyles, 2017). It is crucial for the future of the remote health workforce that the effects of these interventions be evaluated. This will allow successful interventions to be promoted, and unsuccessful ones to be modified or eliminated.

Additionally, there are few studies looking into the workplace safety perspectives of remote health staff other than RANs. For example, a study of rural GP practices found that workplace violence towards receptionists is a significant issue, suggesting this could also be relevant to frontline support staff in remote health, such as drivers and administrative assistants (Herath et al., 2011). Studies that explore the safety needs of support staff and Aboriginal and Torres Strait Islander Health Practitioners would address a significant gap in the literature. Some work has been done regarding the safety of Aboriginal and Torres Strait Islander workers in community night patrol, with findings including the need for culturally appropriate support from management, sufficient resources, and safety training (Hill et al., 2018). However, there remains a need to evaluate whether the recommendations have been taken up, and if so, whether they have improved staff safety.

This comprehensive scoping review enabled an in-depth exploration of academic and industry research regarding workforce safety in the Australian remote health sector. The lack of a date restriction allowed the discussion of longstanding risks and comparisons between historical and contemporary recommendations. There were also limitations to this review. As a scoping review, this article does not comment on the strength of evidence supporting any of the recommendations identified in the literature. The lack of implementation studies also means this article is also unable to comment on the efficacy of those recommendations. Additionally, industry reports that had not been made publicly available could not be accessed. Media references to one such internal report were identified during the literature search (Koch, 2009), but the report could not be retrieved.

While this review focussed solely on the Australian context, remote health professionals in other developed nations face similar risks to their safety (Franche et al., 2010; Yonge et al., 2019). By clearly presenting the safety risks and recommendations from the Australian remote health literature, this review could assist international efforts to address this issue.

## 2.4 Conclusion

Safety for the remote health workforce, especially Remote Area Nurses, has been discussed in the literature and within the industry for several decades. Historically, there has been a focus on workplace violence, but a wide range of workplace safety hazards have been identified. In this review, risks to staff safety and the recommendations to overcome them were located within four themes, including safety culture, isolation, safe environment, and education and training. These themes were interconnected, highlighting the need for a multifaceted approach to achieve meaningful improvements to the safety of the remote health workforce. Many of these recommendations were also reflected in Australian WHS legislation and codes of practice, providing additional incentive for employers to implement them. A vital next step is to investigate how well the recommendations have been implemented in the remote health sector, what enablers and barriers have been encountered, and the impact of those strategies on staff.

## 2.5 Literature update

A final search of the literature was conducted on 06/12/2021. Following the submission and publication of the above scoping review, two new relevant articles were released. One was a peer-reviewed article exploring the contemporary practice of Registered Nurses (RNs) working in rural and remote areas (Whiteing et al., 2021) and the other was the coroner's inquest into the death of Gayle Woodford (Coroner's Court of South Australia, 2021). A third report, titled *Gayle's Law Review*, had also been completed, but was not included in this literature update as the report had not yet been made publicly available.

The study by Whiteing et al. (2021) used a multiple case study design, with an analysis of 42 documents, survey of 75 RNs, and interviews with 20 RNs from rural and remote sites in New South Wales and Queensland. Their findings paralleled several points from the previous research on RAN wellbeing, including the high levels of stress, burnout, long working hours, poor personal safety, and lack of support from management. Participants in the study by Whiteing et al. (2021) identified poor personal safety as a major stressor, but did not feel that their managers were taking action to address this issue. Several RNs attributed a lack of support from management in the face of personal and professional risks as their reason for resigning. The paper also explored the issues of geographical, personal, and professional isolation.

Both articles identified safety issues arising from the lack of anonymity, where community members reacted poorly to nurses making mandatory reports such as for child protection (Whiteing et al., 2021).

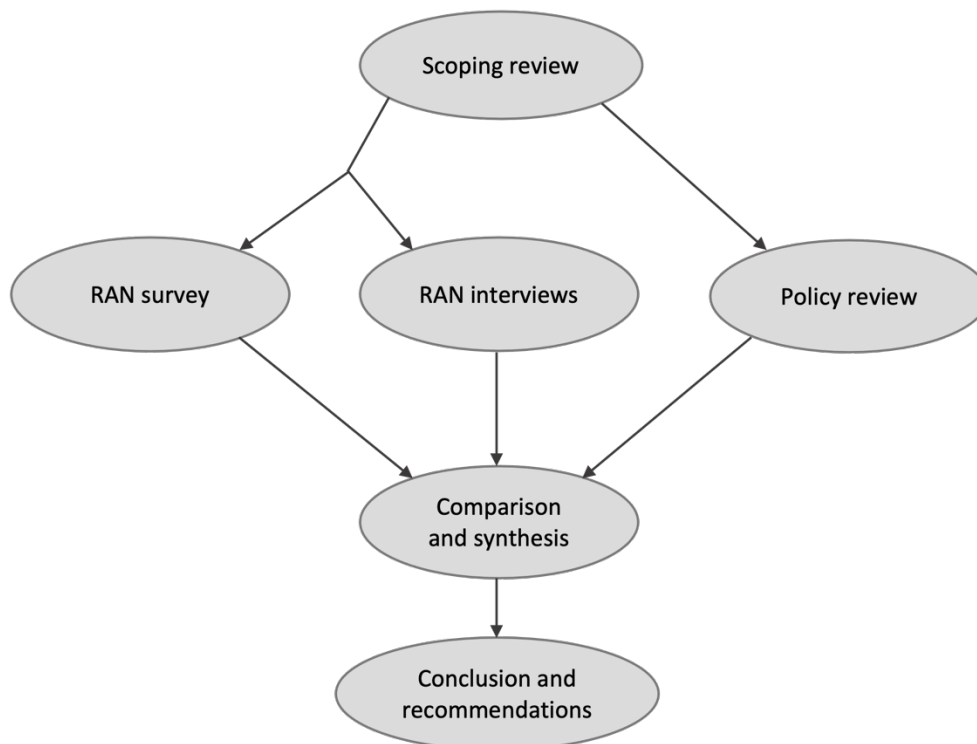
For example, a RAN received death threats and abuse after the removal of a child at significant risk (Coroner's Court of South Australia, 2021).

The coroner's inquest into the death of Gayle Woodford highlighted several significant issues around RAN safety. A major issue was call-out safety, with significant hazards including RANs attending call-outs alone and patients going to staff accommodation to initiate a call-out. The coroner also highlighted the fallibility of call-out risk assessments.

Additionally, the health service's management was found to be dismissive of their staff's safety concerns (Coroner's Court of South Australia, 2021). "The witnesses are unanimous that the response consisted of words to the effect that if they did not like working there, they had the option of not working there" (section 8.54, p44). Additionally, staff had little recourse when they experienced violence. One RAN obtained an apprehended violence order against a community member following repeated abuse, but was "still expected to attend this woman as a patient even if it involved a house call. She was told that it would be unethical for the patient not to have access to available health care" (section 4.7, p21). This was despite working in a clinic staffed by three RANs. While this clash between duty of care and staff safety did not emerge as strongly within the scoping review, other nurse safety studies from rural and urban Australia also found that in practice, patient care was often given precedence over nurses' safety and wellbeing (Jacob et al., 2020; O'Keeffe et al., 2015).

Recommendations from the coroner included ensuring clinicians are accompanied by a responsible person for all call-outs, putting processes in place to prevent patients from attending staff accommodation to initiate call-outs, and having a permanent police presence in the community (Coroner's Court of South Australia, 2021). These findings build upon and add strength to the recommendations identified in the original scoping review.

## Chapter 3. Methods: The making of a project



### 3.1 Introduction

This chapter presents the research methodology and methods used in this thesis. In section 3.2, the overall approach used for this study is outlined, while the subsequent sections provide a detailed breakdown of the methods used for each stage of the project. Section 3.3 describes the methods used for the survey, including the study approach, questionnaire development and data analysis techniques. Section 3.4 outlines the interview methods, including participant recruitment, interview approach and data analysis. Section 3.5 covers the policy review, including the study approach, data collection method, and data analysis. Lastly, section 3.6 provides details of the ethics approvals.

### 3.2 Project design

To assess the current approach to WHS in very remote primary health clinics within Australia, a convergent mixed-methods design was used. This involved parallel quantitative and qualitative data collection and analysis, with the results integrated to provide a more comprehensive answer to the research questions (Curry & Nunez-Smith, 2017). This approach was chosen over an exploratory or



explanatory sequential design (where a survey is developed in response to interview findings or vice versa), as the safety factors of concern were identified in previous research. Instead, this study focussed on the efforts to address those concerns, using a survey to quantify the current level of safety in remote clinics from RANs' perspective, interviews to explore RANs' experiences of what helps or hinders WHS in remote clinics, and a policy review to map health services' priorities around WHS.

### 3.3 Survey

The survey explores question 2 of the project: "From RANs' perspective, what WHS strategies have been implemented in very remote primary health clinics within Australia?"

#### 3.3.1 Approach

The cross-sectional survey was open to participants for two months in December 2020 and January 2021. It was an anonymous online survey hosted on Qualtrics. The target population was RANs who had worked in a very remote primary health clinic more recently than January 2019. The total population of RANs at the time of the study was unknown, but based on the number of RAN positions in 2008 and the turnover rates from 2013-15 (Lenthall et al., 2011; Russell et al., 2017), the number of eligible participants could be roughly estimated at about 825 RANs. To ensure all survey participants met the eligibility criteria, the following screening question was included at the start of the survey after the consent form:

Are you a RAN who has worked in a very remote primary health clinic in Australia more recently than January 2019? (If unsure whether your workplace is in a very remote area (MM7), the Health Workforce Locator can be used to search for it using the Modified Monash Model 2019: <https://www.health.gov.au/resources/apps-and-tools/health-workforce-locator/health-workforce-locator>)

As RANs are a geographically dispersed, hard to reach population, participants were recruited using convenience sampling. The survey was advertised through professional networks, including CRANApplus (the peak body for remote health professionals) member communications and newsletter, Australian College of Nursing communications to their rural nursing community of interest, RAN Facebook groups, and word of mouth.

### 3.3.2 Development of the questionnaire

The questionnaire (see Appendix 2) was developed collaboratively by the candidate and a group of experienced RAN researchers, educators, and managers from across Australia, to ensure the survey would be relevant to RANs from all regions and remote clinic types within Australia. Several existing survey tools were used to guide the development of this questionnaire. To improve the local relevance of the survey, demographics and work characteristics questions were adapted from previous RAN surveys with permission, including the RAN Survey (Weymouth et al., 2007) and Back From the Edge Questionnaire (Lenthall et al., 2018). Data on age, sex, education, ethnicity, rurality, work experience, and current work environment were gathered.

The main objective of the survey was to quantify how safe participants' workplaces were, by identifying how many of the recommended workplace safety strategies had been implemented. To achieve this, specific preventative workplace safety recommendations identified from the literature were used to build upon the Questionnaire for Research on Enhancing Personal Safety (Fisher et al., 1995) and the CRANaplus National Safety and Security Project Questionnaire (CRANaplus, 2017a). For example, major recommendations such as having safe clinics and safe accommodation had significant potential variation in what participants considered to be safe. To combat this, instead of asking for participants' opinions on how safe their workplace was, detailed multiple-choice questions were crafted to identify which specific recommendations had been met, with input from the collaborators to ensure their relevance. For example, the recommendation "Safe, secure, well-lit clinic, accommodation and vehicle storage" (CRANaplus, 2017b), was expanded upon using Crime Prevention Through Environmental Design (CPTED) guidelines (Department of Lands and Planning., 2010).

In total, 55 preventative workplace safety recommendations about orientation, training, clinic safety, accommodation safety, vehicle safety, call-out safety and fatigue management were included, to produce a workplace safety score. Frequency data about the occurrence of incidents such as accidents and workplace violence were also gathered. To measure occupational stressors, the Remote Area Nursing Stress Scale (RANSS) validated tool was used verbatim (Opie et al., 2013).

RANs' community connectedness was measured using a survey tool from the Back From the Edge Questionnaire (Lenthall et al., 2018). The tool used six questions with a five-point Likert scale to assess participants' feelings of safety, connectedness and belonging within their community.

Finally, a measure of job satisfaction was included, using a shortened version of the the Satisfaction of Employees in Health Care (SEHC) Survey validated tool (Alpern et al., 2013). Much of the original 20 question SEHC tool overlapped with the RANSS survey tool, so a condensed version was used. Six

questions from the SEHC, related to encouragement from the supervisor, changes arising from feedback, recognition, professional development, team dynamics and opinion of the workplace were selected for the condensed tool.

Pilot testing of the questionnaire was conducted with RANs and researchers to assess the utility of the online survey format, time required for completion, and check the question flow and wording.

### 3.3.3 Data analysis

To form the overall workplace safety score, the 55 preventative safety recommendations were combined, then presented as the percentage of recommendations met. Normality tests were done for all statistics presented in the results chapters, with results presented as means where the data were normally distributed, or medians where they weren't normally distributed.

RANSS scores were presented following the approach described by the authors of the RANSS (Opie et al., 2013). Data about the frequency participants had experienced various occupational stressors were converted to a numerical score, where 0 indicated 'never', and 6 indicated 'everyday'. Results from the 28 stressors were combined to produce a stress score that could range from 0 (never experienced any of the occupational stressors) to 168 (experienced all occupational stressors daily).

For the topics utilising a five-point Likert scale (i.e., community connectedness and job satisfaction), data from each set of six questions were collated, with the median responses presented as indicators of overall community connectedness, or overall job satisfaction.

Tests to assess variation in the overall workplace safety scores were selected based on whether or not the data for all included variables were normally distributed. For example, Kruskal-Wallis tests were used when comparing workplace safety scores between regions, as some states did not have normally distributed safety scores. Mann-Whitney U tests with Bonferroni corrections were used for the post-hoc tests. When comparing safety scores between two groups, independent samples t-tests were used when both groups were normally-distributed, otherwise Mann-Whitney U tests were used. For all comparative analyses, the  $\alpha$  (alpha) was set to 0.05.

When comparing current and historical incident frequencies, chi-square tests of independence were used. When assessing correlations, spearman's correlation was used, as there was always at least one variable that was not normally-distributed. Correlation coefficients of 1.0-0.7 were interpreted as a strong correlation, 0.6-0.4 as a moderate correlation, 0.3-0.2 as a weak correlation, and 0.1-0.0 as no correlation (Schober et al., 2018).

To assess the relationship between the overall workplace safety score and RANSS, a linear regression analysis was done. In consultation with a statistician, a multiple regression analysis was conducted to determine which factors best predicted the workplace safety score.

### 3.4 Interviews

The interviews explore research question 3: “What are the experiences of RANs in the implementation of those WHS strategies and policies?”

#### 3.4.1 Approach

A reflexive thematic analysis approach was used for the interview stage of the project (Braun & Clarke, 2021a). This approach enabled the identification of patterns across the dataset, while acknowledging the researcher subjectivity inherent in qualitative research. Throughout the study, a process of continual and critical self-evaluation was undertaken. When developing the overall project, my positioning, background, and how it relates to (and could potentially influence) participants and the interpretation of data was identified (see chapter 1, section 1.4). During the interviews, I maintained a research journal, forming an audit trail of my initial interpretations of the data and reflections on how my own positionality shaped that interpretation and questioning. These reflections were used to enhance awareness of my influencing factors for subsequent interviews and data analysis, with further self-reflection at each stage.

#### 3.4.2 Methods

In this national study, the purpose of the interviews was to obtain rich data from RANs in diverse settings, to provide insight into their experiences of the implementation of WHS strategies and policies. At the end of the survey, participants were able to register their interest in participating in an interview. Participant recruitment was aimed at achieving a diverse sample of RANs from different regions, service types, contract types, and demographics, maximising the range of views explored while keeping within the resource limitations of the project. To this end, RANs who expressed interest in an interview were grouped by their state/territory and service type, then a random number generator was used to select participants for the interviews. This enabled purposive sampling of RANs from different workplaces, while eliminating the risk of researcher bias in the selection process. If no reply was received to the initial invitation email, a follow up email was sent.

Achieving data saturation was not a goal in this study. Though data saturation (the point where no new information or themes are produced from the data) is commonly idealised as an indicator of

rigour in qualitative research, it is not a theoretically coherent approach to use with constructionist approaches such as reflexive thematic analysis (Braun & Clarke, 2021b). As highlighted in chapter 1 (section 1.4), this study takes place from the standpoint that while objective truths exist, individuals perceive the world differently based on underlying factors such as their background and ethics, with no single correct way of looking at the world. As each RAN has a unique combination of background and experiences, data saturation could not reasonably be achieved except in the most shallow, granular sense.

Ten questions were developed to guide the semi-structured interviews (see Appendix 3). The questions were designed to spark discussion of what policies and strategies (either official or unofficial) were in place, their barriers and enablers, and participants' priorities for change. Interviews were conducted via recorded Zoom meetings from 24/02/2021 to 06/05/2021. Technical difficulties were encountered in two cases, where the participant switched to a telephone connection to resolve the issue. Audio files from the interviews were saved and sent to a confidential transcription service. Transcripts were checked for accuracy while listening to the recordings, then de-identified copies of the transcripts were made.

### 3.4.3 Data analysis

Following the reflexive thematic analysis approach, interviews were recorded and transcribed verbatim. Coding was carried out inductively, where the transcripts were first read through to build familiarity with the dataset. Transcript accuracy was ensured by listening to the recorded interviews during the initial read-throughs. This also promoted deeper immersion in the data and assisted with the detection of verbal cues.

An initial round of coding was completed for each transcript, focussed on semantic (explicitly stated) codes. This created a list of safety topics and experiences that each individual participant had discussed. Each participant's codes were then compared with those of other participants, their contexts considered, and another round of coding was conducted from a comparative perspective. A further round of coding focussed on latent codes (attitudes, concepts and assumptions underpinning the data). The various codes were then combined, examined for broader patterns and meaning, and initial themes were developed. During this stage, the previous entries in my research journal were reviewed, to reassess my initial impressions of the data and interrogate how they shaped my ongoing interpretation. Themes were then examined to see if they held when compared to the dataset and the participant quotes linked to the codes. Finally, the themes were further refined, and the overall

story told by each theme was identified. NVivo 12 was used to aid data management throughout this process.

### 3.5 Policy review

The policy review explores question 4 of the project: “What WHS policies and procedures are in place within Australian remote health services?”

#### 3.5.1 Approach

A basic content analysis design was used for the policy review, following the parameters set out by Drisko & Maschi (2015). Similarly to a scoping review, this approach provides a descriptive analysis of the WHS policies and related documents used within very remote primary health clinics within Australia. By quantifying what WHS strategies the remote health services were aiming for in their clinics, the policy review enabled comparisons with the recommendations identified in the literature and the findings of the other project stages.

A strength of the basic content analysis approach is that it utilises documents that are independent from the research project (i.e. were produced by the health services for their own use), reducing the risk that individual opinions will skew the data (Drisko & Maschi, 2015; Silverman, 2019). However, there was a risk of self-selection bias, as most of the eligible health services did not have publicly available policies. Therefore, it is possible that the participating health services had more comprehensive WHS policies than some of those who chose not to participate, potentially skewing the findings.

#### 3.5.2 Methods

Health services within Australia with at least one very remote primary health clinic were eligible for inclusion. Eligible health services (n=35) were identified by searching a remote health database, Department of Health websites, member organisation lists of remote health and Aboriginal Community Controlled Health Organisation peak bodies, and internet searches. Those health services were invited to share a copy of their WHS policies or related documents (such as guidelines/procedures/handbooks) for analysis. Policies related to the safety of staff working in remote clinics were sought, with the following topics provided in the invitation as examples:

- Call-out/home visit safety
- Clinic and accommodation safety

- Safe driving
- Local orientation
- Fatigue management
- Incident management

Data collection for the policy review began when the original ethics exemption was received on 25/09/2020, and closed on 21/07/2021. Eligible health services were contacted via email (or by phone where advised, or where no appropriate email address was publicly available) to inform them of the project and invite them to participate. Each eligible health service was contacted at least twice.

### 3.5.3 Data analysis

A data extraction table was developed using 16 risks and recommendations identified from the literature. These were: Orientation, training, clinic safety, accommodation safety, call-out/home visit safety, travel safety, communication, incident management, workplace violence, psychological safety, fatigue management, safe staffing levels, local response plan, reporting, safety audits, and the risk management cycle. An additional 'other' category was included to allow for the identification of new strategies. WHS policies and related documents from participating health services were read, re-read, and coded following the format of the data charting table. The data were then mapped, with descriptive statistics used to summarise how widespread the safety strategies were. Results were presented as both the broad strategies covered in the policies (e.g. do they have a call-out safety strategy?) as well as the details of what exactly that entailed (e.g. was it a 'never alone' policy? How strict was it?).

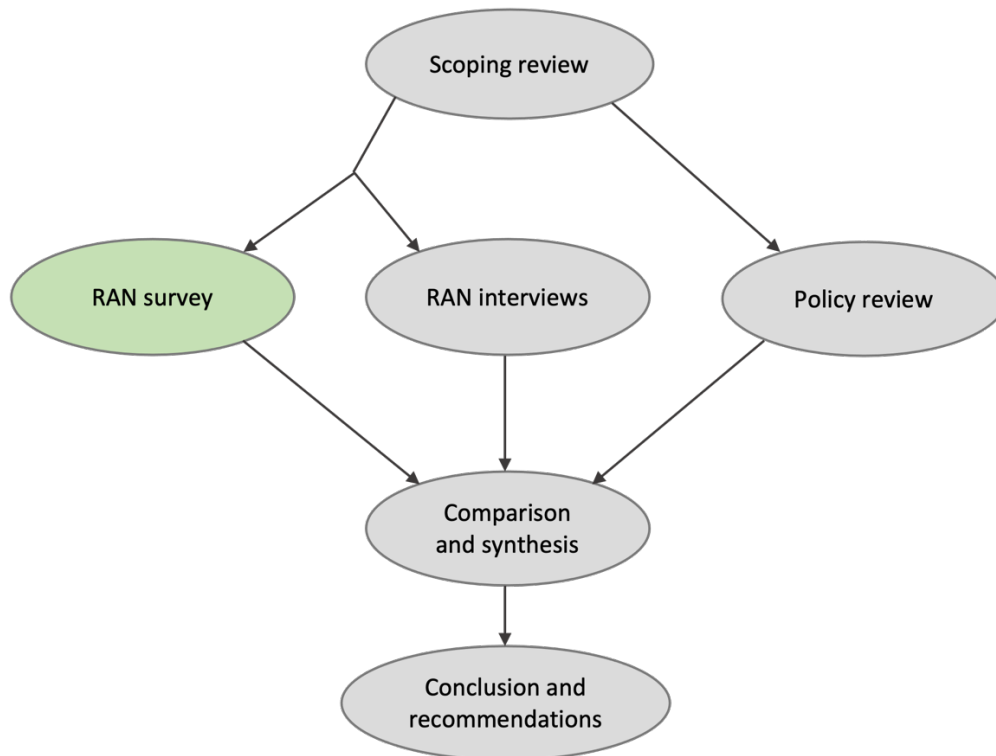
## 3.6 Ethics

Ethics approval for the survey and interviews was granted by the James Cook University Human Research Ethics Committee on 18/11/2020 (application ID: H8255). For the policy review, an ethics exemption was granted by Townsville Hospital and Health Service Human Research Ethics Committee (reference: HREC/2020/QTHS/67875). The Human Research Ethics Committee of the Northern Territory Department of Health and Menzies School of Health Research, and the Central Australian Human Research Ethics Committee provided additional ethics approvals for the policy review (reference: 2020-3873). The Western Australian Aboriginal Health Ethics Committee and Tasmanian Department of Health Research Governance Office assessed the policy review as not requiring ethics approval.

For the policy review, many health services required site specific approvals as well as the ethics approvals. Site approval requests were submitted to the health services that required them, and six were granted: SSA/2020/QCW/67875, SSA/2020/QNW/67875, SSA2021/FNQ72082, SSA/2020/QTHS/67875, EFILE2020/42408, and EFILE2020/42408/20-97. To maintain confidentiality, those health services are not named.



## Chapter 4. Quantifying workplace safety and the wellbeing of Remote Area Nurses



### **How safe *are* remote clinics within Australia?**

By presenting the results of the Remote Area Nurse (RAN) survey, this chapter explores what Work Health & Safety (WHS) recommendations had been implemented in very remote primary health clinics across Australia, from the perspective of RANs. The association between WHS and RANs' wellbeing is also explored. As discussed in chapter 2, many risks and recommendations for WHS in remote clinics had been identified in the literature, but there was very little evidence of the implementation of those recommended safety strategies. This is despite the fact that many of the recommendations had been made over a decade ago, with seemingly widespread agreement about their importance in the subsequent years (Wright et al., 2021). The aim of this chapter is to provide both an overview and detailed breakdown of how well those WHS recommendations had been met in 2020/2021 from the perspective of RANs and assess the association between workplace safety and RANs' wellbeing.

## 4.1 Methods

Questionnaire development and data analysis techniques were reported in detail in chapter 3 (section 3.3), so the following is a brief overview. To quantify the safety of RANs' workplaces, a workplace safety score was generated from 55 detailed workplace safety recommendations (see Appendix 2), with one point awarded per recommendation met. Only recommendations focussed on prevention were included in the workplace safety score, so downstream interventions such as post-incident support are assessed separately. For ease of interpretation, the score is presented as a percentage of recommendations met.

Wellbeing measures included the frequency of accidents and workplace violence, community connectedness, job satisfaction, and the Remote Area Nursing Stress Scale (RANSS) validated tool (Opie et al., 2013). The RANSS reflects the degree of occupational stress faced by RANs and was generated using the frequency occupational stressors were encountered by participants.

Descriptive statistics were used to present those scores and highlight safety strategies that were implemented well and those that need significant further action. Results were presented as means when the data were normally distributed, or as medians when they weren't. 'N' was used to indicate the overall total sample, while 'n' denotes the sub-sample. As described in chapter 3 (section 3.3.3), the data analysis techniques used for the comparative analyses were determined by whether or not the variables had parametric data, the number of variables, and the aim of the test. The  $\alpha$  (alpha) was set to 0.05.

## 4.2 Results

### 4.2.1 Respondent characteristics

All participants in this survey declared they were RANs who had worked in a very remote (MM7) primary health clinic more recently than January 2019. Table 4.1 shows the demographics of the 173 RANs who completed the survey. Respondents' median age was 56 years (IQR 13), and the majority of participating RANs were female (84.4%), had postgraduate qualifications (66.0%), were non-Indigenous (98.3%), and were born in Australia (77.5%). Half of the participants (52.6%) grew up in a rural or remote area. The RANs commonly worked away from their families, as 63% of participants had a partner, but less than half (38.5%) of those partners lived in the remote community with the RANs.

Table 4.2 shows the work characteristics of participating RANs. Respondents had a median 7 years of experience as a RAN and had been at their current workplace for a median 12 months. A fifth were clinic managers (20.8%).

Half of the participants worked in the Northern Territory (53.2%), while most of the remainder worked in Queensland (20.2%) or Western Australia (17.9%). Just over half worked for a Government-run health service (57.2%), a third were employed by an agency (30.6%), and just under half were on locum or similar short-term contracts (43.9%).

Clinic staffing was also assessed, with data gathered on the number of RANs and Aboriginal or Torres Strait Islander Health Workers/Practitioners (AHWs/ATSIHPs) employed at each clinic (see Table 4.3). Clinics most commonly had two RANs (27.9%) or three RANs (19.2%), though some clinics were much larger, with 12.8% of participants working in clinics with eight or more RANs. Single nurse posts had still not been completely phased out, with 9.9% of participants working as the only RAN at the clinic. Additionally, 34.3% of participants reported there were no ATSIHPs or AHWs at their clinic.

**Table 4.1 Respondent demographics (N=173)**

Characteristic	n (%) or median (IQR)
<b>Age</b>	56 years (14)
<b>Sex</b>	
Male	26 (15.0%)
Female	146 (84.4%)
Self-described	1 (0.6%)
<b>Highest level of education</b>	
Hospital trained, nil tertiary	17 (9.8%)
Bachelor degree	42 (24.3%)
Graduate certificate	42 (24.3%)
Graduate diploma	29 (16.8%)
Masters degree	43 (24.9%)
<b>Ethnicity</b>	
Aboriginal	3 (1.7%)
Neither Aboriginal nor Torres-Strait Islander	170 (98.3%)
<b>Country of origin</b>	
Australia	134 (77.5%)
New Zealand	16 (9.2%)
Other	23 (13.3%)
<b>Rural/remote origins</b>	
Urban	82 (47.4%)
Rural	77 (44.5%)
Remote	11 (6.4%)
Very remote	3 (1.7%)
<b>Partnered</b>	
Yes	109 (63.0%)
No	64 (37.0%)
<b>If yes, partner living in remote community with the RAN? (N=109)</b>	
Yes	42 (38.5%)
No	67 (61.5%)

N = Total sample size, n = number of participants in the subcategory

**Table 4.2 Respondent work characteristics (N=173)**

Characteristic	n (%) or median (IQR)
<b>Experience as a RAN</b>	84 months (96)
<b>Time at current workplace</b>	12 months (38)
<b>Role at current workplace</b>	
Novice RAN	11 (6.4%)
RAN	112 (64.7%)
RAMidwife (+/- dual RAN role)	5 (2.9%)
Clinic manager	36 (20.8%)
Nurse Practitioner	4 (2.3%)
Other	5 (2.9%)
<b>Workplace location</b>	
Northern Territory	92 (53.2%)
Western Australia	31 (17.9%)
Queensland	35 (20.2%)
South Australia	8 (4.6%)
New South Wales	5 (2.9%)
Victoria	1 (0.6%)
Indian Ocean Territory	1 (0.6%)
<b>Health service type</b>	
Government	99 (57.2%)
Aboriginal Community Controlled-Health Organisation	62 (35.8%)
Other NGO	12 (6.9%)
<b>Employed by</b>	
The health service	115 (66.5%)
An agency	53 (30.6%)
Other	5 (2.9%)
<b>Contract type</b>	
Locum/reliever	76 (43.9%)
Longer-term	97 (56.1%)

N = Total sample size, n = number of participants in the subcategory

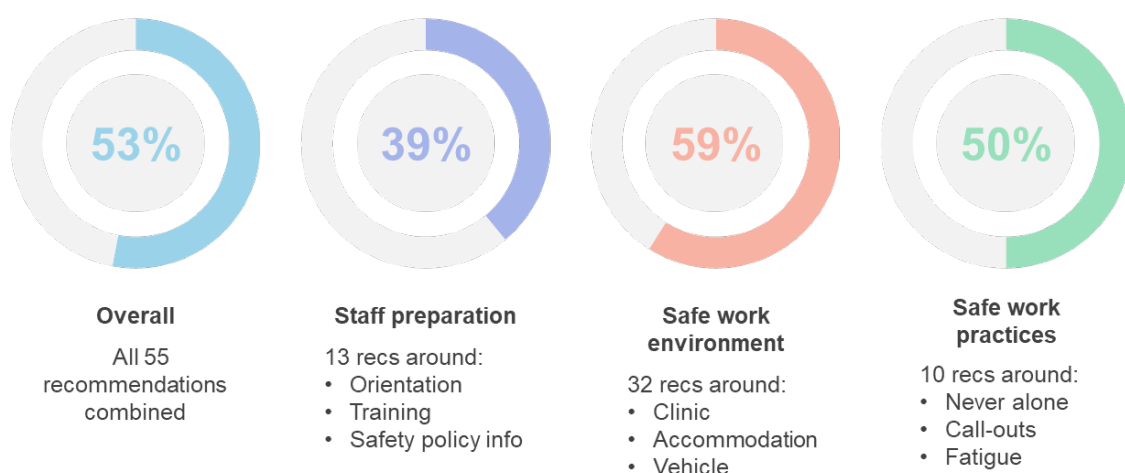
**Table 4.3 Number of RANs (N=172) and ATSIHPs/AHWs (N=169) employed per clinic**

Number of:	RANs n (%)	ATSIHPs/AHWs n (%)
0	-	58 (34.3%)
1	17 (9.9%)	43 (25.4%)
2	48 (27.9%)	36 (21.3%)
3	33 (19.2%)	12 (7.1%)
4	19 (11.0%)	5 (3.0%)
5	14 (8.1%)	5 (3.0%)
6	11 (6.4%)	4 (2.4%)
7	8 (4.7%)	-
8+	22 (12.8%)	6 (3.6%)

N = Total sample size, n = number of participants in the subcategory

#### 4.2.2 Workplace safety scores

Workplace safety scores represent the proportion of WHS recommendations that had been met in very remote primary health clinics across Australia. Figure 4.1 provides an overview of the national scores. On average, 53.1% (SD 19.8%) of the WHS recommendations had been met. This can be divided into three broad domains, presented here in the chronological order of the recommendations within each domain. Staff preparation scored 38.5% (IQR 46.2%), covering orientation, training, and the provision of safety policy information. Safe work environment scored 59.4% (IQR 34.4%), covering clinic, accommodation and vehicle safety. Lastly, safe work practices scored 50.0% (IQR 36.7%), covering ‘never alone’ and other call-out safety strategies, as well as fatigue management.



**Figure 4.1 Overview of Australia-wide workplace safety scores**

#### **4.2.2.1 Staff preparation domain:**

Staff preparation represents the orientation and training of RANs to help them fulfil their role safely. It scored the lowest of the three domains. *Local orientation* only scored median 33.3% (IQR 83.3%) of recommendations met. This low score is predominantly due to low rates of orientation, as 30.6% (57/186) of participants did not receive any local orientation on commencement at their workplace. Where orientation was provided, clinic security information was included in 79.0% (94/119) of cases, home visit/call out risk mitigation procedures in 71.4% (85/119), emergency procedures information in 67.2% (80/119), cultural awareness tips in 65.6% (78/119), fatigue management in 48.7% (58/119), and an introduction to key community members in 37.0% (44/119).

*Information on safety related policy and procedures* was received by 57.0% (106/186) of participants before they started work.

*Safety training* also scored poorly, with median 33.3% of recommendations met (IQR 50%). Cultural awareness training was received by 61.3% (106/173) of participants and 46.2% (80/173) had received or were required to show completion of 4WD training, but only 35.3% (61/173) were trained in recognising and de-escalating aggressive or violent behaviour, 32.9% (57/173) in risk assessment, 30.1% (52/173) in using and troubleshooting emergency communications equipment, and 19.1% (33/173) in interpersonal communication.

#### **4.2.2.2 Safe work environment domain:**

Safe work environment covers clinic safety, clinic security, clinic vehicle safety, and accommodation safety. It scored highest of the three domains, at median 59.4% (IQR 34.4%).

*Clinic safety* scored highest within the domain, with median 70.0% (IQR 40.0%) of clinic safety recommendations met. Clinics having more than one exit was the most commonly implemented recommendation, at 90.7% (156/172). Other basic safety features were also relatively common, as 76.2% (131/172) had good lighting at external entry points, 73.8% (127/172) had effective locks on all external doors, 72.1% (124/172) had a reliable phone/telecommunications service, and 68.0% (117/172) had adequate security screens on all windows. However, only 61.6% (106/172) had well maintained clinic buildings, 61.0% (105/172) had a lockable safe space (escape room) for staff in their clinic, 53.5% (92/172) reported staff areas were separate from public areas within the clinic, 48.3% (83/172) had good lighting at their clinic's carpark, and 48.3% (83/172) had clear sightlines around pathways and entry points.

*Clinic security* scored lowest within the domain, with median 40.0% (IQR 40.0%) of clinic security recommendations met. Duress alarms/panic buttons were available at the clinic for 68.2% (116/170) of participants, but only 38.2% (65/170) had an after-hours call-out notification system, 37.6% (64/170) had portable duress alarms, 34.1% (58/170) had CCTV/security cameras, and 25.9% (44/170) had a security alarm system.

*Clinic vehicle safety* scored median 60.0% (IQR 40.0%). Clinic vehicles were fitted with a basic tool kit (at minimum, a jack and wheel brace) for 83.1% (143/172) of participants, 56.4% (97/172) reported the clinic vehicle was reliable and adequately serviced, 56.4% (97/172) reported the vehicle was fitted with a satellite phone, 52.9% (91/172) with GPS tracking, and 29.1% (50/172) with an emergency GPS/Personal Locator Beacon (PLB).

*Staff accommodation safety* scored median 66.7% (IQR 41.7%). Very basic safety recommendations were most commonly in place, as 79.2% (137/173) of participants reported the windows at their accommodation had working curtains/coverings, 72.8% (126/173) had effective locks on the external doors, 72.8% (126/173) had working fire alarms, 70.5% (122/173) had adequate security screens on all windows, 67.6% (117/173) report the property was fenced, 64.2% (111/173) had good lighting at the accommodation entry points, 58.4% (101/173) had a reliable phone/telecommunications service, 57.8% (100/173) reported the accommodation was well maintained, 56.6% (98/173) had internet access in their accommodation, 52.0% (90/173) had good lighting where the vehicle is parked, 47.4% (82/173) had clear sightlines around entry points, and 45.7% (79/173) had a secure but functional area to answer visitors at the front door.

Separate from the workplace safety score questions, participants also rated how well maintenance was done at their workplace, on a scale of 1 to 10, with 1 being 'maintenance requests ignored,' 5 being 'maintenance requests actioned,' and 10 being 'an effective proactive maintenance schedule.' Maintenance of the clinic building, clinical equipment, clinic vehicles, and alarms/communications technology were all rated a median of 5, while staff accommodation was rated a median of 3. For staff accommodation, 13.7% (23/168) of participants said maintenance requests were ignored. For clinic vehicles, there was an effective proactive maintenance schedule for 11.9% (20/168).

For the safety of the work environment, over 70% of participants thought their health service had adequate funding to provide safe clinic facilities, safe transport, secure accommodation and fit-for-purpose communications technology, but only 51% (75/147) thought there was adequate funding for sufficient call-out staffing (see Table 4.4).



**Table 4.4 Perceived adequacy of funding for workplace safety (N=147)**

<b>Adequate funding for:</b>	<b>n (%)</b>
Safe clinic facilities	111 (75.6%)
Safe transport	110 (74.8%)
Secure accommodation	103 (70.1%)
Fit-for-purpose communications technology	103 (70.1%)
Sufficient call-out staffing	75 (51.0%)

N = Total sample size, n = number of participants in the subcategory

#### *4.2.2.3 Safe work practices domain:*

The safe work practices domain covers workplaces' approach to call-outs and home visits, as well as fatigue management strategies. This domain scored median 50% (IQR 36.7%) of recommendations met.

*Second responders* were required for all home visits and call-outs for 49.7% (83/167) of participants, 14.4% (24/167) were required to have a second responder for all call-outs, 21.6% (36/167) called second responders on a case-by-case basis, 8.4% (14/167) had no official rules about accompanying staff, and 6.0% (10/167) wrote comments under 'other' that couldn't confidently be assigned to any of the above categories. Where 'never alone' policies were in place, they were generally well supported. Management consistently supported and implemented the 'never alone' policy in 81.5% (101/124) of cases, and RANs consistently supported and implemented the 'never alone' policy in 76.0% (95/125) of cases.

*Call out systems* that discouraged patients/clients from attending staff accommodation to seek treatment were in place for 81.1% (129/159) of participants.

*Fatigue management* scored median 40.0% (IQR 40.0%). A fatigue management policy/protocol was in place for 59.3% (102/172) of participants, 52.9% (91/172) had protected rest hours after overnight call-outs, 31.4% (54/172) had adequate staffing/skill mix to share on-call responsibilities, 25.6% (44/172) were able to take scheduled leave regularly, and 18.0% (31/172) reported their employer had a refreshment/anti-burnout leave policy, such as staff being scheduled to take leave every 2-3 months or have job sharing arrangements.

### 4.2.3 Variation in safety scores

#### 4.2.3.1 State/territory:

To assist in the identification of target areas for future action, the variation in safety scores between various workplace characteristics was explored. First, the overall safety scores were compared by state/territory (see Figure 4.2 and Table 4.5). As NSW and Victoria had few participants and their scores were similar, their data were combined. The Indian Ocean Territory data (n=1) were combined with WA.

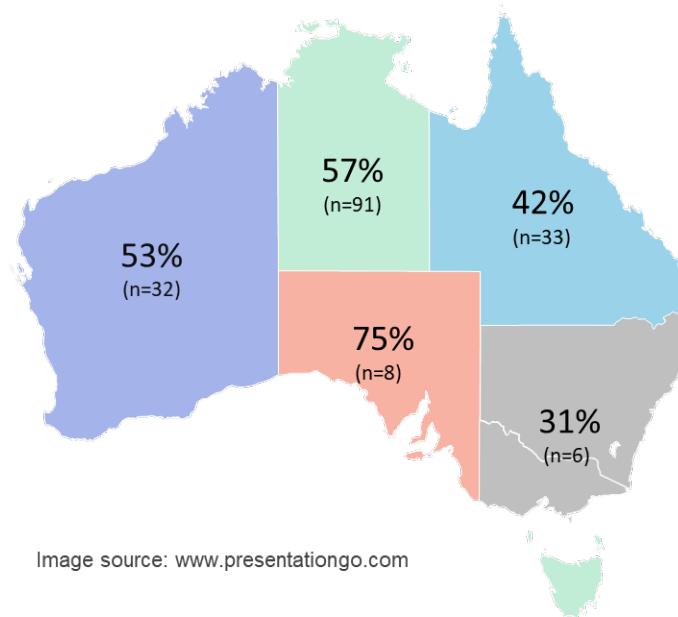


Figure 4.2 Overview of workplace safety scores by state/territory (PresentationGo, 2021)

Table 4.5 Overall workplace safety scores by state/territory

State/Territory	n	Average safety score
Northern Territory	91	57.5% (SD 18.7%)
Queensland	33	41.7% (SD 16.7%)
Western Australia +IOT	32	52.9% (SD 19.8%)
South Australia	8	74.5% (IQR 35.9%)
New South Wales +Vic	6	31.2% (IQR 23.2%)

n = Number of participants in the subcategory

Significant variation in overall mean safety scores was found between the NT (57.5%, SD 18.7%) and Qld (41.7%, SD 16.7%) ( $p < 0.01$ ), and between SA (74.5%, IQR 35.9%) and Qld ( $p < 0.05$ ). This variation also holds true for the individual domains:

7. Within the staff preparation domain, significant variation was found between NT (46.2%, IQR 44.2%) and Qld (23.1%, IQR 30.8%) ( $p < 0.05$ ), and between SA (69.2%, IQR 44.2%) and Qld ( $p < 0.05$ ).
8. Within the safe work environment domain, significant variation was found between the NT (65.6%, IQR 31.3%) and Qld (47.9%, SD 20.3%) ( $p < 0.01$ ).
9. Within the safe work practices domain, significant variation was found between the NT (60.0%, IQR 30.0%) and Qld (35.0%, IQR 50.0%) ( $p < 0.01$ ), SA (80.0%, IQR 40.0%) and Qld ( $p < 0.01$ ), and WA (43.0%, SD 24.0%) and SA ( $p = 0.01$ ).

#### *4.2.3.2 Health service type:*

Overall workplace safety scores were also compared by service type. Nationally, there was no significant difference in the mean safety scores between Government-run clinics (52.9%, SD 19.7%), Aboriginal Community Controlled Health Organisation (ACCHO) run clinics (53.1%, SD 19.5%), and other Non-Government Organisation (NGO) run clinics (63.6%, IQR 43.6%).

When split by state/territory, a significant difference in safety scores was found in the NT between Government-run clinics (62.0%, SD 16.8%) and ACCHO-run clinics (49.9%, SD 19.1%) ( $p < 0.01$ ). No significant difference was found between service types in WA. The other states had insufficient sample size to compare by service type, but it is worth noting that almost all Qld participants (31/33) worked in Government-run clinics, with an average safety score of 42.4% (SD 16.6%), and most SA participants (6/8) worked in ACCHO-run clinics, with a median safety score of 77.3% (IQR 16.4%).

#### *4.2.3.3 Other clinic factors:*

The impact of clinic size and staffing type on safety was also assessed. Clinic staffing was used as an indicator of clinic size, but no correlation was found between the number of RANs or ATSIHPs/AHWs employed at a clinic and that workplace's safety score.

To assess the relationship between WHS and staffing types, the workplace safety scores of locum and longer-term staff were compared. No significant differences were found between the workplace safety scores of locum (52.7%, IQR 33.2%) and longer-term staff (52.8%, SD 19.7%), or between staff employed by the health service (53.6%, SD 20.3%) and those employed by an agency (53.3%, SD 19.0%).

Additionally, no statistically significant differences were found between the median staff preparation domain scores of locum (38.5%, IQR 50%) and longer-term (30.8%, IQR 46.2%) staff, or between staff

employed by the health service (38.5%, IQR 53.8%) and those employed by an agency (38.5%, IQR 38.5%).

#### 4.2.4 Workplace safety culture

Participants’ perceptions of the safety culture within their health service and within their clinic team were measured on a scale of 1 (terrible) to 10 (excellent). Within the health services, the median perceived safety culture was 6/10 (IQR 4). Within the clinic teams, the median perceived safety culture was 8/10 (IQR 3). When divided by state/territory, the safety culture was perceived to be stronger among the clinic team than within the health service everywhere except South Australia (see Table 4.6).

**Table 4.6 Perceived workplace safety culture by state/territory (scale of 1-10\*)**

State/territory	n	Health service	Clinic team
Northern Territory	85	6 (IQR 3)	8 (IQR 3)
Queensland	28	4.8 (SD 2.4)	7 (IQR 4)
Western Australia +IOT	27	5.5 (SD 2.6)	7 (IQR 2)
South Australia	7	7.9 (SD 1.9)	7 (SD 3.2)
New South Wales +Vic	6	4.5 (IQR 8)	10 (IQR 6)

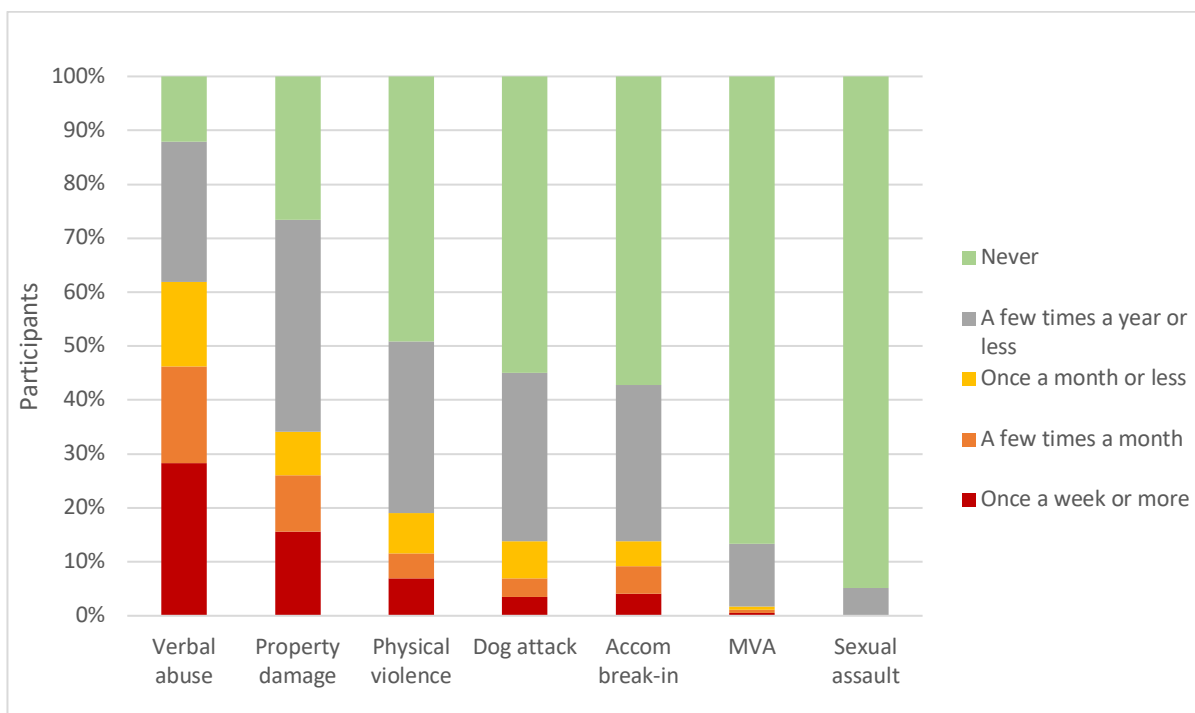
\*Note: 1=terrible and 10=excellent

A moderate positive correlation was found between workplaces’ safety scores and the perceived workplace safety culture within health services ( $r_s=0.633$ ,  $n=151$ ,  $p<0.01$ ). A weak positive correlation was found between workplaces’ safety scores and the perceived workplace safety culture within clinic teams ( $r_s=0.333$ ,  $n=150$ ,  $p<0.01$ ). A moderate positive correlation was also found between the perceived workplace safety culture within the health service and within the clinic team ( $r_s=0.572$ ,  $n=152$ ,  $p<0.01$ ).

#### 4.2.5 Downstream indicators of safety

##### 4.2.5.1 Incidents experienced

Participants were asked how often they had personally experienced a range of accidents and workplace violence incidents in the previous 12 months while working as a RAN (see Figure 4.3).



**Figure 4.3 Frequency of incidents personally experienced by RANs in the previous 12 months**

To summarise, 87.9% (152/173) of participants personally experienced verbal abuse in the previous 12 months, 73.4% (127/173) experienced deliberate property damage, 50.9% (88/173) experienced physical violence, 45.1% (78/173) were attacked by a dog, 42.8% (74/173) experienced a break-in at their accommodation, 13.3% (23/173) had a work-related Motor Vehicle Accident (MVA), and 5.2% (9/173) experienced sexual assault.

Compared to a previous RAN survey that measured rates of workplace violence (Opie et al., 2010b), the rate of property damage had increased by 132%, physical violence increased by 78%, and there was a small but statistically significant increase in verbal abuse (see Table 4.7). The increase in sexual assaults was not statistically significant. No historical data for comparison were found for dog attacks, accommodation break-ins and motor vehicle accidents.

**Table 4.7 Comparing historical and current frequencies of incidents experienced by RANs**

Incident type	2008 frequencies (Opie et al., 2010b)	2020 frequencies (Current study)
Verbal abuse	79.5%	87.9%*
Property damage	31.6%	73.4%**
Physical violence	28.6%	50.9%**
Sexual assault	2.6%	5.2%

\* Difference significant at  $p < 0.05$

\*\* Difference significant at  $p < 0.01$

Rates of reporting were high, as 78.7% (129/164) of the participants who experienced incidents say they reported it to their employer, 15.9% (26/164) reported some but not all incidents, and 5.4% (9/164) did not report any. When incidents were reported, only 47.2% of RANs were satisfied with their employers' response to those reports (see Table 4.8). When incidents were not reported, the most common reasons were that participants thought it was too minor (32.4%, 11/34) or thought nothing would be done about it (32.4%, 11/34).

**Table 4.8 RANs' satisfaction with their employer's response to reported incidents (N=159)**

Level of satisfaction	n	%
Satisfied	75	47.2
Neither satisfied nor dissatisfied	35	22.0
Dissatisfied	36	22.6
Not aware of any response	13	8.2

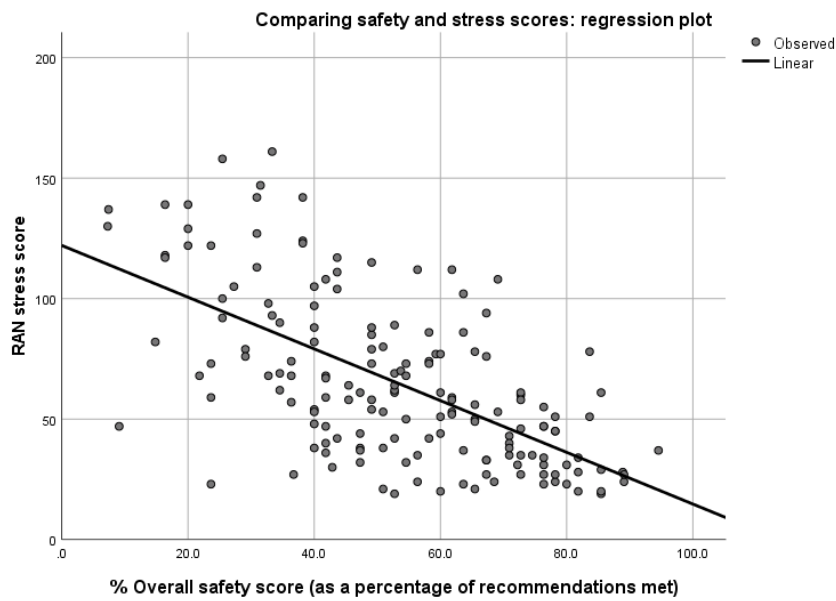
N = Total sample size, n = number of participants in the subcategory

#### 4.2.5.2 Occupational stress:

Occupational stress was measured using the RAN Stress Scale (RANSS), which ranges from 0 for no stress, to 168 for daily exposure to all aspects of occupational stress. Nationally, participants' median stress score was 59 (IQR 49). By state/territory, the median RAN stress scores were: 53 (IQR 44) in the NT, 57.5 (IQR 45) in WA, 58 (IQR 30) in SA, and 73 (IQR 65) in Qld.

Safety scores had a moderate negative correlation with RAN stress scores ( $r_s = -0.612$ ,  $n=163$ ,  $p<0.01$ ), meaning that improved workplace safety was correlated with lower stress levels among RANs. Safety scores were also able to significantly predict RANs' stress scores,  $F(1,161) = 100.9$ ,  $p<0.01$ . The  $r^2$  value was 0.385, meaning the safety score could explain 38.5% of the variation in the stress score. Figure 4.4 provides a visual representation of this relationship.

Relationships between safety and individual RAN stress domains were also assessed (see Table 4.9). In summary, significant negative correlations were found between workplace safety scores and all RANSS domains except for on-call workloads.



**Figure 4.4 Regression plot of the relationship between workplace safety and RAN stress**

**Table 4.9 Relationships between workplace safety scores and individual RANSS domains**

RANSS domain	Correlation coefficient ( $r_s$ )	N	p-value
Poor management	-0.552	166	0.000*
Concerns about safety	-0.541	166	0.000*
Infrastructure difficulties	-0.530	167	0.000*
Feeling socially, personally, and professionally isolated	-0.481	167	0.000*
Unmanageable workloads	-0.478	166	0.000*
Stress over cultural differences	-0.333	167	0.000*
On-call workloads	-0.148	166	0.057

\*Significant at  $p < 0.01$

Interestingly, the ‘poor management’ domain ( $r_s = -0.552$ ,  $n=166$ ,  $p < 0.01$ ) had a slightly stronger correlation with the workplace safety score than the ‘concerns about safety’ domain ( $r_s = -0.541$ ,  $n=166$ ,  $p < 0.01$ ). On-call workloads were not correlated with the workplace safety score, which supports the finding from section 4.2.3, where clinic size/staffing levels were not correlated with the workplace safety score.

#### *4.2.5.3 Community connectedness:*

As mentioned in chapter 3 (section 3.3.2), community connectedness was measured using six questions with a five-point Likert scale, to assess participants' feelings of safety, connectedness and belonging within their community. Overall, the median level of community connectedness was slightly on the positive side of 'neither agree nor disagree' (2.7, IQR 1.3, where 2 = somewhat agree and 3 = neither agree nor disagree).

A weak negative correlation was found between the community connectedness rating and the workplace safety score ( $r_s = -0.222$ ,  $n=161$ ,  $p<0.01$ ). This means safer workplaces are correlated with slightly better community connectedness among RANs.

#### *4.2.5.4 Job satisfaction:*

Job satisfaction was also estimated using six questions with a five-point Likert scale. Overall, the median level of job satisfaction was also slightly on the positive side of 'neither agree nor disagree' (2.7, IQR 1.5, where 2 = somewhat agree and 3 = neither agree nor disagree).

A moderate negative correlation was found between the workplace safety and job satisfaction scores ( $r_s = -0.494$ ,  $n=161$ ,  $p<0.01$ ). This means safer workplaces were correlated with greater job satisfaction.

The final job satisfaction question was "I would recommend this clinic to other RANs as a good place to work." To assess the impact of workplace safety on a clinic's reputation, this was recoded into a three-point Likert scale and compared to the safety scores (see Table 4.10).

There was a statistically significant variation in workplace safety scores according to whether participants would recommend their clinic to other RANs as a good place to work. The mean overall safety scores of participants who agreed (59.6%, SD 16.5%) or neither agreed nor disagreed (50.47%, SD 19.7%), were significantly higher than for those who disagreed (31.6%, SD 14.9%) ( $p<0.01$  in both cases). Therefore, RANs in unsafe clinics are significantly less likely to recommend it as a good place to work, compared to those in safer clinics.



**Table 4.10 Average overall workplace safety scores by ‘would recommend clinic as a good place to work’ (N=161)**

Level of agreement	n	Mean safety score	SD
Net agreement	112	59.6%	16.5%
Neither agree nor disagree	24	50.5%	19.7%
Net disagreement	25	31.6%	14.9%

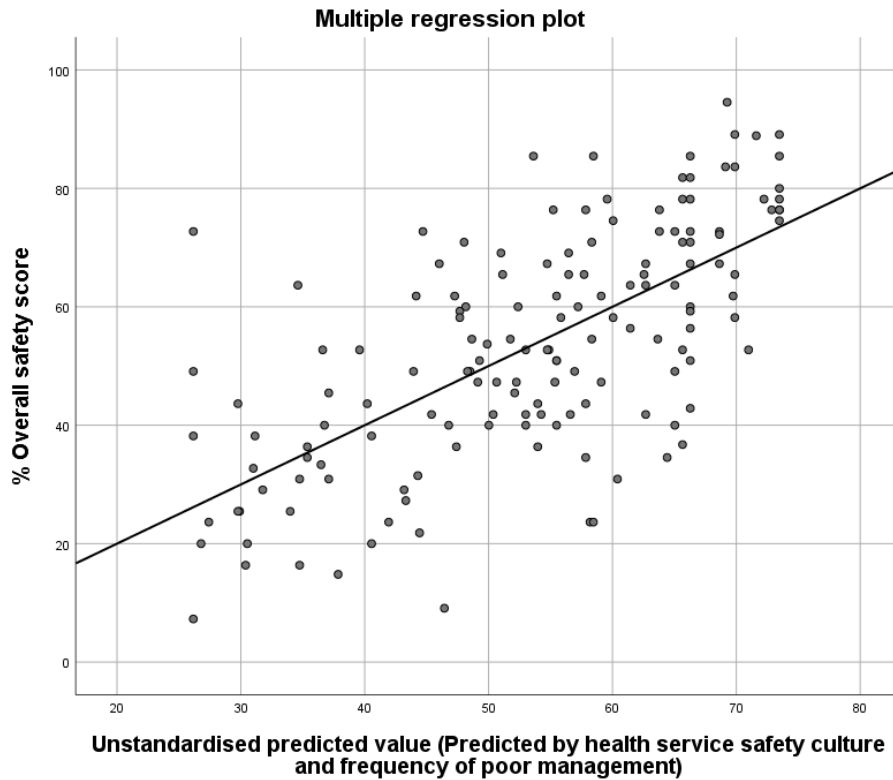
N = Total sample size, n = number of participants in the subcategory

#### 4.2.6 Predicting workplace safety

Lastly, a multiple regression test was done to determine what factors best predict the workplace safety score. Using stepwise regression, the following predictive variables were trialled: Region, service type, poor management, community connectedness, and safety culture (both health service and clinic team). For the region variable, data from the NT, WA, SA & Qld were included, with Qld used as the comparison as it had the lowest workplace safety score.

RANs’ level of concern about safety was not included as a variable in the model, as there is little conceptual difference between the safety score (measuring how safe the workplace is) and the safety concerns rating (measuring how safe RANs feel). In other words, they are both outcome variables that measure safety. Conversely, the safety culture ratings indicate whether safety is seen as a priority at the workplace, thus being eligible for inclusion as a predictive variable.

A two factor model was the best fit, with health services’ safety culture and the frequency of poor management found to be significant predictors of the workplace safety score:  $F(2,148) = 60.1, p < 0.01$ . The adjusted  $r^2$  value was 0.441, meaning 44.1% of the variation in the safety score could be explained by health services’ safety culture rating and the frequency of poor management. Figure 4.5 depicts how well this model fits the data.



**Figure 4.5 Predicting workplace safety scores using health service safety culture ratings and frequency of poor management**

### 4.3 Discussion

This survey provided a detailed picture of the current state of workplace safety in very remote primary health clinics across Australia. Significant gaps were found in the implementation of recommended safety strategies, with significant regional variation in the extent of implementation. Additionally, rates of workplace violence remained high, with a significant increase in physical violence, property damage and verbal abuse. On a positive note, good workplace safety was correlated with greater RAN wellbeing, including reduced stress, greater job satisfaction and a higher likelihood of recommending their clinics to other RANs as a good place to work.

Poor staff preparation was a particular area of concern, scoring poorly in all regions except South Australia. This poor access to orientation, education and training was a major gap in safety. In particular, local orientation has been identified as an important factor for improving staff safety and the care provided to patients (Department of Health., 2016; McCullough et al., 2012a). Though more RANs in this survey (69%) had received some form of orientation on commencement compared to RANs in 2017 (50%), there were significant gaps in the content of that orientation (CRANApplus, 2017a). Most notably, many participants did not receive information needed to develop good relationships

with the local community, such as locally relevant cultural safety tips and an introduction to key community members. This was compounded by the lack of Aboriginal or Torres Strait Islander Health Practitioners or Health Workers in 34% of clinics, and low rates of cultural awareness training, which is a valuable starting point for developing culturally safe practice (Kerrigan et al., 2020).

Other role-specific safety training was even less common, such as risk assessment, using and troubleshooting emergency communications equipment, dirt road driving, and recognising and de-escalating aggressive or violent behaviour. As discussed in chapter 2, training in safety skills was highly recommended in the literature, with training in recognising and managing workplace violence the most commonly recommended aspect of this (CRANApplus, 2017a; McCullough et al., 2012a; NHMRC, 2002; Queensland Health., 2016). However, the rate of training in workplace violence prevention was much lower in the current study compared to previous surveys of rural/remote health professionals, with 35% in the current study, 45% in 2012 (Kurti et al., 2012), and 67% in 2008 (Timmins et al., 2008). These rates are not directly comparable as the three studies had different rural/remote selection criteria, but the ongoing low rates of training and gaps in orientation combine to suggest the RAN workforce had not received adequate preparation for their role.

Though the safety of the work environment itself did better than the other domains, there were still some significant gaps. Staff accommodation was a particular area of concern, as 1 in 4 participants did not have effective locks or working fire alarms, and other safety features were even less common. This is a concern because staff accommodation was identified as a high-risk location for workplace violence (CRANApplus, 2017a), and safe staff accommodation is specifically required by the WHS (National Uniform Legislation [NUL]) Act (NT, 2011a). On top of this, 19% of participants did not have a call-out system that discouraged patients from attending staff accommodation to seek treatment, potentially leaving RANs vulnerable to workplace violence (Coroner's Court of South Australia, 2021; McCullough et al., 2012b).

Some accommodation safety strategies have additional benefits for staff wellbeing, as having internet access and a reliable phone connection in staff accommodation was recommended to reduce staff isolation, as well as improving communications and risk assessment resources for after-hours call-outs (Department of Health., 2016; Lenthall et al., 2018; Weymouth et al., 2007). However, just under half the participants did not have those communication technologies in their accommodation.

Other gaps included insufficient communications equipment in the clinic vehicles, a lack of security systems, and inadequate locks and security screens at the clinics. Poor maintenance was also a common thread. Given that many of these infrastructure-type hazards are covered in the WHS (NUL) Act and Regulations (NT, 2011a, 2011b), with specific examples of how to resolve those hazards in the

*Managing the work environment and facilities Code of Practice* (Safe Work Australia., 2020b), the relatively poor infrastructure safety identified in this study suggests that to address these issues in remote health settings, legislation alone is not enough.

Safe work practices was another domain with significant room for improvement, though some aspects were implemented more thoroughly than others. Call-out safety strategies were relatively widespread, as 64% of participants had a 'never alone' policy at their clinic, even though Gayle's Law was only legislated in South Australia at the time (Government of South Australia., 2017). Conversely, fatigue management was very poor in many health services.

Safe Work Australia defines fatigue in a work context as "a state of mental and/or physical exhaustion which reduces a person's ability to perform work safely and effectively." (Safe Work Australia., 2013). In a healthcare setting, poor fatigue management directly impacts staff's health (Querstret et al., 2020), can reduce the quality of patient care, and reduces staff's capacity to recognise and constructively manage the warning signs for workplace violence (McCullough et al., 2012b).

Fatigue management was a topic of considerable interest to participants in this survey, as many added free-text comments about this issue. Although half the participants were entitled to protected rest hours after overnight call-outs, four of them wrote of how the fatigue management policy at their workplace was undermined: "Unfortunately this is often either ignored or staff are "encouraged" to reduce their fatigue hours" (Participant 16). Five participants wrote of having to negotiate fatigue leave with their health service's managers on a case-by-case basis, while two participants from single nurse posts couldn't take fatigue leave without closing the clinic.

Strategies to address cumulative and longer-term fatigue were even rarer, as only 26% of participants could take scheduled leave regularly, and only 18% had a refreshment/anti-burnout leave policy. This is mirrored in the comments of three participants, who experienced an overarching lack of interest in fatigue management in their organisations: "Have been told fatigue management is my responsibility" (Participant 94). Finally, two participants wrote about the impact of COVID-19 on fatigue management: "Due to Covid, I have only had one week's annual leave all year but usually I would ensure I take AL every 4-5 months" (Participant 93). These rates and experiences highlight the need for a widespread culture-shift around fatigue management in the remote health sector.

Overall, greater workplace safety was found to be strongly correlated with lower stress levels among RANs. Within the RAN Stress Score, supportive managers were the factor most strongly correlated with a high safety score. This echoes the findings of the safety culture theme in chapter 2, where poor management was identified as a barrier to workplace safety (CRANApplus, 2017a; McCullough et al.,

2012b; Timmins et al., 2008; Weymouth et al., 2007). When combined, the perceived safety culture of the health service and the rate of poor management could account for 44.1% of the variation in the overall workplace safety score. This further highlights the importance of management taking the lead by making a demonstrated commitment to workplace safety and supporting their staff. Not doing so can be very detrimental to clinics' reputations, as RANs in unsafe clinics were significantly less likely to recommend their clinic to others as a good place to work.

Lastly, an incredibly high proportion of RANs personally experienced workplace violence in 2020 (over a 12-month period). This could be a worsening issue, as the rates of property damage, sexual assault and physical violence had significantly increased since the previous RAN survey in 2008 (Opie et al., 2010b). As workplace violence has previously been found to contribute to increased stress, burnout, PTSD symptoms and high turnover, this escalation has significant implications for the sustainability of the RAN workforce (Lenthall et al., 2009; Opie et al., 2010a; Queensland Health., 2016). Additionally, dog attack was identified as a widespread problem, experienced by 45% of participants, and accommodation break-ins were experienced by 43%. These high levels of exposure to incidents highlight the urgent need for widespread improvements to workplace safety in remote clinics.

#### 4.4 Limitations

An oversight in the survey tool was the lack of questions about the availability of non-clinical staff at participants' clinics. Including drivers in the 'how many staff are employed at the clinic' question would have provided further information about how well the 'never alone' policies had been implemented. Asking about the availability of administrative staff and cleaners as well would provide greater depth to the workload questions and potential insights into community involvement in the clinic.

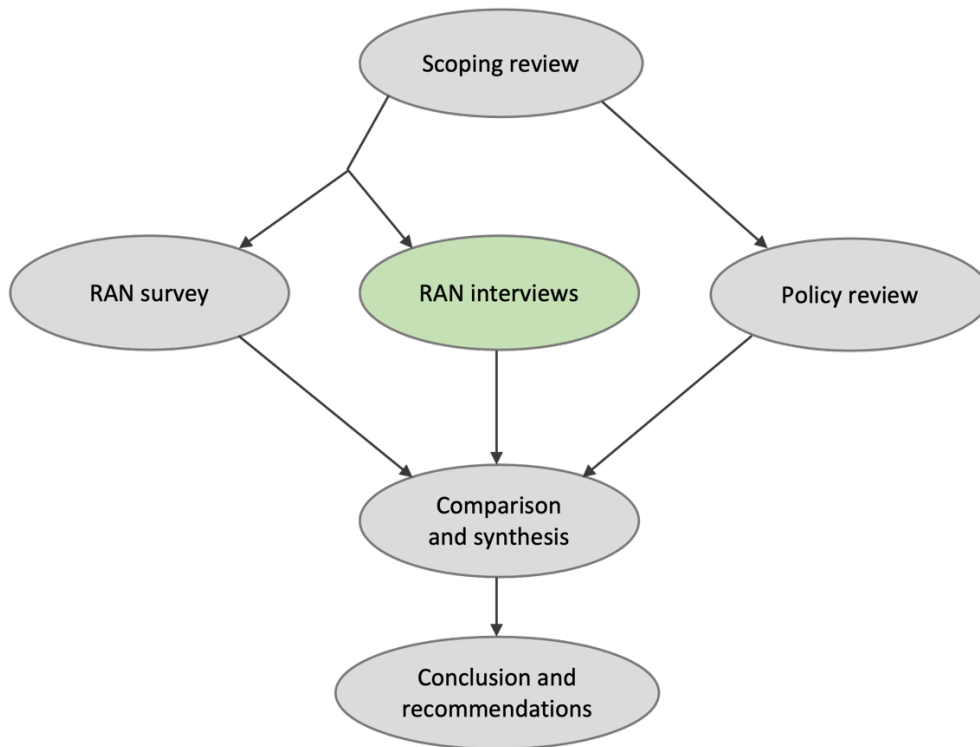
Incident frequencies have an inherent limitation in remote health research, as there is a high level of mobility and turnover within the workforce (Russell et al., 2017). To enable comparison with previous data, incident rates were measured over the preceding 12 months, unlike the rest of the survey, which asked about participants' most recent workplace. Biosecurity zones and the wider COVID-19 response impacted the work patterns of many participants. Additionally, many had worked in several remote clinics within the preceding 12 months, so incident data do not necessarily reflect the frequency of violence in their *current* workplace. Therefore, rates of incidents are intended as an indicator of the state of workplace safety within the remote health *sector*, rather than any individual workplace or region.

For the safety score, a limitation is that equal weighting was provided to all recommendations. Safety recommendations considered a high priority by individuals within the sector did not generate more points when met than recommendations considered to be less important. Therefore, participants could potentially judge a workplace with a lower safety score to be safer than one with a slightly higher score, depending on which particular recommendations were met. In future studies, this limitation could be mediated by including an internal consistency measure after each topic in the safety score. For example, the orientation recommendations could be followed by “what score would you give out of 100 for the overall quality of your orientation?” Despite this limitation, the score as it stands provides an objective measure of how thoroughly health services had addressed a wide range of potential safety concerns, filling a significant gap in the literature. Given the impact of workplace safety on clinics’ reputations, workplace safety scores could potentially become a benchmarking system that safe clinics could use to attract staff, or that recruitment agencies could use to help RANs make an informed choice when deciding whether to work in a clinic.

#### 4.5 Conclusion

This survey explored what WHS strategies were in place in 2020/2021, and their associations with RANs’ wellbeing. While several safety strategies had been implemented well, there were still significant gaps around staff preparation, fatigue management and infrastructure safety. The variation in safety scores between regions highlighted the fragmentation of approaches to WHS in the remote health sector. Additionally, while ‘never alone’ policies were relatively widespread considering they were not legislated in most jurisdictions, there were still many RANs being expected to attend after-hours call-outs on their own. Good workplace safety was found to have significant positive associations with greater RAN wellbeing. This and the apparent rise in rates of workplace violence highlight the importance of the remote health sector prioritising safety, to ensure a minimum standard of workplace safety is met across the board.

## Chapter 5. WHS policies and risk mitigation strategies: RAN's experiences of implementation



### 5.1 Introduction

Previous chapters have explored what WHS risks and recommendations had been identified in the literature, what had been implemented, and the association between workplace safety and RANs' wellbeing. However, to make meaningful recommendations for improvement, it is important to understand RANs' experiences of the implementation of those safety strategies. For example, what were the strengths, weaknesses, barriers, and enablers that caused the strategies to succeed or fail? To answer these questions, this chapter explores RANs' experiences of the implementation of WHS policies and risk mitigation strategies in Australian very remote primary health clinics.

## 5.2 Methods

The methodology and methods used for the interviews were described in detail in chapter 3 (section 3.4), so the following is a summary. Semi-structured interviews were conducted with RANs who were purposively sampled from a diverse range of regions and service types. The interviews involved discussion of what safety policies and strategies (either official or unofficial) were in place, the barriers and enablers for those, and participants' priorities for change (see Appendix 3). Data were analysed using a reflexive thematic analysis approach. Coding was carried out inductively, with NVivo 12 used to aid data management.

## 5.3 Results

Fifteen RANs participated in the interviews. Almost all participants had worked for multiple health services, so there was some overlap in region and service type. For example, 80% (n=12) of participants had worked in the NT at some point in their career, but only 53% (n=8) listed the NT as their usual place of practice (see Table 5.1). For service type and contract type, participants were evenly distributed between short-term and long-term contracts, and between government-run and Aboriginal Community Controlled Health Organisations (ACCHOs). Participants' length of experience as a RAN ranged from 2-20+ years, with a median 10 years of experience, while 27% (n=4) mentioned being a clinic manager recently.

During data analysis, three overarching themes were identified. These were a commitment to safety, knowledge and relationships, and resources.



**Table 5.1. Interview participant characteristics (N=15)**

<b>Participant characteristics</b>	<b>n (%)</b>
<b>Region*</b>	
Northern Territory	8 (53%)
Queensland	3 (20%)
Western Australia	2 (13%)
South Australia	2 (13%)
New South Wales	1 (7%)
Indian Ocean Territory	1 (7%)
<b>Service type</b>	
Government-run	6 (40%)
ACCHO-run	6 (40%)
Both	3 (20%)
<b>Contract type</b>	
Long-term	5 (33%)
Short-term	6 (40%)
Both	4 (27%)
<b>Gender</b>	
Female	13 (87%)
Male	2 (13%)

\* Where participants had worked in two regions within the previous few months, both were listed as their region of practice.

### **5.3.1 Commitment to safety**

The commitment to safety theme encompasses the organisational and workplace culture backdrop to the individual safety strategies.

#### ***5.3.1.1 Organisational approaches to WHS:***

Health services' approaches to WHS were described by participants as falling on a continuum, from not being on employers' radar at all, to a strong, proactive approach. Many participants had worked for several different health services, with insights into the similarities and differences in their approaches. Most participants who had worked in multiple states/territories reported differing attitudes to WHS between regions, while those from the NT reported significantly different approaches to WHS between government-run and ACCHO-run clinics. Where differences in approaches between clinics within the same health service were raised, they were portrayed as a

strength when the difference was due to safety strategies being tailored to the local context, but a weakness when due to inequitable allocation of resources.

Health services where WHS was not seen as a priority were characterised by a lack of WHS strategies. Participants who worked in clinics without a safety policy framework felt it put them at risk, either by enabling some staff or managers to undermine the unofficial strategies developed by the team, or the perceived legal risk of not having official policies to back up their decisions. For example, managers from one health service were resistant to any suggestions from staff on how to improve safety, while two other services had no lasting change following incidents and near-misses.

Many years ago - it started after our colleague was raped - in terms of putting policies in place to ensure routine maintenance of all the [Qld region] health clinics. That seems to have crashed and - this is 10, 15 years down the track - it hasn't seemed to have found its feet yet.  
(Participant 2)

More commonly, participants reported that WHS was valued but not a very high priority at their health service. Some spoke of how WHS considerations took a back seat when faced with competing priorities such as the need to provide healthcare to patients, seasonal issues such as road closures, or COVID-19.

Conversely, some participants experienced working for health services with a strong, proactive focus on WHS. These RANs found that a clear safety policy framework and supportive management were of key importance. Supportive management was said to include adequate resourcing and follow-up to ensure the safety strategies were implemented, as well as a willingness to receive and act on feedback from staff. "The bottom line was, if you felt unsafe, they would back you up for whatever you felt you needed to do to stay safe" (Participant 3). Participants from SA and NSW described how their current employers made it clear from day one of orientation that staff safety was a priority, which was reinforced by the behaviour of management and their colleagues, creating a strong safety culture. "In terms of safety, this health service has policies and guidelines. It has enthusiastic implementation by the manager and the staff. And it has the resources to support the guidelines" (Participant 5).

#### **5.3.1.2 Tokenism:**

"If you can tick a box but you don't find out what's – *listen* and *hear* what's happening on the ground, you'll miss it, and it will happen again" (Participant 15).

Where safety strategies were in place, the workplace culture could impact whether there was useful uptake of those strategies. Several participants spoke of a tokenistic approach to WHS in their

organisation. While these cases technically had safety strategies in place, their poor implementation limited the positive impact. For example, most participants had check-in systems as an official or unofficial safety strategy. However, while some workplaces had a 'looking out for each other' approach with prompt follow up if an expected check-in was missed, others had a more 'tick a box' approach without timely follow up. This undermined the purpose of the strategy. A tokenistic approach to safety could also be demoralising for the staff involved. "Like that is a waste of our time going to those [WHS] meetings to say, 'hey guys, this is what we've identified as a risk, just letting you know', then nothing happens" (Participant 8).

Participants generally did not seem to expect their workplaces to be perfectly safe. Several acknowledged that factors outside their employer's control, such as geographical isolation, volatile community dynamics, or the presence of alcohol and other drugs, meant there would always be a degree of risk in their work. The difference between tokenism and 'doing their best' lay in whether employers were seen to make a genuine effort to ensure their staff are as safe as possible.

#### *5.3.1.3 Attitudes towards safety:*

Attitudes towards safety were spoken of as a factor that could make or break the safety strategies. "I think predominantly, staff attitudes. So, if you're in a place that really valued that ['never alone'] policy, it would just be non-negotiable, and so, you'd make it work, basically" (Participant 12). Over half the participants spoke of the importance of staff being aware of the risks, and valuing and being proactive about their safety. For example, participant 14 spoke of how her clinic team discussed safety amongst themselves in team meetings to ensure it was a priority.

Contrastingly, participant 2 experienced a very "lackadaisical approach" to safety at her Qld workplace, due to the perception that it was a safe area. Several participants highlighted the risks of complacency, especially around call-out safety, as situations can change even when one believes the situation is low-risk. Several anecdotes about RANs standing up for themselves when their employers put them in unsafe situations were also discussed.

A nurse turned up in a remote [NT region] clinic... the two nurses there go, 'oh, we're on our way out', get on the plane that person's got off, and fly off, leaving them there alone. So they ring the regional manager... and their answer is, 'oh put a [incident report] in.'

[So the RAN said], 'I'll do better than that, if I don't have a satisfactory answer in the next hour, I'm getting on the bush bus which is leaving, and I'm going back to town at your

expense.’ Nurses are starting to be more proactive about their safety, which is wonderful, and just going, ‘no, I won’t do it.’ (Participant 13)

Manager attitudes to safety also had an impact, as two RANs from the NT spoke of times when managers undermined call-out safety strategies by discouraging RANs from utilising a second responder. “I was up at this last community and the primary health care manager said, ‘oh no, you don’t need anybody to come out with you’” (Participant 4).

Attitudes to psychological safety could also be an issue. Several RANs spoke of the importance of psychological safety, but felt it was often overlooked.

Safety from a mental health perspective as well, is something that really doesn’t get spoken about... It’s assumed that burnout is part and parcel of the job, particularly if you’re an agency staff member... And that... goes for on the ground... between staff, our interplay with each other, and all the way up to management. I think that that’s something that there’s not much structure around, and no meaningful effort to resolve. (Participant 12)

One RAN’s health service had a good psychological support initiative for the clinic managers, where their role was backfilled for a week every three months so they could gather in town to attend education and socialise. Three RANs spoke of the CRANaplus Bush Support Line as a valuable avenue for psychological support, especially when their employers were unsupportive.

#### *5.3.1.4 Flexibility in WHS approaches:*

All participants were in favour of having official safety strategies in their workplace, but opinions varied on how strict they should be. Three participants from different regions advocated for a consistent approach to WHS in remote health, so that health services do not leave gaps while “reinventing the wheel” (Participant 6). On a macro level, this sentiment was echoed by other participants. Frustrations around the lack of ‘never alone’ policies in some health services provided examples of this.

However, the majority felt that for the policies to be useful, they need enough flexibility to be adapted to the situation. Participants had different opinions on what that flexibility should look like, but most agreed it was important for improving staff safety while still enabling them to do their jobs.

I can understand why you’d develop a policy for an ideal circumstance, but... it just is not fitting reality, and I think that’s really important to acknowledge. Ah, whether you have a tiered policy,

where you go, 'okay this is ideal, however if you're in this circumstance, this is what you should do.' Kind of harm minimisation I guess... (Participant 12)

Even participants who recommended consistent safety strategies across the remote health sector acknowledged the need for some situational flexibility. Several said that policies which are not suited to the local circumstances are often disregarded, though participant 5 did point out that "any safety guidelines are useful, in as much as they prioritise safety and keep it in the minds of staff."

### 5.3.2 Knowledge and relationships:

#### *5.3.2.1 Collaboration*

Good communication and collaboration are necessary between health services, their staff, communities, and other service providers. With few exceptions, participating RANs said the clinic managers were supportive and 'get it', but that further up the chain, "much of management is dissociated. It sits in regional centres and just doesn't get it. They've either *never* worked remote or worked a *minimum* of remote or worked remote *so long ago they've forgotten*" (Participant 13).

This led to tensions between what was required by policy and what was possible (or helpful) with the existing resources. "And so, there's this feeling that these policies we're expected to adhere to, have been made with no consideration of the circumstances that they're being employed in" (Participant 12). In some cases, RANs were willing to offer feedback and management were willing to review and adapt their safety strategies. These more collaborative improvements led to improved safety strategies in those workplaces, which participants found more feasible to implement.

Meaningful collaboration and engagement with the community was another important strategy that was not usually done very well. Clinic managers were identified as the appropriate people to take the lead in building good relationships with the community. One clinic manager stated "It's partnering with the community, partnering with consumers. Because I also believe consultation was so poor. So I had my own little groups, you know, elder women and the kids and teenagers" (Participant 15).

Participants from many regions reported that employing local community members in the clinic, especially as second responders, was an important strategy for increasing community participation in the clinic. "I think talking with local staff... whatever role they may have in the clinic, is a huge enabler of building connections" (Participant 12). Community support for safety strategies was a significant enabler for their implementation, such as where community members agreed to be second responders. However, a lack of support for collaboration efforts by upper management was a barrier to this in some cases.

Clarity and consistency with boundaries related to safety strategies was also seen as important, with clear communication of these to new staff and the community. Two participants spoke of their efforts to ensure new staff uphold the accepted practices of the clinic, to reduce the tensions that can result from inconsistent standards.

Yeah, and it's in our orientation booklet now... every clinic within our AMS is obviously going to be different in size, in process, everything. So we have made one specifically for here... which has not been approved by anybody, it's just been a group of us here who have been here for a long time saying, 'just please have a read, just so you're aware.' (Participant 8)

Collaboration with other service providers was another common thread that influenced staff safety. Inter-sector information sharing, incident response planning, and socialising were described as positive experiences that improved staff safety and the rapport between service providers. Participants from all regions also found collaboration with police to be a significant enabler for safety, particularly for support when responding to high-risk call-outs. However, some participants found this to be a negative experience, usually due to the police being reluctant to attend. "When you don't feel supported as a nurse, going out to domestic violence and things like that, it's, it's difficult" (Participant 11).

Sometimes, the police aren't very happy to come. Because they're tired, they're fatigued. We only have two police officers here and they work all day just like we do and they don't get fatigue time like we do. So, they could be up, you know, for 72 hours or something or only have very little sleep. (Participant 1)

#### **5.3.2.2 Local knowledge:**

Local knowledge was considered a significant protective factor for staff safety. Familiarity with people and places within the community, as well as understanding the cultural norms, helped participants keep themselves safe. However, several participants reiterated the importance of not becoming complacent, as the unexpected could still happen. Several enablers for gaining and sharing local knowledge were identified, including a good local orientation and handover, getting to know local community members, utilising the knowledge of local staff, and information sharing processes.

Orientation quality varied between health services. Some participants reported being expected to 'hit the ground running' without an orientation, others were very basic and did not cover safety information, while a few had a strong upfront focus on safety, identifying potential issues and presenting clear guidelines on what to do about it.

All participants who had received a thorough handover as part of their local orientation found it to be an important protective factor. Four RANs who had recently started at a new job spoke about how learning of any people, dynamics, or places in the community that they should keep an eye out for improved their safety. Being introduced to local community members was also thought to improve RANs' relationship with the community. Several RANs felt that building the beginnings of a rapport with community members before meeting them in a clinical setting, helped prevent workplace violence. With time, this could also develop into valuable informal support networks, though high turnover was a barrier to this.

The obstacle to that is the passing parade of visiting nurses and midwives. They might come once and never come again for various reasons. Then the locals don't know whether to invest their time in you or not, because they haven't had the opportunity to develop that relationship. (Participant 10)

Where clinics had local Aboriginal or Torres Strait Islander staff, participants identified the local knowledge of those staff as a significant protective factor. Many participants spoke of the benefits local staff brought to the team, including the benefits of being able to draw on their local knowledge to improve call-out safety. However, participant 13 pointed out that this only works "if the nurses will listen to [their advice]."

A lack of cultural education for RANs was a barrier to safety. This was considered a widespread issue, though participant 13 felt that health services with a higher proportion of local staff did better.

One of the things that few health services do these days, is that they'll all identify the importance of cultural education, but like [a health service in WA] said 'oh that happens when you get out to the community'. But it didn't. It didn't unless you took it on yourself. No one... out there was paid to sit down with you for two hours and say... (Participant 5)

Two senior RANs described how their understanding of the cultural norms within the community enabled them to tailor their practice to reflect that understanding. Both RANs spoke of how this enabled them to improvise effectively in volatile situations, so they could provide care to their patients while avoiding potential incidents.

So we'd take the combatants apart, so I wasn't stitching up heads. I still was out for an hour in the middle of the... night, but I'd much rather be out just telling someone to walk away, and walking with them up on the sand dune and sitting down while they... vent. I'd rather do that than be in my clinic for a couple of hours stitching up and having to send people for x-rays. (Participant 13)

### *5.3.2.3 Preparation/suitability for the role:*

For RANs to be safe and effective in their role, experience and education were considered essential. However, access to training such as 4WD courses was difficult for many participants. Participant 2 stated “just the fact that you're in a remote area makes it difficult to access regular training,” while others highlighted issues such as understaffing and COVID-19 travel restrictions as barriers. In some workplaces, no alternatives were offered, but in others online learning was used to try and fill the gap. However, participant 11 found that blasé attitudes towards safety among staff could be a barrier to the uptake of safety training.

Where face to face training was offered, participant 12 found it to be a good opportunity to meet other RANs, share stories and learn from each other’s experiences. However, like with the policies, the training did not always reflect the reality of the work.

There’s a lot of things that truthfully you just do, because there’s nobody else to do it, or there’s no facilities or you don’t have a lifting machine, so you just lift it... I think sometimes a lot of the training that’s offered is, idealised, to a context that’s a lot higher resourced, and it’s not applicable to a remote context. (Participant 12)

Experience was also identified as an important factor. Most participants, including two who became RANs more recently than 2016, had learned safety skills such as aggression prevention and de-escalation through experience rather than formal training. One participant found that doing remote-specific postgraduate studies while she was transitioning to remote practice raised her awareness of the safety issues and risk mitigation strategies. Contrastingly, participant 14 did not have safety training or WHS policies at her workplace, meaning she had to work it out for herself.

### *5.3.2.4 Good healthcare = safer staff:*

Providing good quality emergency care and primary health care was also said to improve staff safety. Several participants spoke of how workplace violence can be sparked when patients or their families feel that their health needs are not being met, especially in an emergency. “I think ultimately throughout my career, regardless of the context, most of the times that I’ve experienced aggression from people is when they’ve been afraid, either for themselves or for a loved one” (Participant 12). Having sufficient staff, with the skills and knowledge needed for the situation, was identified as a solution by two participants.

You can increase your vulnerability if you're at, say, an MVA or a child is very sick and crashing... you can really reduce your level of safety if you can't manage a patient. It's hard



on your own, and if you've got a second set of hands who knows what they're doing, like a second nurse, it can really put a lot of people at ease. (Participant 2)

Good primary health care was also identified as a safety strategy. This was mostly spoken of in terms of empowering community members to self-manage minor ailments, improving health literacy, and providing good primary health care. For example, a RAN from a small community reported that over three years, their clinic team significantly reduced the number of overnight call-outs and medical evacuations through a strong focus on primary health care.

What that meant is that, instead of a medevac every 10 days and probably a half overnight [call-out] every week, it became that there was a medevac about every 16 days, 17 days, and an overnight at the clinic... twice a month. (Participant 5)

### 5.3.3 Resources

#### *5.3.3.1 Impact of staffing:*

Understaffing can mean RANs have to choose between keeping themselves safe or providing good healthcare to communities that are already disadvantaged. Several participants spoke of how a lack of staff created tensions between staff safety, fatigue management and keeping the clinic open. Being able to simultaneously enforce fatigue management and 'never alone' policies in small clinics was a significant challenge, especially when RANs used another nurse instead of a driver as the second responder. This led to temporary clinic closures or reductions in services to outlying communities and outstations, creating a backlog of primary health care recalls.

Well, the barriers are that if the person has used a nurse rather than the second responder, we are only a four-nurse clinic, and that takes out two people... Also, three days a week, we have to go to another clinic that's 40 minutes away, so that means that that clinic or that community doesn't get serviced, because there's not enough people to service it. (Participant 14)

One participant also spoke of how working in a single nurse post meant she usually wouldn't take fatigue leave, as there was no one else to open the clinic. She described how this could snowball "because if you're on call [again] that night, you don't necessarily get a rest after you do finish work... [At one clinic,] there was literally nobody else: you could be on-call 17 days straight" (Participant 6). Several other RANs also spoke of the cumulative impact of fatigue, especially when there were few colleagues to share the on-call duties with.

But that's not a policy failure. Like the fatigue 10-hour break is in there. But if you're short staffed, or you don't have a big pool to draw from and you're working like – you're just working. You work days, you work on-call nights, you work weekends, and you're back during the week. So... I think it's very fatiguing. (Participant 9)

#### *5.3.3.2 Drivers:*

There was much discussion around what makes a good second responder, and the pros and cons of different approaches. Local drivers were a solution to the issue of improving call-out safety while managing RANs' fatigue. Several RANs saw having a trusted local community member as a second responder as an important safety strategy itself, as the drivers were a source of local knowledge on call outs.

Whereas if you've got your local driver, he can tell you, 'no don't get out in this house', or 'now watch out for her', or whatever. The local knowledge is the important thing, not the presence of two people. (Participant 13)

However, several RANs were concerned about the lack of first-aid training for drivers in most clinics, given that they're expected to accompany RANs to medical emergencies. Only two participants worked in clinics with local second responders who had been trained in first aid and using the communications equipment. To offset the lack of clinical knowledge, most participants found that their colleagues were willing to be called out as well if a second RAN was required, or if the driver couldn't be found.

A major barrier was when health services had difficulties recruiting local community members as second responders in some communities. "We've tried many times to have local people [as drivers], and nobody is interested" (Participant 14). In three cases, non-Indigenous people who lived in the community were used instead. This was less than ideal, as the drivers then did not have the clinical or cultural knowledge to improve staff safety during call-outs. "So there was no cultural negotiation available... she didn't know people, she had no first aid training" (Participant 2). Two participants also found that retention of drivers could be an issue if RANs frequently went on call-outs without utilising the local driver.

In a large community, one participant had a pool of local drivers who were employed on a permanent part-time basis. This employment model enabled the use of a roster system rather than a casual call-out system, greatly improving the availability of second responders and increasing those drivers'

involvement in the clinic. “So four permanent part time, and they turned up all the time, and it made it a much more reliable [system]” (Participant 15).

#### 5.3.3.3 Infrastructure:

Infrastructure safety was another major topic. Clinic safety varied, with a few participants explaining that this was linked to how old the buildings were. Newer or more recently refurbished buildings were often safer, with features like safe rooms, emergency exits, security screens on the windows, and self-closing doors to prevent visitors from wandering into clinical spaces. “A lot of the clinics are so old, and they are being refurbished so they are [taking] this into consideration” (Participant 4). A common safety strategy discussed by participants involved preventing crowding within the clinic. The clinic design could either help or hinder this:

“We’re quite strict with how many people – if we see someone after hours – so we generally have the patient and then one other person... One of our barriers is that... in WA, to lock and unlock the door... you just turn the lock. So... if you’re both busy with the patient, a family member can go to the door and open it and let more people in. In the NT it’s a swipe card, so you actually can’t get in and out unless you have the card...” (Participant 7)

Accommodation safety was spoken of as an ongoing issue, though many RANs were happy with the security of their accommodation. The perceived safety of the community itself seemed to have an impact on this. For example, participant 11 said her accommodation was not secure, but she felt safe anyway as “I never felt threatened... in the two and a half years I was out there, not one of our houses ever got broken into.” Participant 12 reiterated this point, saying that accommodation security tends to be in context with the stability of the community.

Where accommodation *was* considered unsafe, it could have a significant negative impact on the RAN’s mental wellbeing, as well as putting them physically at risk.

The accommodation *needs* to be secure, so you can’t have someone kick in a door for instance... You need it for the practical things of keeping people safe, but also, for the psychological wellbeing of the staff member. If they’re in a secure building, they’re more likely to sleep, they’re more likely to feel less stress. (Participant 13)

Many participants also spoke of how living near other RANs helped reduce their isolation and meant there was backup within earshot if needed, improving their safety. However, security alarms on staff accommodation seemed to be a strategy with poor uptake, as out of the three participants who mentioned it was available, two said they did not use it.

Poor maintenance was a major barrier to clinic and accommodation safety. Participants acknowledged that it's difficult for health services to get repairs done quickly, due to the remoteness of their workplaces, but many felt that more could be done to improve the process, such as having routine maintenance.

Of course, in any remote area geographically it's challenging. It's easy to get flooded in... Then all the [COVID-19] stuff. So there is still no routine, regular maintenance, and there's still this - well, it's been going on for 15 years - is people make lists of things that need doing for each clinic... It's a running joke in [Qld region] about the lists. (Participant 2)

Two other participants spoke of times when issues identified in WHS inspections were not addressed. For example, participant 3 said "We did an OHS inspection while I was there that took an hour and a half... There were leaks everywhere... So, rather than try and fix it, you know where to place the buckets and the hazard signs." Another participant experienced particularly poor responses to maintenance requests, where reports of faults with significant safety consequences were repeatedly ignored by management.

#### ***5.3.3.4 Equipment:***

Next up is equipment safety, including communication systems and fit-for-purpose vehicles. Good communication systems improved psychological safety by reducing feelings of isolation, and in the case of remote access to medical records, helped with risk assessments. Communications technology was also a key aspect of call-out safety strategies, by giving community members a way to request assistance after hours without visiting the RAN's house, and by enabling second responders to be contacted. "If it's out of hours, you ring your second-on-call... If it's a local driver, he may not have a mobile, so we give him a two-way radio" (Participant 10). Several participants had intermittent or no mobile phone coverage in their communities, limiting the available strategies.

Clinic vehicles were not fit-for-purpose in several clinics in the tropics, either by not being adequate for the terrain or being poorly maintained.

But there were no headlights working on it. It had rusted. So, I literally used to hold up one of those big torches out the front of the window, and drive along with that... I said [to the health service's manager] 'if a nurse runs a child over in the middle of the night and kills them, and you say that you knew that we had vehicles that were not working effectively, and you did nothing about it, where the hell do we stand?' (Participant de-identified due to legal implications)

Conversely, several participants reported that the work processes around travel safety were generally implemented well. Specific examples included carrying a satellite phone, emergency water, recovery gear and a first-aid kit, doing vehicle checks before a trip, and strict check-in procedures for the trip itself. However, travel safety strategies could be undermined by RANs, such as by forgetting to take the satellite phone and forgetting to check-in before departing. Check-in systems could also be undermined by managers if they failed to follow up on a staff member who went missing. Where check-in systems were run by colleagues within the clinic or had a centralised manager who kept track of all call-outs/travel for the region, the follow-up of missed check-ins was much better. “I don’t think there would be a person who [would] have said to you, ‘yeah, no, we forgot to ring and no one noticed.’ There was always someone that noticed that you didn’t come back” (Participant 7).

“I had a situation at the last clinic, the girls were an hour overdue from coming back from a homelands visit. And the boss - the primary health care manager and I were both pacing, wondering what on earth has happened to them. He said, ‘if they’re not back in 15 minutes, I’m going to have to go out looking for them.’” (Participant 4).

Duress alarms were met with mixed responses by participants. A common thread was that given the time it would take for any help to arrive in an emergency, the usefulness of duress alarms was limited. However, one participant found that a locally audible alarm could be a deterrent, and another reported that the duress alarm system worked well at her clinic. “You touch those alarm buttons and they’re ringing you within two minutes” (Participant 4). However, one clinic had portable duress alarms that did not work if the staff were further than 300m from the clinic, with no other technology for calling for help in an emergency. This further highlights the dangers of a tokenistic approach.

#### **5.3.3.5 Funding:**

Lastly, half the participants identified funding as a barrier to some safety strategies, mainly maintenance and having safe staffing levels. “I think the intention is there. The budget may not [be]” (Participant 10). For example, one RAN experienced push back from the health service’s finance team while establishing a reliable pool of local drivers for the clinic. “So I got the 24-hour drivers, and in the end, I ignored finance” (Participant 15). Some health services had mitigated the costs of implementing a safety strategy by renegotiating their employment model.

Recently I know [NT ACCHO] has brought in laptops so that the person on-call has a laptop so they have access to the person’s files... That is actually very useful. It has implications for the health service, because of course, as soon as you open that file, you are at work. So even

if you don't attend, they have to pay you a call-out... Some of the health services are getting around that now by giving you a loading, rather than giving you a call-out fee. (Participant 13)

Some health services *had* put funding into safety. Several participants from NT ACCHOs spoke of recent purchases of safety technologies, such as emergency GPS devices for the vehicles or security technology. "The company did come into some money a while back, and they put on security sensors on all the houses... for the staff. And there's big massive lights that are on at the clinic" (Participant 14). Participant 5 pointed out that "not all guidelines require additional resources" though, so even resource-poor health services can make an effort to improve staff safety.

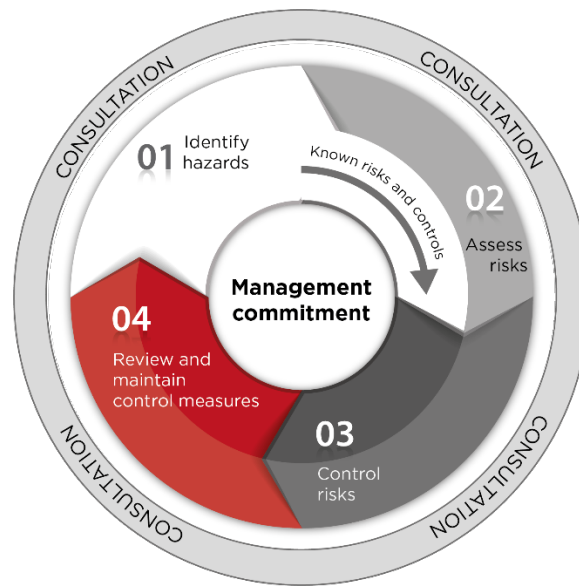
In the end, a common thread in the stories shared by the RANs was that funding for safety strategies – much like their overall approaches to safety – varied greatly between health services.

So you know in terms of safety, this health service has policies and guidelines. It has enthusiastic implementation by the manager and the staff. And it has the resources to support the guidelines. And that is very different if you're going to ask me about the community in WA and the other health service. (Participant 5)

## 5.4 Discussion

This chapter explored RANs' experiences of the implementation of WHS strategies in remote clinics. From broad topics such as their health service's overall approach to safety, to the specifics like what equipment and processes they used to call for help in an emergency, 15 RANs shared their stories of the factors they found helped or hindered their safety.

Commitment to safety was a broad theme, but one that was an underlying essential factor for achieving safe clinics. RANs' anecdotes uncovered significant variation in approaches to WHS among the different health services and regions, a finding that reflects the survey results from chapter four (section 4.2.3), where significant variation in workplace safety scores were found between some states/territories, and between service types within the NT. Many participants expressed frustration over this variation, seeing a poor commitment to safety by some health services as a failure to meet their duty of care. Such health services seemed to not follow a 'risk management' approach to WHS, one of the key recommendations from the literature discussed in chapter 2 (section 2.2.1). As described in the *How to manage work health and safety risks Code of Practice* (Safe Work Australia., 2020a), the risk management process (see Figure 5.1) involves proactively identifying and controlling risks.



**Figure 5.1 The risk management process (Safe Work Australia., 2020a)**

To use call-out safety as an example, although ‘never alone’ policies had not yet been legislated outside South Australia, participants described it as accepted practice within the industry. For the interstate health services that did *not* have a ‘never alone’ policy, it would be difficult for them to argue that call-outs do not pose a known risk, with known controls.

For each RAN who shared their experience of employers doing their best to improve workplace safety, there was one for whom the opposite occurred. Several of the examples depicted employers with a resigned, ‘this is just how it is’ approach to risks that they were legally obligated to mitigate under the WHS National Uniform Legislation (NUL) Act and Regulations (NT, 2011a, 2011b). Examples included requiring staff to drive an unroadworthy vehicle for work, having clinics and accommodation that expose staff to health and safety risks (Part 2, Division 2 of the WHS (NUL) Act), and not supplying effective systems of communication for staff working in remote or isolated areas (Part 3.2, Division 6 of the WHS (NUL) Regulations). These stories demonstrate that legislation alone is not enough to address the issue of poor workplace safety in the remote health sector. A culture shift within the industry will be needed to achieve widespread change.

Health services must also be careful not to miss the consultation section of the risk management process. Several participants’ views mirrored the findings from the McCullough et al. (2012a) study, where the policies and safety strategies were considered inappropriate or not feasible in the local context. While the feeling that management was disconnected from the reality of the work was a common thread in the interviews, a few participants did speak of times when management ‘got it’ and took appropriate action for their staff’s safety.

Local knowledge was seen by participants as a significant protective factor for staff safety. Having a good local orientation and handover when starting at a clinic was identified as a key opportunity for building local knowledge. This mirrors the findings from previous research, where inadequate local orientation was identified as a significant risk to safety (Wright et al., 2021). However, as identified by the RAN survey, rates of orientation remained low and often missed important aspects (chapter 4, section 4.2.2.1). For example, although several interview participants felt being introduced to key community members improved their safety, this was the least commonly received orientation topic.

Clarity and consistency around safety rules was also highlighted as an important strategy. As well as improving adherence, clarity and consistency was thought to avoid the unnecessary frustrations that having inconsistent rules within the clinic can cause for clients. One of the strategies to improve this was to ensure new staff were aware of the local policies and practices, a recommendation mirrored in the literature (CRANApplus, 2017a; Department of Health., 2016; Kurti et al., 2012; NHMRC, 2002). This is an area requiring improvement, as the survey found that almost a third of the RANs who received an orientation did not receive this information.

Infrastructure safety was a common concern for participants. Even several clinics with strict policies around safe work practices had issues with the maintenance of their accommodation, clinic, or vehicles. Previous literature had also identified infrastructure safety as an issue, but except for discussing poor maintenance, only one article specified how the buildings were unsafe (CRANApplus, 2017a; Fisher et al., 1995; McCullough et al., 2012b). While the survey identified many gaps within infrastructure safety, the interviews also identified specific strategies that RANs found effective, such as having security screens on the accommodation and self-closing and locking doors at the clinic to assist with crowd control. The interviews also identified weaknesses to some of the recommended safety strategies, such as having duress alarms when there is no assistance available.

Staffing levels, 'never alone' policies, and fatigue management were spoken of as intertwined issues. In the survey, while staffing levels were found to be independent from the safety strategies, 'never alone' policies were often in place, while fatigue management was lacking (chapter 4, section 4.2.2). Within the interviews, RANs explained how they could be required to choose between having a second responder and managing fatigue, as the two were mutually exclusive when working with a small pool of staff. A strategy for overcoming this was to use local drivers as second responders instead of another RAN. This had the significant added benefit of providing access to greater local knowledge on call-outs, though at the expense of clinical knowledge. Recent literature also recommended the use of local drivers as second responders (Department of Health., 2016).



## 5.5 Strengths and limitations

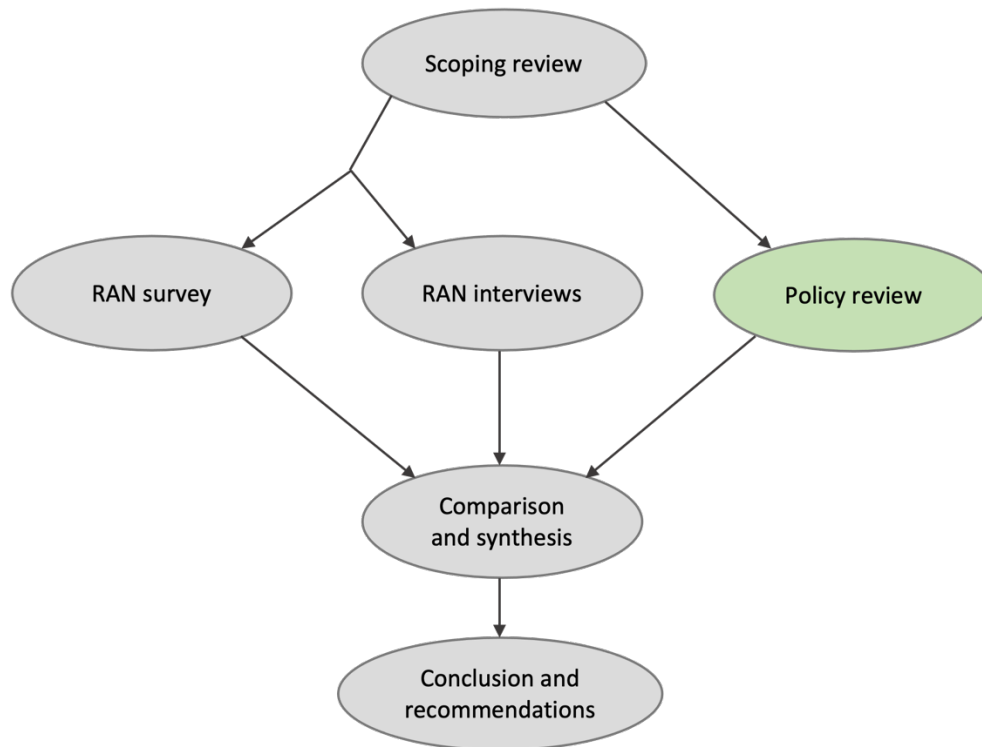
By exploring RANs' experiences of various WHS strategies, this study provided a nuanced view into the factors that influence the effectiveness of those strategies. RANs from a wide range of regions, service types, contract types, roles and years of experience participated in the interviews, providing a diverse range of views. However, given the diversity and variability within the remote health sector, not all perspectives will have been included. For example, RANs from Tasmania were not represented in this study. Additional participants from different regions within New South Wales, South Australia, Western Australia, and Queensland would provide even greater depth to the data.

Additionally, while not required in reflexive thematic analysis, obtaining the assistance of a second researcher during data analysis could have brought another perspective to the findings.

## 5.6 Conclusion

In this chapter, RANs shared their experiences of the WHS strategies in their clinics. Participants had experienced a range of working conditions, providing insights into the factors that influenced the success or failure of the recommended safety strategies. From the underlying commitment to safety, to the specific strengths and weaknesses of individual strategies, the analysis explored the nuance behind the recommendations to inform future improvements. Key findings included the need for health services to prioritise safety and ensure the strategies are appropriate for the local context, improve infrastructure maintenance, and establish sustainable second responder systems such as a pool of local drivers. With knowledge of what recommendations are in place and the barriers and enablers for them, a missing piece of the puzzle is what health services' WHS goals were. This is explored in the following chapter.

## Chapter 6. WHS policies in very remote primary health clinics across Australia



### 6.1 Introduction

Previous chapters discussed the WHS risks and recommendations identified within the literature, quantitatively assessed which recommendations were in place from RANs' perspective, and explored their experiences of the strengths, weaknesses, barriers, and enablers of those strategies. This final results chapter assesses remote health services' aspirations around WHS in remote clinics, through an analysis of their WHS policies. This provides an added perspective to the research question "What WHS policies and procedures are in place within Australian remote health services?"

### 6.2 Methods

The methods used for this policy review were described in detail in chapter three (section 3.5), so the following is a summary. All 35 health services in Australia that had at least one very remote primary health clinic were invited to participate in the study. WHS policies and related documents such as guidelines, procedures and handbooks were collected from participating health services for analysis.

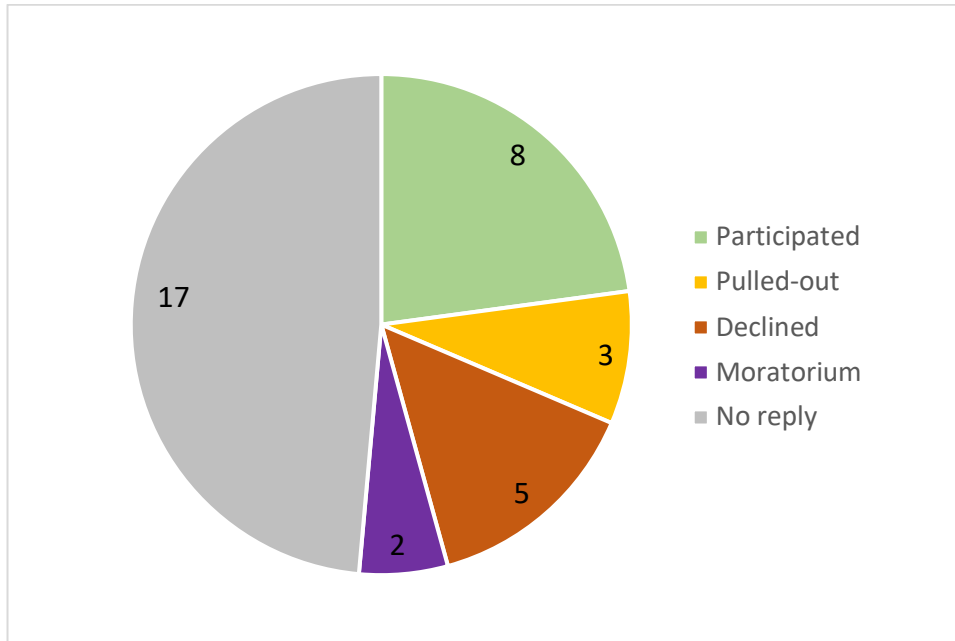
A basic content analysis design was used for the review. The data extraction table focussed on 16 risks and recommendations identified from the literature: Orientation, training, clinic safety, accommodation safety, call-out/home visit safety, travel safety, communication, incident management, workplace violence, psychological safety, fatigue management, safe staffing levels, local response plan, reporting, safety audits, and the risk management cycle, with an additional 'other' category to allow for the identification of new strategies. Results were presented as an overview and detailed breakdown of the strategies included in the policies.

## 6.3 Results

### 6.3.1 Overview

Of the 35 eligible health services invited to participate in this policy review, 13 were government-run health services and 22 were Aboriginal Community Controlled Health Organisations (ACCHOs). Overall, eight health services provided a copy of their WHS policy documents for inclusion, giving a 22.9% participation rate. All eight participating health services were government-run, giving a 61.5% participation rate among those services. None of the eligible ACCHOs participated, so those health services are not represented in this chapter.

Seventeen health services did not respond to multiple contact attempts, two had ongoing research moratoria, three pulled out or did not respond after initially agreeing to participate, and five declined outright (see Figure 6.1). Managers not having time to retrieve and send the policies was the commonly cited reason.



**Figure 6.1 Recruitment outcomes of health services invited for the policy review**

Most remote health regions within Australia were covered by the participating services, including the Northern Territory, Queensland, Western Australia, South Australia, and New South Wales. To maintain confidentiality, the location of each health service is not identified in this chapter, but one region had two participating health services (HS1 and HS2), another region had three (HS6-8), and the remaining regions had one health service each.

Overall, 67 WHS policies, procedures, and guidelines were collected for analysis. Most health services covered the 16 topics of interest in their policies, but there was significant variation in the strategies used (see Table 6.1).

**Table 6.1 Overview of policy review results**

<b>Policy topic</b>	<b>Included</b>	<b>Details</b>
Orientation	8/8	2 Brief mentions 2 Covered some topics 4 Detailed requirements
Training	8/8	5 Topic-specific 3 Listed training requirements
Clinic safety	8/8	1 Brief mention 5 Crime Prevention Through Environmental Design (CPTED) +5 Security technology or processes
Accommodation safety	7/8	3 Only call-out processes 1 Partially outlined employer's responsibility 3 Detailed safety requirements
Call-out/home visit safety	8/8	2 Risk assessment based 6 'Never alone'
Travel safety	8/8	1 Brief mention 2 Broad outlines 5 Detailed communications and check-in procedures
Communication	8/8	A mix of technologies +4 detailed check-in procedures
Incident management	8/8	5 Generic structure for all incidents 3 Focussed on specific incident types
Workplace violence	8/8	All reasonably detailed +2 Lockdown or evacuation procedures
Psychological safety	6/8	2 Briefly acknowledged stressors 2 Post-incident focus 2 Preventative strategies
Fatigue management	7/8	6 Non-specific or short-term focus 1 Long-term fatigue
Safe staffing levels	5/8	4 Sufficient staff for 'never alone' 1 Detailed staffing requirements & contingencies
Local response plan	5/8	3 Mention existence of plans 2 Detailed examples
Reporting	8/8	All required staff to report hazards/incidents and managers to follow-up reports
Safety audits	7/8	5 Audits for specific topics 2 Broad audit requirements
Risk management cycle	7/8	1 Brief mention 6 Detailed requirements
Other	3/8	3 Collaboration with community or other organisations

### 6.3.2 Policy detail

#### **6.3.2.1 Orientation:**

While all health services included a requirement for orientation in their policies, not all went into detail about what that orientation needed to include. Two health services briefly mentioned that orientation occurred. Two detailed policy-specific orientation requirements. For example, one risk assessment procedure stated, “All staff are to receive education about risk assessment and the use of the risk assessment tools and systems regardless of discipline at induction” (HS2). The remaining four health services provided a more detailed breakdown of the topics that needed to be covered during orientation and/or induction, with three outlining their responsibility to provide orientation and induction to workers.

Additionally, two services included requirements for an orientation to the local community and culture. One service provided a detailed list of included local orientation topics, such as “What is the history of your community? Introduce new staff to Traditional Owners, Elders, other key people. Explained about: restricted areas, cultural obligations, cultural protocols...” (HS1).

#### **6.3.2.2 Training:**

Rather than listing all required training for staff, most health services identified topic-specific training requirements relevant to the policies they appeared in. For example, a safe travel guideline required that “All drivers must complete the online Driver Safety Training...” (HS7). The level of detail in those requirements varied, ranging from a single dot-point stating the need for training, to a detailed list of the skills and knowledge that must be covered in that training.

Three services did list the broad range of training requirements for their staff. Two health services also included WHS training for managers in their policies. One made a brief mention of an “OSH for Managers program” (HS5), while the other detailed what the training should cover, including the manager’s WHS responsibilities, the hazards and risks faced by their employees, how to utilise the consultation arrangements, and how to undertake risk management and implement systems to fulfil their duty of care.

Additionally, one health service acknowledged the limitations of training as a risk control measure:

However, while training is essential in terms of information provision and risk management, it is not effective as the sole risk control measure and must therefore be used in conjunction with other controls such as clinical protocols, facility design, access control and provision of equipment e.g. duress alarms. (HS4)

### *6.3.2.3 Clinic safety:*

Clinic safety was covered to some extent by all participating health services. One health service only briefly mentioned a broad requirement for a safe work environment: “Does the work environment enable workers to carry out work without risks to health and safety (for example, space for unobstructed movement, adequate ventilation, lighting)?” (HS7). However, most included specific policy requirements around the safe design and maintenance of the clinic building. Five did so in detail, with Crime Prevention Through Environmental Design (CPTED) strategies often named as the expected standard of design. One health service acknowledged that old buildings were not likely to meet CPTED guidelines, so “Designing out workplace hazards during construction or refurbishment should be the highest priority for controlling workplace risks” (HS4).

Five health services also included a mix of security technologies or processes in their policies. Three required duress alarms or other appropriate means of communication for emergencies, two included other equipment such as CCTV to monitor clinic entrances, and four outlined security procedures for routine work or critical incidents.

### *6.3.2.4 Accommodation safety:*

One health service did not mention accommodation safety at all in their WHS policies. Three services only mentioned it in relation to call-out practices, where patients visited staff accommodation to seek treatment: “Staff members shall not provide care or treatment to a client at the staff members’ accommodation” (HS2).

One health service acknowledged landlords’ responsibility to “ensure the premises comply with health, safety and housing standards... and maintain it to an acceptable standard” (HS5). However, the service did not acknowledge their WHS responsibility towards staff living in work accommodation in remote or isolated areas. A separate health service did acknowledge this responsibility, as they paraphrased the relevant WHS legislation in their policy.

Three health services included more detailed accommodation safety strategies in their policies, including building security and aspects of CPTED. One service also included staff accommodation in their WHS audits, with detailed requirements for accommodation safety and security. Another acknowledged the workplace violence risks associated with a lack of anonymity, by outlining procedures for protecting staff’s safety in their accommodation “Where the risk assessment suggests

the affected staff member may also be at risk when they are not at work [e.g.] the threat is assessed as credible and the perpetrator knows where they live..." (HS4).

#### *6.3.2.5 Call-out/home visit safety:*

All participating health services incorporated call-out risk assessments in their policies. Several provided detailed lists of factors for staff to consider in a risk assessment prior to attending a call-out. While most services used this as a supplementary strategy in conjunction with a 'never alone' policy, two health services allowed staff to routinely attend call-outs alone, based on their risk assessment. Both services supplemented this with a staff tracking procedure such as a check-in system. One of the health services also had processes for documenting and sharing local knowledge among on-call staff to improve risk assessments, such as a client's history of violence and hazards at their house, with an excerpt of the relevant privacy act to clarify how the information could be used.

Six health services had 'never alone' policies, meaning their staff must be accompanied for all call-outs. Many also applied to home visits. The majority of 'never alone' policies were strict, with staff prohibited from attending call-outs alone. "Clinicians working in Remote and Isolated Healthcare facilities are to not at any time be alone when attending callouts" (HS8). However, one health service had a very flexible policy, where the use of second responders was preferable, but staff could attend call-outs alone if there was no second responder available and they'd done a risk assessment.

Dissonance between two policies was found in one health service. While their call-out policy was strictly 'never alone', requiring staff to "obtain the assistance of a second responder for all callouts, home, community and outstation visits" (HS1), their safe travel policy implied that staff could attend clients' homes or outstations alone if it was assessed as low-risk.

Staff must make an assessment of risks prior to visits either within the community or to outstations... Staff shall not visit any residence alone where: there is risk of injury occurring to the client or staff member, the staff member feels he/she may be at risk during the visit, or it is a known area of violence. (HS1)

#### *6.3.2.6 Travel safety:*

One health service made a passing mention of travel safety in their home visit procedure, while two services gave broad outlines of travel safety in their policies. One service included generic guidance about appropriate use of the vehicles and following the road rules, with additional advice about what



to do if the clinic vehicle broke down. However, there was no strategy for alternative communications systems when travelling in areas with no mobile reception.

Five health services included detailed travel safety requirements in their policies. This included check-in procedures and communications technology. Two also included detailed vehicle safety checklists to ensure staff and the vehicles were adequately prepared for remote travel, with points such as taking maps, spare drinking water, and tools to change a tyre. Several health services included requirements for the clinic vehicles to be “suitable for the travel and the terrain” (HS5), with vehicle inspections and regular maintenance.

Several health services also mentioned the availability of driver training for staff. Two services made the training optional, but one service with mandatory 4WD training provided a detailed list of recommended skills to be covered.

Drivers of [four-wheel] drive (4WD) vehicles must undertake an approved 4WD training course which will cover their travel requirements i.e. Safe driving techniques, basic vehicle maintenance, changing a wheel, assessment of the [vehicle’s] capabilities, use of communications equipment, when to use 4WD high and low ranges, traversing [floodways], what to do in case of breakdown or emergency, and the use of pre and post journey reporting procedures. (HS2)

#### ***6.3.2.7 Communication:***

All participating health services covered communication technologies and/or processes to some extent in their policies. Five health services acknowledged their responsibility to provide effective systems of communication for staff working in remote areas. “Communication systems must allow a worker when working alone, in isolation or remotely to call for assistance at any time during the service” (HS3). Additionally, four health services provided detailed instructions on check-in procedures and what to do if a staff member missed a check-in.

A range of communication technologies were also required, including duress alarms and satellite phones in six health services, GPS tracking and radios in four health services, and Personal Locator Beacons (PLBs) in two services, while one health service only required mobile phones.

#### *6.3.2.8 Incident management:*

Incident management was covered by all participating health services. Five focussed on their generic incident management structure, while three focussed on specific types of incidents. Services that focussed on the generic structure described the responsibilities of staff and management following incidents. This included aspects such as defining incidents, the responsibility of staff in identifying and reporting them, notification pathways, and management pathways for incidents of different severities. Most focussed on post-incident responses, with many including explicit requirements for health services around monitoring the implementation of recommendations and escalating those that weren't addressed.

Three services focussed on providing guidelines for specific incident types, such as workplace violence or failure to return from a home visit. This included guidance for staff and managers on dealing with in-progress incidents, and their post-incident responsibilities. The detailed guidance included recommendations to overcome barriers to effective incident management. For example, one service highlighted the need for a 'no-blame' approach to debriefing. To improve the response to workplace violence, another health service recommended nominating respected local people to be contacted if a duress alarm is activated "to assist in the diffusion of a threatening situation" (HS2). This was especially highly recommended for communities without a police presence.

#### *6.3.2.9 Workplace violence:*

Risk mitigation strategies for workplace violence overlapped with other policy areas, such as incident management, call-out safety, communication, and travel, clinic, and accommodation safety. All participating health services included strategies for preventing and dealing with workplace violence. Most stated they took a zero tolerance approach to violence and had duress alarms as a key strategy. Within the policies, zero tolerance was loosely defined as a strategy where "as far as reasonably practicable, action will be taken to prevent violence in the workplace and that in all incidents of violence, appropriate action will be taken to protect all workers, contractors, clients and visitors from the effects of such behaviour" (HS2).

However, one health service clearly articulated their stance on workplace violence and their expectations of how managers should approach the issue:

Key messages to all managers are:

- Putting up with violence in the health workplace is NOT an acceptable part of the job and [the health service] is committed to zero violence (i.e. taking action to prevent and manage the risk of violence)
- Lead by example. Demonstrate (1) support for strategies such as wearing duress alarms and incident reporting, and (2) support for staff during and after a violent event, (if incidents of violence are not taken seriously by managers, neither will staff, patients or visitors). (HS4)

Risk assessments, flagging the files of high-risk clients, and post-incident support were other common strategies. Additionally, two health services had lockdown or evacuation procedures for times when the health service could not ensure the safety of staff in the community, such as during a riot.

#### *6.3.2.10 Psychological safety:*

Psychological safety considerations were not included in the policies of two health services. Two briefly acknowledged the mental and emotional demands of staff's roles and recommended that these be considered during hazard identification. Another two health services included strategies for psychological support in their incident management policies, such as debriefing and counselling after critical incidents.

In addition to detailed guidelines on post-incident support, one health service also recommended the use of preventative self-care strategies. Another health service went further, including a policy requirement for "Identifying and implementing strategies and programs to build and support a psychologically healthy workplace..." (HS3), such as by addressing psychological hazards, training managers in supportive leadership, and providing resilience training.

#### *6.3.2.11 Fatigue management:*

One health service did not include fatigue management in their WHS policies. A further four health services included non-specific requirements for fatigue management. For example, a WHS audit checklist included the item "There is a documented process for the management of fatigue" (HS4), but the compliance criteria for that item only included a requirement to "consider fatigue as a hazard when developing or changing processes/scheduling shift work, [etcetera,] and includes the workers responsibility for managing fatigue" (HS4). Most health services focussed on staff's responsibility to monitor and manage fatigue, though some included recommendations for the health service to

support fatigue management, such as through “[Having] a policy in place for relieving staff, so increased workload won’t create fatigue” (HS6).

Two health services focussed on short-term fatigue management strategies, particularly around safe travel. Contrastingly, one health service acknowledged the cumulative effect of fatigue, with a fatigue management policy that focussed on the impact of excessive call-outs. The policy included monitoring of the total hours of overtime worked by each staff member per week, with a tiered approach based on the hours worked. “Once additional hours (actual) have exceeded 15 hours per week (either individually or collectively) the orange flag is to be activated” (HS1). Exceeding 20 hours of overtime triggered a red flag, for review and action by management. Suggested long-term solutions included adjusting the clinic’s opening hours and having community meetings and education around call-outs.

#### *6.3.2.12 Safe staffing levels:*

Safe levels of staffing were a rarely covered topic in the WHS policies. Four health services included brief requirements for sufficient staffing to implement ‘never alone’ strategies, along the lines of: “Ensure a pool of suitable second responders is available for workers providing health services in remote areas...” (HS3).

However, one health service had a detailed plan for ensuring safe staffing levels. The service identified the minimum number of clinical staff needed for each of their remote clinics to be able to provide a full service, or a reduced/emergency only service. A procedure for temporarily closing a clinic and implementing visiting services in the absence of safe staffing levels was also provided, including the factors to be considered and requirements for communication with staff and other stakeholders.

#### *6.3.2.13 Local response plan:*

Local response plans were included within the WHS policies of two health services. The plans provided guidance around preparing for and responding to emergencies that could impact the functioning of the clinic. This included locally relevant strategies for dealing with violence, natural disasters, fire, understaffing, and multi-casualty situations.

An additional three health services mentioned the existence of local response plans within their WHS policies, with one service listing the WHS topics to be included in those plans. “Facility/Service plans include WHS risks e.g.: Hazardous manual tasks, Fatigue management, No infectious Occupational Health Exposures, Hazardous Chemicals and Dangerous Goods... Worker Wellbeing” (HS4).

#### **6.3.2.14 Reporting:**

All participating health services included requirements for incident reporting in their policies. All required staff to report incidents, and most also included instructions for hazard reporting. Most spoke of a formal incident reporting system, but one required a doubling up of reporting, with staff required to “Report all incidents, hazards and near-misses to their line manager as soon as reasonably practicable” as well as complete a formal incident report (HS7).

The policies also contained requirements for managers to follow up on reports. Managers were required to “Respond to and investigate hazards, incidents and associated risks, ensuring risk controls and future treatments are implemented and reviewed for effectiveness” (HS3). Some health services detailed the required steps following an incident report, including consultation and communication with staff to identify and implement effective risk management strategies.

#### **6.3.2.15 Safety audits:**

One health service did not include a requirement for regular safety audits in their WHS policies. Five services listed audits relevant to the policy they appeared in. For example, a fatigue management policy required monthly fatigue management audits, a workplace violence policy had a detailed audit tool for workplace violence hazards, an incident management guideline required monthly duress alarm testing, and a vehicle safety policy required monthly vehicle checks. One health service also had a detailed accommodation safety audit tool.

Two health services listed broad WHS audit requirements. One spoke of monthly WHS audits for their remote clinics. Another provided a detailed WHS audit tool that included both overarching processes such as consultation, and specific risk areas such as workplace violence and fatigue. As with incident reports, requirements around following up on the hazards identified during safety audits were outlined in the policies of most participating health services.

Each organisation shall ensure that audits, using the audit tool, are undertaken of their facilities / services over a [two-year] audit cycle according to this policy... A plan is developed to address the findings and recommendations of the audit... (HS4)

#### *6.3.2.16 Risk management cycle:*

Within the WHS policies, all but one of the participating health services stated that they used a systematic risk management approach. One health service only referenced the approach, but the other services listed the individual steps.

For example, Health Service 2 included the following requirements in their policy:

[HS2] will take reasonable steps to:

- Identify hazards including those associated with call-outs and home, community and outstation visits (call-outs / visits),
- Assess risks including the nature and likelihood of harm related to hazards,
- Implement the most effective control measures that are reasonably practicable in the circumstances, and
- Review control measures to ensure they are working as planned.

#### *6.3.2.17 Other:*

In addition to the above topics of interest, three health services had policies that included specific requirements around consultation with their local community and other agencies. This included communication and consultation requirements during the evacuation of clinic staff due to safety concerns, recommendations around community organisations combining resources to improve safety, and requirements for managers to consult with their local community during the normal running of the clinic. “Regularly liaise, consult and record meetings with community councils and other community groups regarding health centre issues and call-out / visit security arrangements on at least a monthly basis and as required” (HS2).

## 6.4 Discussion

While most WHS policy topics were covered by the participating health services, the strategies to address many of those topics varied greatly. Approaches ranged from a brief mention of the safety issue or strategy, without any practical guidance on how to address it, to detailed step-by-step requirements. For example, approaches to psychological safety ranged from an acknowledgement of the stressors faced by RANs (but without any clear commitment around supporting RANs’ psychological health), to detailed preventative strategies for staff and their managers to follow. However, some safety strategies did have widespread coverage in the WHS policies, including those

regarding effective systems of communication, workplace violence prevention and management, incident reporting, and safety training requirements.

Accommodation safety strategies ranged from a sole focus on staff's work processes, to detailed safety and security requirements for the accommodation itself. As discussed in chapter 4 (section 4.3), safe work accommodation was specifically required by the WHS (NUL) Act (2011) and has been identified as a high-risk location for workplace violence (CRANaplus, 2017a), but the RAN survey found this was poorly implemented. As only three of the eight participating health services' WHS policies acknowledged their responsibility regarding safe accommodation, it is possible that many remote health services were not aware of this legislated responsibility.

'Never alone' policies were only enshrined in law within South Australia (Government of South Australia., 2017). Despite this, most of the participating interstate health services also had 'never alone' policies. Almost all those 'never alone' policies were strict, requiring staff to always have a second responder when attending call-outs. However, one health service was very flexible, only requiring staff to have a second responder "where possible". Though interview participants in chapter five (section 5.3.1.4) spoke of the need for policies to be flexible enough to fit the local context and resourcing, they also spoke of how having a strict 'never alone' policy improved their safety. However, a sufficient pool of local drivers is required to ensure strict 'never alone' policies can be implemented without adversely affecting fatigue management and the functioning of the clinic (section 5.3.3.1).

A lack of long-term fatigue management strategies in all but one of the health services highlights the need for a greater focus on this aspect of safety. In chapter 5 (section 5.3.3.1), RANs shared their experiences of the cumulative effect of fatigue when faced with frequent call-outs for days and weeks on end. Several recommendations to address this were identified in the literature, including ensuring call-outs are for emergencies only, sharing on-call responsibilities, flexibility of work hours, and ensuring staff take leave regularly (CRANaplus, 2017b; Department of Health., 2016). The one health service with a policy that outlined strategies for long-term fatigue management used some of those recommendations, namely the flexibility of clinic opening hours and discouraging non-urgent call-outs.

Surprisingly, few health services mentioned fatigue leave (a 10-hour break after an overnight call-out) in their policies, despite the RAN survey identifying this type of short-term fatigue management as a reasonably widespread strategy (section 4.2.2.3). I hypothesise that this omission could be due to fatigue leave being determined by staff's enterprise agreement rather than employers' policies, but further consultation would be required to confirm this.

Lastly, the inconsistencies found in a health service's 'never alone' policies highlight the importance of ensuring clear and consistent messaging across all policies, as inconsistencies have the potential to undermine safety strategies (van Engen et al., 2019).

## 6.5 Strengths and limitations

A strength of this policy review is that it used pre-existing policy documents that were produced by the health services for their own use, reducing the risk of individuals' opinions skewing the data. In this way, the policy documents represented each health service's goals for WHS in their clinics. This enabled an assessment of how well those aspirations matched the recommended safety strategies from the literature. Additionally, comparing health services' WHS goals with the findings from earlier stages of the RASP enabled a more in-depth exploration of the factors which contribute to the successes and failures of WHS strategies.

However, there was a risk of self-selection bias in this study, as most of the eligible health services did not have publicly available policies. Therefore, it is possible that the participating health services had more comprehensive WHS policies than some of those who chose not to participate, potentially skewing the findings.

Additionally, the low participation rate in this policy review limits the generalisability of the findings. While there was a 61.5% participation rate among the eligible government-run health services, none of the 22 eligible Aboriginal Community Controlled Health Organisations (ACCHOs) participated in this stage of the RASP. Understaffing within the RASP was likely a contributing factor, as data collection was conducted by a single researcher. This limited my capacity to spend time building connections with the 35 eligible health services. Although the advice of an Aboriginal board member of one ACCHO was sought during project development, early collaboration with all eligible ACCHOs would have been a better fit with the principles of the *Keeping research on track II* guidelines (NHMRC, 2018).

This gap in consultation directly led to one ACCHO declining to participate, as they felt a previous researcher had misrepresented their data, so were not willing to share their WHS policies when they did not know me. The timing of the RASP was also a limitation, as several health services had research moratoria due to the COVID-19 pandemic. For future research to include the WHS perspectives of ACCHOs, those future studies should be conducted by a team of researchers, with realistic timelines for building relationships with those organisations.

While there was initially an Aboriginal and Torres Strait Islander researcher collaborating on the RASP, she had to withdraw during the early planning stages due to a lack of time. Additionally, several



ACCHOs were unable to participate as their managers did not have time to retrieve and send the WHS policies. To facilitate the participation of Aboriginal and Torres Strait Islander peoples and organisations in future WHS research, future studies could obtain funding to reimburse health services for their managers' time and employ an Aboriginal person from an ACCHO to take a lead role in the development and conduct of that study.

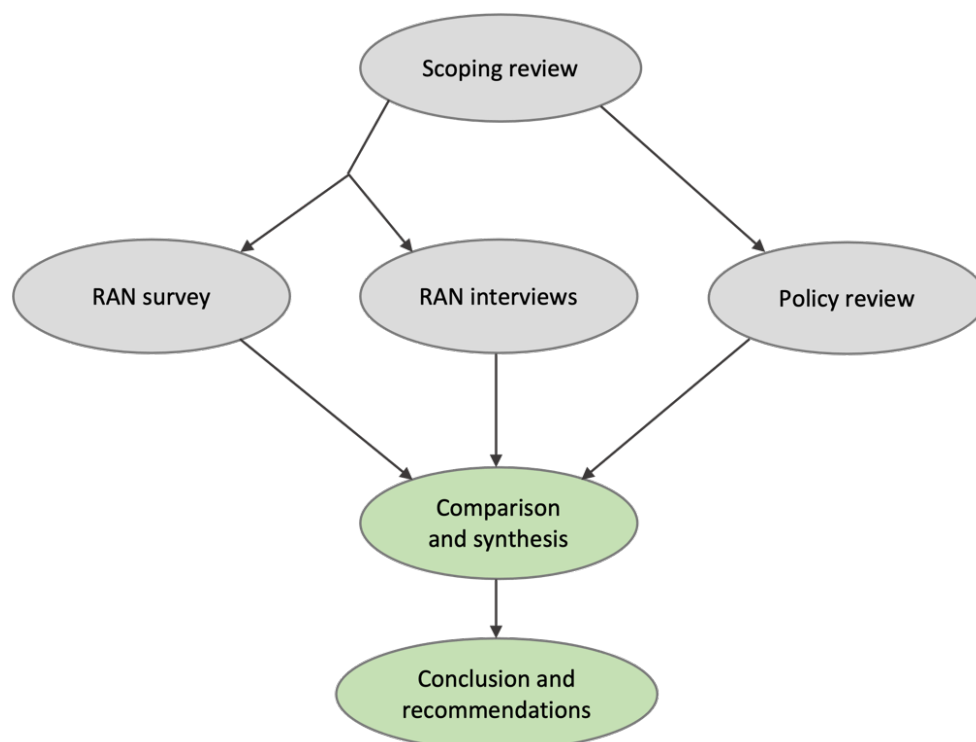
Lastly, this policy review focussed on identifying what safety strategies were included in remote health services' WHS policies. Other policy information was not explored, such as how the policies were developed, who was responsible for monitoring their implementation, and the renewal process. This would be a valuable topic for future research, as chapter 5 highlighted the importance of collaboration in the development of WHS strategies, and management commitment to the implementation and monitoring of those strategies.

## 6.6 Conclusion

Of the 35 Australian remote health services invited to participate in this study, eight provided copies of their WHS policies for inclusion. No non-government health services participated. The included policy documents covered a broad range of WHS topics. While health services' approaches to topics such as workplace violence, communication, and incident reporting were largely uniform, most topics had significant variation in approaches between different health services. Topics such as accommodation safety, fatigue management, safe staffing levels, and psychological safety had particularly broad variation in approaches. Some of that variation was even found between different government-run health services within the same state/territory.

While some recommendations from the literature were well-represented in the policies, for example the uptake of 'never alone' strategies, others such as fatigue management had only been taken on board by a minority of health services. These gaps highlight the need for greater consistency in WHS within the Australian remote health sector.

## Chapter 7. Synthesis and recommendations



### 7.1 Introduction

During the Remote Area Safety Project (RASP), I explored the current approach to WHS in very remote primary health clinics across Australia. My scoping review identified what WHS hazards, risks and recommendations had been identified in the literature for the remote health sector. The survey measured RANs' perceptions of how thoroughly the WHS strategies had been implemented in very remote primary health clinics, the current rates of incidents such as workplace violence, and RANs' wellbeing. The survey also explored the association between WHS and RANs' wellbeing. The interviews explored RANs' experiences of the implementation of WHS strategies and policies, including the factors they found to be barriers or enablers to safe practice, the safety of the work environment, and their psychological safety. Lastly, the policy review identified what WHS policies and procedures were in place in the remote clinics, exploring the health services' perspective of their WHS priorities.

In this final chapter, I compare and synthesise the findings of the different stages of the RASP and draw conclusions from them. First, gaps in the implementation of the recommended safety strategies are highlighted, to inform future efforts to improve WHS in the remote health sector. The project's

recommendations are then outlined, including suggested future directions for remote health stakeholders and researchers.

## 7.2 Findings and implications

### 7.2.1 Gaps in the implementation of recommendations

Across all stages of the project, there were gaps between what WHS strategies had been recommended and what had been implemented. The survey illustrated this most clearly, where on average only 53% of the recommended preventative WHS strategies had been met. These gaps were somewhat mirrored in health services' WHS policies. Although most broad WHS recommendations had surface-level inclusion in the policies, many did not include any specific guidance for managers or staff on how to achieve those recommendations or assess their implementation. While the greater autonomy granted by flexible or non-specific policies may improve frontline staff's perception of those policies in some circumstances (van Engen et al., 2019), a lack of specific requirements within the policies may encourage tokenism or force staff to 'reinvent the wheel'. Conversely, policies with detailed safety requirements were also seen as inappropriate if not adequately resourced or suited to the local context. This highlights the importance of finding a balance where the policies are flexible enough to be feasible given the realities of the work, but not at the expense of having enforceable minimum requirements to ensure the safety of staff.

Of the strategies to address isolation, 'never alone' was the newest within the literature, but also the most widely implemented. This is likely because 'never alone' strategies were the centrepiece of the call for change following Gayle Woodford's murder in 2016, resulting in the formation of Gayle's Law in South Australia and 'never alone' policies in the Northern Territory (Clark, 2018). Other recommendations to address isolation had a much longer history within the literature (chapter 2, section 2.2.2.2), but all except for having good communication systems for travel outside the clinic, had poor uptake. Examples include having access to relief staff to reduce burnout and having phone and internet access in staff accommodation. However, like most of the WHS recommendations for remote health, these were based on expert opinion, with little to no quantitative evidence of their efficacy (CRANApplus, 2017a; Department of Health., 2016; Fisher et al., 1995; McCullough et al., 2012a; NHMRC, 2002).

Expert opinion is a valuable tool for policy development (Fischer et al., 2014). By seeking out and incorporating the perspectives of stakeholders, policymakers can reduce the risks to a policy's implementation. However, such collaboration is not free of bias (Fischer et al., 2014), and is only one

of the necessary factors for successful policy design (Hudson et al., 2019). The use of good quality evidence in policy development, realistic plans for implementation, and adequate resourcing can be key factors in a policy's success. Without a strong evidence base for the WHS recommendations in remote health, the importance of an iterative, continuous quality improvement approach to policy design and implementation is highlighted (Hudson et al., 2019).

**Recommendation 1: The remote health sector should use an iterative, continuous quality improvement approach in the design, implementation and review of WHS policies.**

In addition to the gaps between WHS recommendations and policies, the significant gaps between WHS policies and practice highlight the urgent need for a continuous quality improvement approach to WHS in remote health. For example, while the safe infrastructure domain had the highest compliance rate in the survey compared to other domains, there were still significant gaps. Although 43% of the survey participants experienced an accommodation break-in while working in a remote clinic in 2020, only three health services in the policy review included requirements for safe staff accommodation. Maintenance was also a particularly widespread issue, as only 62% of participants had well-maintained clinic buildings, 58% for accommodation, and 56% for the clinic vehicle. Additionally, many interview participants described their struggles when requesting maintenance. Barriers included the attitude 'this is just how it is' around unsafe infrastructure or equipment, and managers ignoring maintenance requests. Enablers included staff reporting hazards and maintenance issues, and managers prioritising safety upgrades when funds became available.

Orientation and training related to WHS risks were also found to be poorly implemented strategies. Although all the health services who participated in the policy review included a requirement for orientation and most specified some WHS orientation topics, 31% of survey participants did not receive an orientation. Even where it was offered, many orientations did not include the suggested WHS information. This also held true for safety training. All health services from the policy review included requirements for safety training, but only 33% of those recommendations were met in the survey. Cultural awareness training was most common, received by 61% of participants. It is notable that this training was recommended for the safety of patients as well as RANs, and also that the rate was still so low, given that RANs usually practice in remote Aboriginal or Torres Strait Islander communities (Lenthall et al., 2011). Training in WHS topics like using and troubleshooting the emergency communications equipment was even less common, at only 30% of participants.

Another key recommendation from the literature included role-specific training for managers, to ensure they have the skills and knowledge to be effective and supportive of their staff. However, there was little evidence that this strategy had been taken on board by remote health services. In the policy

review, two health services included training for supportive management in their WHS policies. In the interviews, only two RANs spoke of experiencing supportive management from those above clinic manager level (as clinic managers were also RANs working in community). Clinic managers were usually spoken of as being supportive and acted as a buffer between clinic staff and upper management. The frustrations of senior RANs and clinic managers towards upper management were summarised by participant 13's exclamation:

Much of management is dissociated, it sits in regional centres and just doesn't get it. They've either *never* worked remote or worked a *minimum* of remote or worked remote so long ago they've *forgotten*. (Participant 13)

In the literature, a strong safety culture was highlighted as essential to WHS. This was seen to occur where WHS was valued and promoted by organisations, managers and staff. However, during the interviews, several RANs shared their experiences of workplaces where one or more levels of the organisation did not have a strong safety culture. For example, participant 2 stated that "any policies around safety, any concerns you may have around the delivery of service or anything, it really falls on deaf ears because you're [an] agency [RAN]."

And I've been told that ['never alone'] is a guideline and not a necessity... the culture around that was, it was discouraged to call the second person in, and you were encouraged to see clients alone after hours. (Participant 12)

### 7.2.2 A failure in risk management

The outcome of the call for change following Gayle Woodford's murder highlighted a 'band-aid' approach to WHS within much of the remote health sector. While the spread of 'never alone' policies in many clinics addressed one of the significant risks faced by RANs, this project found that there are many more risks that have seen little action. Despite the identification of widespread risks by researchers, professional bodies, and even some health services, there was little evidence that the suggested recommendations had been systematically implemented. Nor were there formal assessments of their efficacy, or explorations of unintended consequences. However, as the survey showed, RANs were still frequently experiencing WHS incidents.

This failure in risk management is a problem that is not limited to the remote health sector, or to Australia. Fixing the immediate cause of an incident without addressing the underlying flaws in the risk management process that allowed the incident to occur, is a widespread issue internationally (Hubbard, 2020). Risk assessments are commonly qualitative, including the risk management

approach used for WHS in Australia (Safe Work Australia., 2020a). While basing risk assessments predominantly on expert opinion potentially enables them to reflect evolving or emerging risks, it relies on the accuracy of those experts' risk perception. The problem with this is that people's risk perception is generally very inaccurate, influenced by factors such as optimism bias, the immediacy of the adverse event, and how the risk is framed (Drakopoulos & Theodossiou, 2012). When the outcomes of risk management strategies are not rigorously and regularly assessed, employers may falsely believe the strategies are effective (Hubbard, 2020).

**Recommendation 2: The remote health sector should establish a process for assessing the efficacy of its WHS strategies. Those findings should be disseminated in a timely manner to assist with the implementation of recommendation 1.**

### 7.2.3 Risk perception and organisational safety climate

The underlying influence of risk perception and health services' safety climate was a thread that was woven throughout this project. The impact of risk perception on safety behaviour has been explored in fields outside the remote health sector, with significant parallels to the findings of this project. Individuals' perception of the risks associated with a role or task has been found to influence their uptake of the safety behaviours recommended to mitigate those risks (Lee et al., 2021; Xie et al., 2020).

A lack of awareness among novice RANs of the risks associated with their role potentially placed them at heightened risk of experiencing incidents (Lee et al., 2021). On average, only 33% of safety orientation recommendations had been met for the RANs in the survey. The interviews also found poor organisational safety communication to be a widespread issue, as all but two of the participating RANs did not realise the risks associated with their role until after they'd started working in remote clinics. Some had WHS policy frameworks to ease the way, but others had to work it out themselves, by learning from near misses, incidents, and sharing stories with other RANs.

Despite the poor start, RANs generally reported a good workplace safety culture within the clinic team, with little regional variation. During the interviews, RANs provided many examples of their colleagues looking out for each other, though not all followed this norm. Contrastingly, the perceived workplace safety climate within the health service itself varied greatly across different regions. These survey findings were corroborated by the interviews, where RANs spoke of stark differences in approaches to WHS between different health services. With only one exception, RANs in health services with a poor attitude towards WHS spoke of how individual staff stepped forward to encourage safer practices

within their clinic. However, this was seen to be less effective than when the health service itself championed workplace safety.

Research in other sectors has found that a good safety climate has a mediating effect on the impact of risk perception on safety behaviours. This meant that even when individuals perceived the risks to be low, they still practiced safe behaviours when surrounded by a strong safety climate (Xie et al., 2020). However, in this study within the remote health WHS context, low perceived risk also appeared to negatively impact the health service's safety culture. I hypothesise that in the absence of a strong evidence base for safety strategies, and with a lack of consistency in those strategies within the sector, health services' approaches to WHS are largely driven by risk perception. The reported dissociation between health service management and their staff only seemed to worsen this, as many RANs felt their concerns were not being heard or acted upon.

Previous WHS literature found that management commitment (i.e. their attitude and actions) to WHS is a key determinant of the safety behaviour and injury rates of staff (Lee et al., 2021). A strength of this project is that by quantifying the hazards and risks, the RAN survey results may raise awareness of those risks, with the aim of improving health services' attitudes towards WHS. Importantly, this project provides evidence of the likelihood of harm occurring, an essential consideration within risk assessments (Safe Work Australia., 2020a). The high rates of incidents identified in the survey demonstrate there is a high likelihood of harm occurring to RANs in remote clinics. Raising awareness of this among employers and RANs could enable more accurate risk perceptions and hopefully lead to a more proactive approach to WHS within the remote health sector.

## 7.3 Recommendations

### 7.3.1 Create a national WHS standard for remote clinics

The main recommendation arising from this project is that a set of national WHS standards for the remote health sector needs to be established. This could be similar to the National Safety and Quality Health Service standards for clinical practice. Remote health services, professional bodies and WHS bodies should come together to create a set of minimum safety standards that all very remote primary health clinics should be expected to meet, supported by a suite of best-practice WHS recommendations. However, given the weak evidence supporting those WHS recommendations, the standards will likely require regular review while their implementation builds the evidence base.

While some variation in safety strategies between clinics was found to be necessary to ensure they are applicable to the local context, several strategies would be a reasonable expectation throughout

the sector. For example, all remote health services should have a 'never alone' policy, and basic accommodation safety such as effective locks, fire alarms, and security screens on the doors and windows would also be reasonable expectations.

However, collaborative development of the WHS standards will be essential. In the WHS literature, employee's safety behaviour was strongly associated with their perception of the efficacy and applicability of their organisation's safety strategies (O'Keeffe et al., 2015; Real, 2008), a finding that also emerged in the RASP (chapter 5, section 5.3.2.1). In a previous study, staff with a greater belief in the efficacy of the safety strategies were significantly more likely to seek out safety information and practice safe workplace behaviours (Real, 2008).

Development of strategies that maximise staff safety while minimising any negative impacts on patient care is also likely to be of key importance to the adoption of those strategies. A study of hospital-based nurses found that official WHS procedures were disregarded when they conflicted with nurses' priorities around patient care (O'Keeffe et al., 2015). This norm was reinforced when management ignored or condoned those instances of non-compliance with the safety strategies. In the RASP, some RANs also spoke of legal or ethical concerns around delaying care to ensure staff safety, such as during call-outs, especially when there was no policy to back up their decision.

To ensure WHS standards for remote health reflect the reality of the work while meeting WHS requirements, input from the health services, professional bodies, WHS bodies, and current remote health practitioners will be needed. The standards could also be supported by model WHS policies, based on best-practice safety strategies. Instead of reinventing the wheel, health service managers would then be able to take the model policies to their staff for input on how to optimise the policies to fit their local context. This approach would allow health services to proactively identify and resolve barriers to implementation like those identified in the interviews.

I can understand why you'd develop a policy for an ideal circumstance, but... it just is not fitting reality... Whether you have a tiered policy, where you go, 'okay this is ideal, however if you're in this circumstance, this is what you should do.' Kind of harm minimisation...  
(Participant 12)

To use manual handling as an example, if a model policy required the use of a lifter to pick up immobile patients, but the clinic did not have a lifter, a collaborative decision should be made on whether the health service should purchase a lifter for the clinic or change the policy to require a different method for safely lifting patients.



Where funding is required to implement WHS strategies, national WHS standards for remote clinics could provide health services with a stronger argument when requesting funds to do so.

**Recommendation 3: A national WHS standard for remote clinics should be developed, in collaboration with health services, professional bodies, WHS bodies, and current remote health practitioners. This should provide a set of minimum safety standards for clinics to be assessed against, supported by a suite of model WHS policies based on best-practice safety strategies.**

### 7.3.2 Monitor compliance

Measures to monitor compliance with WHS strategies are likely to be an important factor for their implementation, as seen in section 7.2.3. A similar tool to the workplace safety score could be developed to measure health services' compliance with the WHS standard for remote clinics. The score could become a benchmarking system to help health services monitor their progress against the suggested best-practice and flag instances where the minimum standards were not met.

For added transparency, those safety scores should be made publicly available. Remote health is a notoriously understaffed sector, characterised by high turnover (Russell et al., 2017). In this project, poor workplace safety was identified as a contributing factor to high turnover, and participants in clinics with a lower safety score were significantly less likely to recommend their clinic to other RANs.

Anecdotally, advice about desirable workplaces for RANs is mainly shared by word of mouth and social media. Public, sector wide use of a WHS score or similar benchmarking system could enable safe clinics to attract more staff, and help RANs make informed decisions when agreeing to work in unsafe clinics. This could encourage unsafe clinics to prioritise safety improvements.

**Recommendation 4: Health services' compliance with the WHS standard should be monitored and publicly reported.**

I believe that improving WHS in remote clinics will be essential for the ongoing sustainability of the RAN workforce. Along with their Aboriginal and Torres Strait Islander Health Practitioner/Health Worker colleagues, RANs provide or facilitate all healthcare in their local communities (CRANApplus, 2017a; NHMRC, 2002). Improving the working conditions in remote clinics will likely be an important step in improving health outcomes in remote Australia. Previous research has found that high turnover and occupational stress are barriers to good quality health care (Beattie et al., 2018; Davy et al., 2016; Lenthall et al., 2009), while poor WHS worsens these issues (Kurti et al., 2012; Opie et al., 2010a).

This project found significant WHS gaps in very remote primary health clinics, even among safety measures specifically required by existing WHS legislation. I believe these longstanding safety issues and lack of action around WHS in remote clinics highlight the undervaluing of nurses within the healthcare system. Given the ramifications of poor WHS for nurses, other clinic staff, and the wider community, improved enforcement of the existing WHS legislation is needed.

**Recommendation 5: WHS regulators should conduct targeted monitoring of all remote health services' compliance with existing WHS legislation. Enforcement actions should be taken to resolve the breaches.**

### 7.3.3 Future research

My final recommendations involve filling some of the remaining gaps in the literature. First, there is very little literature exploring the safety perspectives of clinic staff other than RANs. Given the central role of Aboriginal or Torres Strait Islander Health Practitioners, Health Workers, drivers and support staff in remote clinics, learning about their perspectives will be necessary to create strategies that keep *all* staff safe.

Studies exploring how workplace safety is achieved in other sectors and in remote clinics outside Australia could provide an opportunity for benchmarking, or a fresh perspective on potential WHS strategies that could be adapted.

Importantly, there is currently limited evidence regarding the effectiveness of the recommended safety strategies at preventing incidents in a remote health setting. In 2002, the NHMRC report stated, “the quality and extent of the literature is not sufficient to use as the basis for recommendations...” (p1). Little has changed since then, as many of the existing recommendations are based on expert opinion with no implementation studies to assess their impact in practice (chapter 2, section 2.3). Therefore, implementation studies and documented quality improvement activities in remote clinics would provide greater insights into how best to improve WHS in that setting.

**Recommendation 6: Further research should strengthen the evidence base around WHS in remote health and explore the perspectives of a wider range of stakeholders.**

## 7.4 Strengths and limitations

As a cross-sectional study, the Remote Area Safety Project (RASP) was unable to objectively assess the impact of WHS on RANs or assess the efficacy of safety strategies. However, the RASP has provided a

valuable snapshot of the current state of WHS within Australian very remote primary health clinics. Identifying what safety strategies were in place, RANs experiences of the strengths, weaknesses, barriers, and enablers of those strategies, and the gaps and strengths within health services' WHS policies, enabled the RASP to provide nuanced insights into the underlying factors that shape WHS in remote clinics. This enabled the identification of pathways for future improvements.

Under-representation of some stakeholders in the RASP was another limitation. Due to time and staffing constraints, the project was limited to exploring the perspective of RANs and their employers. Therefore, the views of Aboriginal or Torres Strait Islander Health Practitioners, Health Workers, clinic support staff, and the wider community were not explored within the RASP. Additionally, the convenience sampling technique used for the survey meant that some regions were under-represented in the results. In the policy review, only the government-run health services were represented.

## 7.5 Conclusion

The Remote Area Safety Project has explored the current approaches to WHS in very remote primary health clinics within Australia, from the perspectives of RANs and their employers. Existing knowledge of the WHS risks faced by RANs were identified. The survey added to that knowledge and found that most of the recommendations to address those WHS risks did not have widespread implementation. In the interviews, RANs shared their perspectives of the strengths, weaknesses, barriers, and enablers of the current approach to WHS within the remote health sector. These were compared with the WHS policies of Australian remote health services. The combination of the survey, interviews and policy review allowed an exploration of both the nuance of the individual safety strategies, and the underlying structures that formed the sector's approach to WHS in remote clinics.

This project has found that significant gaps remain in the safety of RANs, despite decades of research and ongoing exposure to high levels of risk. To improve safety in remote clinics, I believe that a structural change in how the sector handles WHS is required. My recommendations for how to achieve this are:

1. The remote health sector should use an iterative, continuous quality improvement approach in the design, implementation and review of WHS policies.
2. The remote health sector should establish a process for assessing the efficacy of its WHS strategies. Those findings should be disseminated in a timely manner to assist with the implementation of recommendation 1.

3. A national WHS standard for remote clinics should be developed, in collaboration with health services, professional bodies, WHS bodies, and current remote health practitioners. This should provide a set of minimum safety standards for clinics to be assessed against, supported by a suite of model WHS policies based on best-practice safety strategies.
4. Health services' compliance with the WHS standard should be monitored and publicly reported.
5. WHS regulators should conduct targeted monitoring of all remote health services' compliance with existing WHS legislation. Enforcement actions should be taken to resolve the breaches.
6. Further research should strengthen the evidence base around WHS in remote health and explore the perspectives of a wider range of stakeholders.

In conclusion, a collaboratively developed national WHS standard for remote clinics, with rigorous publicly visible monitoring, could lead to widespread positive change. Additionally, future implementation of WHS strategies in remote clinics should be paired with research to strengthen the currently weak evidence base. Strong evidence leads to strong recommendations, which are required to create binding standards. This work is essential to help secure a sustainable workforce in the remote health sector.

## References

- Adams, M., Lazarsfeld-Jensen, A., & Francis, K. (2019). The implications of isolation for remote industrial health workers. *Rural and Remote Health*, 19(2). Article 5001. <https://doi.org/https://doi.org/10.22605/RRH5001>
- Alpern, R., Canavan, M. E., Thompson, J. T., McNatt, Z., Tatek, D., Lindfield, T., & Bradley, E. H. (2013). Development of a brief instrument for assessing healthcare employee satisfaction in a low-income setting. *PLoS One*, 8(11). <https://doi.org/https://doi.org/10.1371/journal.pone.0079053>
- Australian Institute of Health and Welfare. (2019). *Rural & remote health (PHE 255)*. <https://www.aihw.gov.au/reports/rural-remote-australians/rural-remote-health/contents/profile-of-rural-and-remote-australians>
- Beattie, J., Innes, K., Griffiths, D., & Morphet, J. (2018). Healthcare providers' neurobiological response to workplace violence perpetrated by consumers: Informing directions for staff well-being. *Applied Nursing Research*, 43, 42-48. <https://doi.org/http://dx.doi.org/10.1016/j.apnr.2018.06.019>
- Berger, R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219-234. <https://doi.org/https://doi.org/10.1177/1468794112468475>
- Bøe, T. D. (2021). Ethical realism before social constructionism. *Theory & Psychology*, 31(2), 220-236. <https://doi.org/10.1177/09593543211004756>
- Braun, V., & Clarke, V. (2021a). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, 21(1), 37-47. <https://doi.org/10.1002/capr.12360>
- Braun, V., & Clarke, V. (2021b). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample size rationales. *Qualitative Research in Sport, Exercise and Health*, 13(2), 201-216. <https://doi.org/10.1080/2159676X.2019.1704846>
- Clark, M. (2018). Never alone: Gayle Woodford's legacy to remote area nurses. *ABC News*. <https://www.abc.net.au/news/2018-03-05/gayle-woodfords-legacy-for-remote-area-nurses/9499592?nw=0>
- Cooper, S., Cant, R., Kelly, M., Levett-Jones, T., McKenna, L., Seaton, P., & Bogossian, F. (2019). An evidence-based checklist for improving scoping review quality. *Clinical Nursing Research*, 30(3), 230-240. <https://doi.org/https://doi.org/10.1177/1054773819846024>
- Coroner's Court of South Australia. (2021). *Inquest into the death of Gayle Elizabeth Woodford* (Inquest no. 39/2019 (0555/2016)). <https://www.courts.sa.gov.au/wp-content/uploads/download-manager-files/WOODFORD%20Gayle%20Elizabeth.pdf>
- CRANaplus. (2017a). *Remote health workforce safety and security report: Literature review, consultation and survey report*. <https://crana.org.au/uploads/pdfs/Remote-Health-Workforce-Safety-Security-Report-January-2017-5c4e6cc07ef30b87cf919ca42084a0a0.pdf>
- CRANaplus. (2017b). *Safety and security guidelines for remote and isolated health*. <https://old2021.crana.org.au/uploads/pdfs/2017-SS-Guidelines-for-Remote-Isolated-Health.pdf>
- Curry, L., & Nunez-Smith, M. (2017). Definition and overview of mixed methods designs. In L. Curry & M. Nunez-Smith (Eds.), *Mixed Methods in Health Sciences Research: A Practical Primer*, 3-36. SAGE Publications, Inc. <https://doi.org/10.4135/9781483390659>
- Davy, C., Cass, A., Brady, J., DeVries, J., Fewquandie, B., Ingram, S., Mentha, R., Simon, P., Rickards, B., Togni, S., Liu, H., Peiris, D., Askew, D., Kite, E., Sivak, L., Hackett, M., Lavoie, J., & Brown, A. (2016). Facilitating engagement through strong relationships between primary healthcare and Aboriginal and Torres Strait Islander peoples. *Australian and New Zealand Journal of Public Health*, 40(6), 535-541. <https://doi.org/https://doi.org/10.1111/1753-6405.12553>

- Department of Health. (2016). *Remote Area Nurse Safety: On-call after hours security* [Internal Report]. Northern Territory Government.  
<https://digitallibrary.health.nt.gov.au/prodjspui/handle/10137/927?mode=full>
- Department of Health. (2019). *Health workforce locator*.  
<https://www.health.gov.au/resources/apps-and-tools/health-workforce-locator/health-workforce-locator>
- Department of Lands and Planning. (2010). Community safety design guide.  
[https://nt.gov.au/\\_data/assets/pdf\\_file/0004/228937/community-safety-design-guide.pdf](https://nt.gov.au/_data/assets/pdf_file/0004/228937/community-safety-design-guide.pdf)
- Dodgson, J. (2019). Reflexivity in Qualitative Research. *Journal of Human Lactation*, 35(2), 220-222.  
<https://doi.org/https://doi.org/10.1177/0890334419830990>
- Drakopoulos, S. A., & Theodossiou, I. (2012). Workers' risk underestimation and occupational health and safety regulation. *European Journal of Law and Economics*, 41(3), 641-656.  
<https://doi.org/10.1007/s10657-012-9379-3>
- Drisko, J., & Maschi, T. (2015). *Content Analysis*. Oxford University Press.  
<https://doi.org/10.1093/acprof:oso/9780190215491.001.0001>
- Fischer, A. R. H., Wentholt, M. T. A., Rowe, E. J., & Frewer, L. J. (2014). Expert involvement in policy development: A systematic review of current practice. *Science & Public Policy*, 41(3), 332-343. <https://doi.org/10.1093/scipol/sct062>
- Fisher, J., Bradshaw, J., Currie, B., Klotz, J., Robins, P., Searl, K., & Smith, J. (1995). "Context of silence:" violence and the Remote Area Nurse. *Central Queensland University*.  
<https://www.semanticscholar.org/paper/%22Context-of-silence%22-%3A-violence-and-the-remote-area-Fisher-Bradshaw/9af32231b78172bdbc4b1dcb8e246aae9e36da6c>
- Franche, R.-L., Murray, E., Ostry, A., Ratner, P., Wagner, S., & Harder, H. (2010). Work disability prevention in rural areas: A focus on healthcare workers. *Rural and Remote Health*, 10(4), 1-24. <https://www.rrh.org.au/journal/article/1502>
- Fyles, N. (2017, 31/03/2017). *Remote Area Nurse safety review: Implementation update*  
<https://www.anmfnt.org.au/news/2017/apr/6/remote-area-nurse-safety-review-implementation-update>
- Health Practitioner Regulation National Law (South Australia) (Remote Area Attendance) Amendment Act, (2017).  
[https://www.legislation.sa.gov.au/LZ/V/A/2017/HEALTH%20PRACTITIONER%20REGULATION%20NATIONAL%20LAW%20\(SOUTH%20AUSTRALIA\)%20\(REMOTE%20AREA%20ATTENDANCE\)%20AMENDMENT%20ACT%202017\\_56/2017.56.UN.PDF](https://www.legislation.sa.gov.au/LZ/V/A/2017/HEALTH%20PRACTITIONER%20REGULATION%20NATIONAL%20LAW%20(SOUTH%20AUSTRALIA)%20(REMOTE%20AREA%20ATTENDANCE)%20AMENDMENT%20ACT%202017_56/2017.56.UN.PDF)
- Herath, P., Forrest, L., McRae, I., & Parker, R. (2011). Patient Initiated Aggression: Prevalence and Impact for General Practice Staff. *Australian Family Physician*, 40(6), 415-418.
- Hill, K., Callope, T., Callope, D., & Cliffe, C. (2018). *Community night patrol workforce safety report: Literature review and consultation results*. CRANAplus.  
<https://crana.org.au/uploads/images/Community-Night-Patrol-Workforce-Safety-Report.pdf>
- Hubbard, D. W. (2020). *The failure of risk management: Why it's broken and how to fix it* (Second edition ed.). Wiley.
- Hudson, B., Hunter, D., & Peckham, S. (2019). Policy failure and the policy-implementation gap: can policy support programs help? *Policy Design and Practice*, 2(1), 1-14.  
<https://doi.org/10.1080/25741292.2018.1540378>
- Jacob, A., Vafeas, C., Stoneman, L., & Jacob, E. (2020). Rural dialysis nurses' experiences with challenging patients: A thematic qualitative analysis. *Renal Society of Australasia Journal*, 16(1), 13-19. <https://doi.org/10.33235/rsaj.16.1.13-19>
- Kerrigan, V., Lewis, N., Cass, A., Hefler, M., & Ralph, A. P. (2020). "How can I do more?" Cultural awareness training for hospital-based healthcare providers working with high Aboriginal caseload. *BMC Medical Education*, 20(1). <https://doi.org/https://doi.org/10.1186/s12909-020-02086-5>

- Koch, T. (2009). Threat to raped Torres Strait nurse was ignored. *News.com.au*. Retrieved 11 Nov 2020, from <https://www.news.com.au/national/threat-to-raped-nurse-was-ignored/news-story/678f5df3d4accfcddf577ab80d33b116?sv=c4297a788b020516a5bc55b643c616f5>
- Kurti, L., Holloway, L., & McAtamney, A. (2012). *Working safe in rural and remote Australia: Final report*.  
[https://web.archive.org/web/20180315041327/https://crana.org.au/files/pdfs/RDAA\\_draft\\_final\\_report\\_-\\_October\\_2012\\_20121018030356\(1\).pdf](https://web.archive.org/web/20180315041327/https://crana.org.au/files/pdfs/RDAA_draft_final_report_-_October_2012_20121018030356(1).pdf)
- Lee, E. W. J., Zheng, H., Aung, H. H., Seidmann, V., Li, C., Aroor, M. R., Lwin, M. O., Ho, S. S., & Theng, Y.-L. (2021). Examining organizational, cultural, and individual-level factors related to workplace safety and health: A systematic review and metric analysis. *Health Communication*, 36(5), 529-539. <https://doi.org/10.1080/10410236.2020.1731913>
- Lenthall, S., Wakerman, J., Dollard, M. F., Dunn, S., Knight, S., Opie, T., Rickard, G., & MacLeod, M. (2018). Reducing occupational stress among registered nurses in very remote Australia: A participatory action research approach. *Collegian*, 25(2), 181-191.  
<https://doi.org/http://dx.doi.org/10.1016/j.colegn.2017.04.007>
- Lenthall, S., Wakerman, J., Opie, T., Dollard, M., Dunn, S., Knight, S., MacLeod, M., & Watson, C. (2009). What stresses remote area nurses? Current knowledge and future action. *Australian Journal of Rural Health*, 17(4), 208-213. <https://doi.org/http://dx.doi.org/10.1111/j.1440-1584.2009.01073.x>
- Lenthall, S., Wakerman, J., Opie, T., Dunn, S., MacLeod, M., Dollard, M., Rickard, G., & Knight, S. (2011). Nursing workforce in very remote Australia, characteristics and key issues. *Australian Journal of Rural Health*, 19(1), 32-37. <https://doi.org/http://dx.doi.org/10.1111/j.1440-1584.2010.01174.x>
- McCullough, K. M., Lenthall, S., Williams, A. M., & Andrew, L. (2012a). Reducing the risk of violence towards remote area nurses: A violence management toolbox. *Australian Journal of Rural Health*, 20(6), 329-333. <https://doi.org/http://dx.doi.org/10.1111/j.1440-1584.2012.01313.x>
- McCullough, K. M., Williams, A. M., & Lenthall, S. (2012b). Voices from the bush: remote area nurses prioritise hazards that contribute to violence in their workplace. *Rural and Remote Health*, 12(2). <https://doi.org/https://doi.org/10.22605/RRH1972>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *BMJ*, 339(7716).  
<https://doi.org/https://doi.org/10.1136/bmj.b2535>
- Munn, Z., Peters, M. D. J. S., C, Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, 18(143).  
<https://doi.org/10.1186/s12874-018-0611-x>
- NHMRC. (2002). *When it's right in front of you : Assisting health care workers to manage the effects of violence in rural and remote Australia*. [http://atdc.org.au/wp-content/uploads/2014/05/2015\\_07\\_03\\_EVENT\\_ARTICLE\\_When-its-right-in-front-of-you.pdf](http://atdc.org.au/wp-content/uploads/2014/05/2015_07_03_EVENT_ARTICLE_When-its-right-in-front-of-you.pdf)
- NHMRC. (2007). *National Statement on Ethical Conduct in Human Research (2007) - Updated 2018*.  
<https://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018>
- NHMRC. (2018). Keeping research on track II: A companion document to *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders*. <https://www.nhmrc.gov.au/about-us/resources/keeping-research-track-ii>
- O'Keeffe, V. J., Thompson, K. R., Tuckey, M. R., & Blewett, V. L. (2015). Putting safety in the frame: Nurses' sensemaking at work. *Global Qualitative Nursing Research*, 2.  
<https://doi.org/10.1177/2333393615592390>

- Opie, T., Dollard, M., Lenthall, S., & Knight, S. (2013). Occupational Stress in Remote Area Nursing: Development of the Remote Area Nursing Stress Scale (RANSS). *Journal of Nursing Measurement, 21*(2), 246-263. <https://doi.org/https://doi.org/10.1891/1061-3749.21.2.246>
- Opie, T., Dollard, M., Lenthall, S., Wakerman, J., Dunn, S., Knight, S., & MacLeod, M. (2010a). Levels of occupational stress in the remote area nursing workforce. *Australian Journal of Rural Health, 18*(6), 235-241. <https://doi.org/https://doi.org/10.1111/j.1440-1584.2010.01161.x>
- Opie, T., Lenthall, S., Dollard, M., Wakerman, J., MacLeod, M., Knight, S., Dunn, S., & Rickard, G. (2010b). Trends in workplace violence in the remote area nursing workforce. *Australian Journal of Advanced Nursing, 27*(4), 18-23.
- Petrie, E., Schultz, T., & Pearson, A. (2009). Informing and implementing policy to advance mental health and wellbeing through action research in a rural remote community mental health setting. *Australasian Psychiatry, 17*, 112-115. <https://doi.org/https://doi-org.elibrary.jcu.edu.au/10.1080/10398560902948373>
- PresentationGo. (2021). *Australia editable PowerPoint map*. <https://www.presentationgo.com/presentation/australia-editable-powerpoint-map/>
- Queensland Health. (2016). *Occupational Violence Prevention in Queensland Health's Hospital and Health Services: Taskforce report*. Queensland Government. [https://www.health.qld.gov.au/\\_data/assets/pdf\\_file/0024/443265/occupational-violence-may2016.pdf](https://www.health.qld.gov.au/_data/assets/pdf_file/0024/443265/occupational-violence-may2016.pdf)
- Querstret, D., O'Brien, K., Skene, D. J., & Maben, J. (2020). Improving fatigue risk management in healthcare: A systematic scoping review of sleep-related/fatigue-management interventions for nurses and midwives. *International Journal of Nursing Studies, 106*, 1-16. <https://doi.org/https://doi.org/10.1016/j.ijnurstu.2019.103513>
- Real, K. (2008). Information seeking and workplace safety: A field application of the risk perception attitude framework. *Journal of Applied Communication Research, 36*(3), 339-359. <https://doi.org/10.1080/00909880802101763>
- Russell, D. J., Zhao, Y., Guthridge, S., Ramjan, M., Jones, M. P., Humphreys, J. S., & Wakerman, J. (2017). Patterns of resident health workforce turnover and retention in remote communities of the Northern Territory of Australia, 2013-2015. *Human Resources for Health, 15*(1), 1-12. <https://doi.org/https://doi.org/10.1186/s12960-017-0229-9>
- Safe Work Australia. (2013). *Guide for managing the risk of fatigue at work*. <https://www.safeworkaustralia.gov.au/system/files/documents/1702/managing-the-risk-of-fatigue.pdf>
- Safe Work Australia. (2020a). *How to manage work health and safety risks Code of Practice*. Northern Territory Government Gazette. <https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice/how-to-manage-work-health-and-safety-risks>
- Safe Work Australia. (2020b). *Managing the work environment and facilities Code of Practice*. Northern Territory Government Gazette. <https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice/managing-the-work-environment-facilities>
- Safe Work Australia. (2020c). *Work health and safety consultation, cooperation and coordination Code of Practice*. Northern Territory Government Gazette. <https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice/work-health-and-safety-consultation,-cooperation-and-coordination>
- Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: Appropriate use and interpretation. *Anesthesia and Analgesia, 126*(5), 1763-1768. <https://doi.org/10.1213/ANE.0000000000002864>
- Silverman, D. (2019). *Interpreting qualitative data* (6th ed.). Sage.
- Terry, D., Quynh, L., Uyen, N., & Ha, H. (2015). Workplace health and safety issues among community nurses: a study regarding the impact on providing care to rural consumers. *BMJ Open, 5*. Article e008306. <https://doi.org/https://doi.org/10.1136/bmjopen-2015-008306>



- Timmins, P., Hogan, A., Duong, L., Miller, P., Kearney, G., & Armstrong, F. (2008). *Occupational health and safety risk factors for rural and metropolitan nurses: comparative results from a national nurses survey*.  
[https://www.safeworkaustralia.gov.au/system/files/documents/1702/ohsrisk\\_factors\\_rural\\_metropolitannurses\\_comparativeresults\\_nationalnursesurvey\\_2008\\_pdf.pdf](https://www.safeworkaustralia.gov.au/system/files/documents/1702/ohsrisk_factors_rural_metropolitannurses_comparativeresults_nationalnursesurvey_2008_pdf.pdf)
- van Engen, N., Steijn, B., & Tummers, L. (2019). Do consistent government policies lead to greater meaningfulness and legitimacy on the front line? *Public Administration*, 97(1), 97-115.  
<https://doi.org/10.1111/padm.12570>
- Weymouth, S., Davey, C., Wright, J., Nieuwoudt, L. A., Barclay, L., Belton, S., Svenson, S., & Bowell, L. (2007). What are the effects of distance management on the retention of remote area nurses in Australia? *Rural and Remote Health*, 7(652), 1-15.  
<https://doi.org/https://doi.org/10.22605/RRH652>
- Whiteing, N., Barr, J., & Rossi, D. M. (2021). The practice of rural and remote nurses in Australia: A case study. *Journal of Clinical Nursing*, 00, 1-17. <https://doi.org/10.1111/jocn.16002>
- Wiltshire, G., & Ronkainen, N. (2021). A realist approach to thematic analysis: making sense of qualitative data through experiential, inferential and dispositional themes. *Journal of Critical Realism*, 20(2), 159-180. <https://doi.org/10.1080/14767430.2021.1894909>
- Work Health and Safety (National Uniform Legislation) Act, (2011a).  
<https://legislation.nt.gov.au/Legislation/WORK-HEALTH-AND-SAFETY-NATIONAL-UNIFORM-LEGISLATION-ACT-2011>
- Work Health and Safety (National Uniform Legislation) Regulations, (2011b).  
<https://legislation.nt.gov.au/en/Legislation/WORK-HEALTH-AND-SAFETY-NATIONAL-UNIFORM-LEGISLATION-REGULATIONS-2011>
- Wressell, J. A., Rasmussen, B., & Driscoll, A. (2018). Exploring the workplace violence risk profile for remote area nurses and the impact of organisational culture and risk management strategy. *Collegian*, 25(6), 601-606. <https://doi.org/https://doi.org/10.1016/j.colegn.2018.10.005>
- Wright, L. K., Jatrana, S., & Lindsay, D. (2021). Workforce safety in the remote health sector of Australia: a scoping review. *BMJ Open*, 11. Article e051345.  
<https://doi.org/10.1136/bmjopen-2021-051345>
- Xie, K., Liang, B., Dulebenets, M. A., & Mei, Y. (2020). The impact of risk perception on social distancing during the COVID-19 pandemic in China. *International Journal of Environmental Research and Public Health*, 17(6256). <https://doi.org/10.3390/ijerph17176256>
- Yonge, O., Jackman, D., Luhanga, F., Myrick, F., Oosterbroek, T., & Foley, V. (2019). 'We have to drive everywhere': rural nurses and their precepted students. *Rural and Remote Health*, 19(3).  
<https://doi.org/https://doi.org/10.22605/RRH5347>

## Appendix 1: Search strategy with MeSH headings

The search terms used for the Ovid Emcare database were:

- 1 (remote or isolated).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
- 2 workplace violence/
- 3 safety/
- 4 risk management/
- 5 exp australia/
- 6 exp health workforce/
- 7 exp rural health care/
- 8 1 or 7
- 9 exp occupational hazard/
- 10 exp occupational safety/
- 11 exp hazard assessment/
- 12 2 or 3 or 4 or 9 or 10 or 11
- 13 exp health care personnel/
- 14 exp health care facility/
- 15 6 or 13 or 14
- 16 5 and 8 and 12 and 15**

Limits: English language

### Interpretation guide:

The forward slash means the term was a MeSH heading, while *exp* means the 'explode' function was selected, to enable the inclusion of narrower terms associated with that MeSH heading. For example, *exp australia/* searched for Australia, as well as the individual states and territories of Australia.

These search terms can be expressed as:

*exp australia/ AND ((remote OR isolated).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] OR exp rural health care) AND (workplace violence/ OR safety/ OR risk management/ OR exp occupational hazard/ OR exp occupational safety/ OR exp hazard assessment/) AND (exp health workforce/ OR exp health care personnel/ OR exp health care facility/).*

## Appendix 2: Survey questionnaire

# Remote Area Safety Project (RASP): RAN Survey

---

### Start of Block: Consent form

#### **Q75 The Remote Area Safety Project (RASP): A mixed methods study of health workforce safety policies and implementation.**

The Centre for Rural and Remote Health (James Cook University) invites you to participate in a study analysing the current approach to workforce safety in the remote health sector. Serious personal safety concerns have long been a part of life for Remote Area Nurses (RANs) and other remote health professionals. In the past, efforts to address this issue have been piecemeal across Australia, with workforce safety policies mainly developed on a health service-by-health service basis. This study aims to identify what risk mitigation strategies are functionally in place in very remote primary health clinics across Australia, and RANs' experiences of the implementation of those strategies and safety policies.

All RANs who have worked in a very remote primary health clinic within Australia **more recently than January 2019** are invited to participate in this online survey. If you decide to participate, the survey should take approximately 16-20mins to complete. Participants who complete the survey will be eligible to go in the draw to win 1 of 4 \$50 Woolworths grocery vouchers.

The survey will be anonymous. If you choose to provide your email for the prize draw, this will be recorded separately from the survey responses. The study findings will be reported in journal articles, conference presentations and a Masters thesis. You will not be identified in any way in these publications. The anonymous data from this project will be stored by James Cook University for a

minimum of five years post publication, and may be used for comparison in future research on this topic.

This study is being conducted by Laura Wright and will contribute to her Master of Philosophy (Health) at James Cook University. This study has been approved by the JCU Human Research Ethics Committee (Application ID: H8255).

This survey contains questions about your safety and could bring up memories of any traumatic past events where your safety was compromised. If you consent to participate, you are not obligated to answer any particular question, and may withdraw from the survey at any time. If you feel distressed at any point, please remember the CRANaplus Bush Support Service is available 24/7 for free, confidential counselling over the phone. The service is available to all rural and remote health professionals and their families. Their number is 1800 805 391. Beyond Blue is another available service, offering phone, webchat and email counselling at <https://www.beyondblue.org.au/get-support/get-immediate-support>.

If you know of others who might be interested in this project, please forward the link to them so they may participate in the survey.

If you have any questions about the study, please contact: **Principal Investigator:** Laura Wright  
Research Officer Centre for Rural and Remote Health James Cook University Phone: (07) 4745 4517  
Email: [laura.wright1@jcu.edu.au](mailto:laura.wright1@jcu.edu.au) **Supervisor:** Dr Nualnong Wongtongkam Senior Research Fellow  
Centre for Rural and Remote Health James Cook University Phone: (07) 4745 4523 Email:  
[nualnong.wongtongkam@jcu.edu.au](mailto:nualnong.wongtongkam@jcu.edu.au)

If you have any concerns regarding the ethics of the study, please contact: Human Ethics, Research Office James Cook University, Townsville, Qld, 4811 Phone: (07) 4781 5011 ([ethics@jcu.edu.au](mailto:ethics@jcu.edu.au))

**Do you consent to participate in this survey?**

Yes (1)

No (2)

End of Block: Consent form

---

Start of Block: Screening Question

Q1 Screening question: Are you a RAN who has worked in a very remote primary health clinic in Australia more recently than January 2019?

(If unsure whether your workplace is in a very remote area (MM7), the Health Workforce Locator can be used to search for it using the Modified Monash Model 2019:

<https://www.health.gov.au/resources/apps-and-tools/health-workforce-locator/health-workforce-locator>)

Yes (1)

No (2)

End of Block: Screening Question

---

Start of Block: Demographics

Q2

**Demographics:**

What is your age in years?

---

Q3 Gender

Male (1)

Female (2)

Prefer not to disclose (3)

Prefer to self-describe (type answer below) (4)

---

Q4 Tertiary education

Hospital trained, no tertiary education (1)

Bachelor degree (2)

Graduate Certificate (3)

Graduate Diploma (4)

Masters degree (5)

Doctorate (6)

---

Q78 What year did you complete your training to become a Registered Nurse?

---

Q79 In what country did you initially qualify as a Registered Nurse?

Australia (1)

New Zealand (2)

Other (type answer below) (3) \_\_\_\_\_

---

*Display This Question:*

*If Tertiary education = Bachelor degree*

Q67 What Bachelor degree(s) do you have?

Bachelor of Nursing (1)

Bachelor of Midwifery (2)

*Display This Question:*

*If Tertiary education = Graduate Certificate*

Q68 What Graduate Certificate(s) do you have?

Grad Cert Remote Health Practice (1)

Grad Cert Nursing (2)

Grad Cert Public Health (3)

Grad Cert Child Health (4)

Other (type answer below) (5) \_\_\_\_\_

---

*Display This Question:*

*If Tertiary education = Graduate Diploma*

Q70 What Graduate Diploma(s) do you have?

Grad Dip Remote Health Practice (1)

Grad Dip Nursing (2)

Grad Dip Public Health (3)

Grad Dip Child Health (4)

Other (type answer below) (5) \_\_\_\_\_

---

*Display This Question:*

*If Tertiary education = Masters degree*

Q72 What Masters degree(s) do you have?

Master of Remote Health Practice (1)

Master of Remote Health Management (2)

Master of Nursing (3)

Master of Public Health (4)

Master of Child Health (5)

Other (type answer below) (6) \_\_\_\_\_

---

*Display This Question:*

*If Tertiary education = Doctorate*

Q73 What type of Doctorate do you have?

PhD (1)

Professional Doctorate (2)

---

Q5 Do you currently have a partner?

Yes (1)

No (2)

*Skip To: Q7 If Do you currently have a partner? = No*

---

Q6 If yes, does your partner live in the remote area with you?

Yes (1)

No (2)

---



Q7 Do you have a dependent child/children living in the remote area with you? (Includes children at boarding school who return to you on holidays)

Yes (1)

No (2)

---

Q8 Do you identify as Aboriginal or Torres Strait Islander?

Yes, Aboriginal (1)

Yes, Torres Strait Islander (2)

Yes, both Aboriginal and Torres Strait Islander (3)

No (4)

---

Q9 In which country were you born?

Australia (1)

New Zealand (2)

Other (type answer below) (3) \_\_\_\_\_

---

Q10 Do you consider yourself to have come from a rural or remote background? (i.e. where you grew up).

Yes, rural (1)

Yes, remote (2)

Yes, very remote (3)

No (4)

**End of Block: Demographics**

---

Start of Block: Work Characteristics

**Q12 Work Characteristics:**

How long have you worked as a nurse in Australia?

Years (1) \_\_\_\_\_

Months (2) \_\_\_\_\_

---

**Q13** How long have you worked as a RAN in very remote primary health clinics?

Years (1) \_\_\_\_\_

Months (2) \_\_\_\_\_

---

**Q14** How long have you been at your current (or most recent) very remote workplace?

Years (1) \_\_\_\_\_

Months (2) \_\_\_\_\_

---

**Q15** What is your role at your current (recent) very remote workplace?

Novice RAN (less than one year experience as a RAN) (1)

RAN (2)

Clinic manager (3)

Nurse Practitioner (4)

Other (type answer below) (5) \_\_\_\_\_

-----

Q16 In what region is your current (recent) very remote work location?

State/territory (1)

Region (2)

▼ Northern Territory (1) ... Other remote offshore territories ~ Other (36)

-----

Q17 What type of health service do (did) you work for?

Government health service (1)

Aboriginal Community Controlled Health Organisation (2)

Other non-government health service (3)

-----

Q18 Who are (were) you employed by?

The health service (1)

An agency (2)

Other (type answer below) (3) \_\_\_\_\_

-----

Q19 Are (were) you a locum/reliever?

Yes (1)

No (2)

*Skip To: Q21 If Are (were) you a locum/reliever? = No*

-----

Q20 Do you usually work as a locum/reliever?

Yes (1)

No (2)

---

Q21 How many clinicians are employed at your current (recent) very remote workplace? (not including visitors, such as specialists and outreach teams)

RANs (1)	▼ 0 (1) ... 20+ (21)
Aboriginal and Torres Strait Islander Health Practitioners or Aboriginal Health Workers (2)	▼ 0 (1) ... 20+ (21)
GPs (3)	▼ 0 (1) ... 20+ (21)
Other (please specify) (4)	▼ 0 (1) ... 20+ (21)

End of Block: Work Characteristics

---

Start of Block: Safety Factors

**Q23 Safety Factors:**

Before starting work at your current (recent) workplace, did you receive pre-employment information on safety related policy and procedures?

Yes (1)

No (2)

*Skip To: Q25 If Safety Factors: Before starting work at your current (recent) workplace, did you receive pre-em... = No*

---

Q24 If yes, was it useful?

Yes (1)

Some of it (2)

No (3)

---

Q25 Did you receive local orientation when starting at your current (recent) very remote workplace?

Yes (1)

No (2)

*Skip To: Q27 If Did you receive local orientation when starting at your current (recent) very remote workplace?  
= No*

---

Q26 Did your orientation cover safety, security and staff wellbeing information? (select all that apply)

Clinic security (1)

Home visit/call out risk mitigation procedures (2)

Emergency procedures (e.g. what to do and who to call if you are threatened) (3)

Introduced to key community members (4)

Cultural awareness tips (like “don’t go up that way since it’s a men’s business area”) (5)

Fatigue management (6)

Other (type answer below) (7) \_\_\_\_\_

---

Q27 How would you rate your understanding of your current (recent) very remote workplace's safety policies and procedures?

Excellent (1)

Reasonably good (2)

Neither good nor poor (3)

Somewhat poor (4)

Very poor (5)

---

Q28 Did your current (recent) employer provide or require you to show evidence of the following training? (select all that apply)

Risk assessment (1)

Recognising and de-escalating aggressive or violent behavior (2)

Interpersonal communication (3)

Cultural awareness (4)

4WD training (5)

Using and troubleshooting emergency communications equipment (e.g. satellite phone, emergency GPS/Personal Locator Beacon (PLB), HF or citizen band (CB/UHF) radio) (6)

---

Q29 On your own, do you feel confident in your ability to:

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
Assess safety risks in call-out situations (1)					
De-escalate aggressive or violent behaviour (2)					
Drive on unsealed roads (3)					
Change a flat tyre (4)					
Use/troubleshoot the emergency communications equipment (5)					

Q30 Is the main health service vehicle: (select all that apply)

Reliable and adequately serviced (1)

Fitted with GPS tracking (2)

Fitted with a satellite phone (3)

Fitted with emergency GPS/Personal Locator Beacon (PLB) (4)

Fitted with a tool kit (at minimum, a jack and wheel brace to change a tyre) (5)

I don't know (6)

Q31 How safe is the clinic building? (select all that apply)

- Good lighting at external entry points (1)
  - Good lighting at the car park (2)
  - There are clear sightlines around pathways and entry points (3)
  - The building is well maintained (4)
  - There are adequate security screens on all windows (5)
  - There is more than one exit (6)
  - All external doors have effective locks (7)
  - Staff areas are separate from public areas within the clinic (8)
  - There is a lockable safe space (escape room) for staff within the clinic (9)
  - There is a reliable telephone/telecommunications service (10)
- 

Q32 What clinic security systems are in place? (select all that apply)

- Security alarm system (an after-hours alarm that goes off when someone breaks in, can be local and/or externally monitored) (1)
  - CCTV/security cameras (2)
  - Duress alarm/panic button within the clinic (3)
  - Personal (portable) duress alarms (4)
  - After hours call-out notification system (5)
  - Other (6) \_\_\_\_\_
  - I don't know (7)
-



Q33 How safe is (was) your accommodation? (select all that apply)

- The property is fenced (1)
  - Good lighting where the vehicle is parked (2)
  - Good lighting at the accommodation entry points (3)
  - Clear sightlines around entry points (4)
  - Secure but functional area to answer visitors at the front door (5)
  - All external doors have effective locks (6)
  - There are adequate security screens on all windows (7)
  - The windows have working curtains/coverings (8)
  - The accommodation is well maintained (9)
  - There are working fire alarms in place (10)
  - The accommodation has internet access (11)
  - There is a reliable telephone/telecommunications service (12)
  - Not applicable (13)
- 

Q34 Do you think your current (recent) health service has adequate funding to provide the following safety features? (select all that apply)

- Safe transport (1)
  - Safe clinic facilities (2)
  - Fit-for-purpose communications technology (3)
  - Secure accommodation (4)
  - Sufficient call out staffing (5)
  - None of the above (6)
  - Unsure (7)
-

Q35 On a scale of 1 to 10, how well is maintenance handled at your current (recent) very remote workplace in the following areas:

	1 (maintenance requests ignored) (1)	2 (2)	3 (significant delays in repairs) (3)	4 (4)	5 (maintenance requests actioned) (5)	6 (6)	7 (maintenance requests actioned swiftly) (7)	8 (8)	9 (9)	10 (an effective proactive maintenance schedule) (10)
Clinic building (1)										
Clinical equipment (2)										
Clinic vehicle(s) (3)										
Alarms/communications (4)										
Staff accommodation (5)										

Q36 Does your current (recent) very remote workplace have a call-out system that discourages patients/clients from attending staff accommodation to seek help?

Yes (1)

No (2)

Q37 Does your current (recent) very remote workplace have 'Never Alone' or similar guidelines?

Yes, must have a second responder for all home visits and call-outs. (1)

Yes, must have a second responder for call-outs. (2)

No, second responders are called on a case-by-case basis. (3)

No official rules about accompanying staff. (4)

Other (please specify) (5) \_\_\_\_\_

*Skip To: Q39 If Does your current (recent) very remote workplace have 'Never Alone' or similar guidelines? = No, second responders are called on a case-by-case basis.*

*Skip To: Q39 If Does your current (recent) very remote workplace have 'Never Alone' or similar guidelines? = No official rules about accompanying staff.*

-----

Q38 If yes, are the 'Never Alone' or similar guidelines supported and implemented consistently by management?

Yes (1)

No (2)

-----

Q76 Are the 'Never Alone' or similar guidelines supported and implemented consistently by RANs at your current (recent) very remote workplace?

Yes (1)

No (2)

Unsure (3)

Q39 What fatigue management strategies are in place in your current (recent) very remote workplace? (select all that apply)

A fatigue management policy/protocol is in place (1)

Adequate staffing/skill mix to share on-call responsibilities (2)

Protected rest hours after overnight callouts (3)

Refreshment/anti-burnout leave policy (e.g. staff are scheduled to take leave every 2-3 months or have job sharing arrangements) (4)

Able to take scheduled leave regularly (5)

Other (please specify) (6) \_\_\_\_\_

-----

Q40 In the past 12 months, have you personally experienced any of the safety incidents listed below while working as a RAN in a very remote community?

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Dog attack (1)							
Work-related road accident (2)							
Verbal abuse (3)							
Physical violence (e.g. spitting, hitting) (4)							
Sexual assault (5)							
Deliberate damage to property (e.g. clinic, cars) (6)							
Accommodation break-in (7)							

*Skip To: End of Block If In the past 12 months, have you personally experienced any of the safety incidents listed below w... [ Never] (Count) = 7*

Q42 Was the above incident(s) reported to your employer?

Yes (1)

Some but not all (2)

No (3)

*Skip To: Q44 If Was the above incident(s) reported to your employer? = Yes*

---

Q43 If not, why not?

Thought it was too minor (1)

Thought I might get blamed for it (2)

Thought nothing would be done about it (3)

Didn't want people to know (4)

Reporting system not user friendly (5)

Other (please specify) (6) \_\_\_\_\_

---

Q44 For the incident(s) reported to your employer, how satisfied were you with your employer's response?

Very satisfied (1)

Moderately satisfied (2)

Neither satisfied nor unsatisfied (3)

Somewhat unsatisfied (4)

Very unsatisfied (5)

I was not aware of any response (6)

**End of Block: Safety Factors**

---

**Start of Block: The Remote Area Nursing Stress Scale**

**Q46 The Remote Area Nursing Stress Scale:**

This stress scale was developed and validated for RANs by the Back From the Edge research team

(Opie and Lenthall et al.) and published in 2013.

Here is a list of situations that may have the potential to cause occupational stress in nurses. Please indicate how frequently you experience each of these situations.

**Archive note:** For data analysis, the results (1-7) were recoded to 0-6 to match the scoring system of the original validated tool. Also, Q48 Clinic Team and “Difficulties with communication technology?” from Q51 were not included in the analysis as they were not in the original validated tool.

-----

**Q47 Management:**

How often does your manager...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Fail to be accessible for support or advice? (1)							
Show a poor understanding of the issues impacting on you as a RAN? (2)							
Provide inadequate clinical support? (3)							
Fail to appropriately manage critical incidents? (4)							

-----



Q48 Clinic team: (Not included in RANSS validated tool)

How often does your clinic team...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Fail to be accessible to each other for support or advice? (1)							
Show a poor understanding of the issues impacting on clinical team members? (2)							
Provide inadequate clinical support to each other? (3)							
Fail to appropriately manage critical incidents as a team? (4)							

Q49 On-call:

How often are you...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
On call? (1)							
Called out? (2)							
Called out for non-urgent issues? (3)							



Q50 Workload:

How often do you...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Perceive your workload as unmanageable? (1)							
Feel unable to plan or control your workload? (2)							
Feel as though you never achieve your work-related goals or outcomes? (3)							



**Q51 Infrastructure:**

How often do you experience...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Difficulties with equipment? (1)							
Difficulties with infrastructure? (2)							
Difficulties with information technology? (3)							
Difficulties with communication technology? (4)							
(Not included in RANSS validated tool)							



Q52 Safety:

How often do you feel concerned about...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Safety in the community? (1)							
Insecure or unsafe housing? (2)							
Your personal safety? (3)							
Client-initiated aggression or violence towards nursing staff? (4)							



Q53 Isolation:

How often do you...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Experience difficulty initiating or maintaining social interaction? (1)							
Experience difficulty maintaining personal relationships? (2)							
Feel isolated from family and friends? (3)							
Feel isolated from the local community? (4)							
Feel isolated from services and colleagues? (5)							
Feel isolated from professional development opportunities? (6)							

Q55 Cultural differences:

How often do you...

	Never (1)	A few times a year or less (2)	Once a month or less (3)	A few times a month (4)	Once a week (5)	A few times a week (6)	Every day (7)
Experience uneasiness about living or working in a different culture? (1)							
Feel a sense of uneasiness because of the expectations of another culture? (2)							
Experience difficulty adjusting to an unfamiliar culture? (3)							
Experience uneasiness about misunderstandings or disagreements arising from cultural differences? (4)							
Feel confronted by an absence of familiar attitudes, value systems, or behaviours? (5)							

End of Block: The Remote Area Nursing Stress Scale

Start of Block: Psychosocial Safety Climate

Q56

This question was adapted from the Satisfaction of Employees in Health Care (SEHC) Survey validated tool, developed by Alpern et al. in 2013.

To what extent do you agree with the following statements?

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
I feel encouraged by my supervisor to offer suggestions and improvements. (1)					
The management makes changes based on my suggestions and feedback. (2)					
I am appropriately recognised when I perform well at my regular work duties. (3)					
I have adequate opportunities to develop my professional skills. (4)					
My co-workers and I work well together. (5)					
I would recommend this clinic to other RANs as a good place to work. (6)					



**Q57 Community psychosocial safety climate:**

To what extent do you agree with the following statements?

	Strongly agree (1)	Somewhat agree (2)	Neither agree nor disagree (3)	Somewhat disagree (4)	Strongly disagree (5)
I feel safe walking home after dark. (1)					
I feel that most people in the community can be trusted. (2)					
The community I am in has a reputation for being a safe place. (3)					
I feel connected to this community. (4)					
I feel at home in this community. (5)					
I feel a strong sense of belonging to this community. (6)					

End of Block: Psychosocial Safety Climate

---

Start of Block: Final Comments

Q58

**Final Comments:**

On a scale of 1 to 10, how would you rate your current (recent) very remote workplace's safety culture?

	1 (not at all)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (excellent/proactive)
The health service (1)										
The clinic team (2)										

Q62 Over the past 12 months, what have you done to promote the safety of yourself and/or your colleagues?

---

Q59 If you have been a RAN for more than 4 years, do you feel safer working in very remote clinics now than you did 4 years ago?

- Yes (1)
- No, about the same (2)
- No, less safe than before (3)
- Unsure (4)
- Not applicable (5)

-----

Q60 If you had to choose three workplace safety issues to be addressed first, what would you choose?  
(please rank in order of importance)

- \_\_\_\_\_ a) (1)
  - \_\_\_\_\_ b) (2)
  - \_\_\_\_\_ c) (3)
- 

Q61 Do you have any other comments? If there is another aspect to workplace safety that you'd like to comment on, or tips for adapting/adopting safety measures, please type your thoughts below.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

-----

Q63 Are you OK? If any of the issues discussed in this survey make you uncomfortable or concerned, please remember the CRANApplus Bush Support Service is available 24/7 for free, confidential counselling over the phone. The service is available to all rural and remote health professionals and their families. Their number is 1800 805 391.

Beyond Blue is another available service, offering phone, webchat and email counselling at <https://www.beyondblue.org.au/get-support/get-immediate-support>.

Thanks so much for participating! Your response to this survey will contribute to the effort to address these issues. To ensure the anonymity of your responses, the opt-in page for the prize draw will be

recorded as a separate survey. Please click through to the next page and you'll be redirected to the three question opt-in survey.

**End of Block: Final Comments**

---

## Appendix 3: Interview information sheet and interview guide

### **Participant Information Sheet: Remote Area Nurse (RAN) interviews**

**PROJECT TITLE: Remote Area Safety Project (RASP): A mixed methods study of health workforce safety policies and implementation.**

Thank you for participating in the RASP survey, and for registering your potential interest in this interview.

Murtupuni Centre for Rural and Remote Health (James Cook University) invites you to participate in the next stage of the RASP, a study analysing the current approach to workforce safety in the remote health sector. This interview stage of the study aims to explore your experience of the implementation of workforce safety policies and risk mitigation strategies for RANs working in very remote primary health clinics within Australia. The interview is formed around 10 questions, on the topics of your health service's workforce safety strategies, barriers and enablers to their implementation, and useful unofficial safety strategies.

The interview is expected to take approximately 30mins of your time. It will be conducted over videoconferencing (using a password protected Zoom meeting) at a time of your choosing. Participation is voluntary, so you can withdraw at any time without penalty.

The interview will be recorded, with the video file immediately deleted and the audio file saved for the purpose of transcription. People, places and workplaces will be de-identified during transcription, and care will be taken to ensure the anonymity of you and your employer when reporting the results. The study findings will be reported in journal articles, conference presentations and a Masters thesis. You will not be identified in any way in these publications.

This study is being conducted by Laura Wright and will contribute to her Master of Philosophy (Health) at James Cook University. This study has been approved by the JCU Human Research Ethics Committee [Application ID: H8255].

**Risks involved:** This interview contains questions about your safety, so could bring up memories of any traumatic past events where your safety was compromised. If you consent to participate, you are not obligated to answer any particular question, and may withdraw from the interview at any time.

If you feel distressed at any point, the CRANaplus Bush Support Service is available 24/7 for free, confidential counselling over the phone. The service is available to all rural and remote health professionals and their families. Their number is 1800 805 391.

Beyond Blue is another available service, offering phone, webchat and email counselling options at <https://www.beyondblue.org.au/get-support/get-immediate-support>.

If you have any questions about the study, please contact:

**Principal Investigator:**

Laura Wright

Research Officer

Murtupuni Centre for Rural and Remote Health

James Cook University

Phone: (07) 4745 4500

Email: [laura.wright1@jcu.edu.au](mailto:laura.wright1@jcu.edu.au)

**Supervisor:**

A/Prof Santosh Jatrana

Senior Principal Research Fellow

Murtupuni Centre for Rural and Remote Health

James Cook University

Phone: (07) 4745 4500

Email: [santosh.jatrana@jcu.edu.au](mailto:santosh.jatrana@jcu.edu.au)

If you have any concerns regarding the ethics of this study, please contact:

Human Ethics, Research Office

James Cook University, Townsville, Qld, 4811

Phone: (07) 4781 5011 ([ethics@jcu.edu.au](mailto:ethics@jcu.edu.au))

## RASP: RAN interview guide

The purpose of this interview is to explore your experience of WHS policies and risk mitigation strategies for RANs working in remote clinics within Australia. The interview is formed around 10 questions, on the topics of your health service's workforce safety strategies, barriers and enablers, and useful unofficial safety strategies.

*Consent, any questions, **starting recording.***

First, I have a couple of questions to establish the context of your answers:

1. Are you currently working in a remote clinic? *Prompt: Locum or long-term?*
2. How long have you been a RAN?
3. Worked in different regions/services recently?
  - Can you tell me about how you learnt of the safety risks associated with your work as a RAN?
  - Does your health service have policies about safety for RANs? *Prompts: What are they?/How did you find out about them?*
  - Can you tell me about the relevance of those safety policies to your work? *Prompt: Are those policies followed?*
  - What (other) barriers to putting those policies into practice have you come across?
  - What about enablers? Is there anything (else) that's been helpful in implementing safety policies?
  - *\*\*If no policies, start here:* Can you tell me about any risk mitigation strategies that are supported by management but don't have an official policy?
  - Are there any risk mitigation strategies developed by you or your colleagues that you've found useful for staying safe while working as a RAN?
  - Are there any barriers that you've come across for those unofficial safety strategies?
  - Can you tell me about the enablers that helped make the unofficial strategies useful?
  - Finally, is there anything you think could be done to improve your workplace's safety policies and approach to RAN safety?