Compassion Satisfaction and Compassion Fatigue in Australian Rural and Remote Rehabilitation Healthcare Workers

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A thesis submitted to fulfil the requirements of the degree of Doctor of Philosophy.

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February 2026

Australian Government Support

This research was supported by an Australian Government Research Training Program (RTP) Scholarship.

Statement of Originality

This is to certify that the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes. I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

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Artificial Intelligence Statement

During the preparation of this thesis, EndNote, Grammarly Pro, CoPilot, and ChatGPT-4 were used for referencing, text enhancement, troubleshooting, and understanding statistical concepts. The use of Grammarly Pro and CoPilot included spelling corrections, minor sentence restructuring, and clarity enhancement. CoPilot and ChatGPT-4 were used as supplementary resources to explain statistical concepts and qualitative methods, supporting my understanding and learning. CoPilot and ChatGPT-4 were also used to assist with troubleshooting issues in programs such as Grammarly Pro, EndNote, and Microsoft programs (Excel, Word, and Visio). All analysis and interpretation were undertaken independently by the research team (myself and supervisors). I confirm that where text was modified by generative AI, the content was reviewed for possible errors, inaccuracies, and bias. I take full responsibility for the submitted thesis, confirm the work is my own, and have used generative AI in accordance with university guidelines and policies.

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Supervisor's Statement

This is to certify that the thesis titled "Compassion Satisfaction and Compassion Fatigue in Australian Rural and Remote Rehabilitation Healthcare Workers" submitted by Kelly McGrath in fulfilment of the requirements for the degree of Doctor of Philosophy, is in a form ready for examination.

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Statement on Ethics

The University of Sydney Human Research Ethics Committee approved the research project protocols for Study 2 (project 2018/524) and Study 3 (project 2022/597). All requirements were met, and no modification requests were required. All participants were required to read the participant information statements and provide consent to engage in the studies.

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Acknowledgements

Thank you to my supervisory team. This has been an incredible journey, and it feels surreal to be here. I'm so grateful that each of you saw something worth supporting in me and this PhD. Lynda, I couldn't have asked for a better primary supervisor. Your guidance and attention to detail shaped this thesis and helped me grow academically, professionally, and personally, pushing me beyond what I thought I was capable of. Rob, statistics once terrified me, but your patience and clear explanations gave me the confidence to understand concepts I never thought I could. Nic, working with you has been a pleasure. Your feedback, encouragement, and perspectives made a meaningful impact on my work. I'm also grateful to the study participants. Your time, contributions, and willingness to share your experiences made this research possible.

Mark, thank you for being there from the start and for knowing this PhD would be my priority. You've always respected how much it meant to me and backed me without question. Steph, doing our PhDs at the same time, even from opposite sides of the world, made an isolating process feel a lot less heavy. You've been there for me through everything, never once doubting my ability and always cheering me on. You've been an incredible best friend, using both your best-friend powers and your actual-psychologist skills in all the ways I needed.

Completing this PhD and publishing three papers along the way have been among the hardest and most rewarding achievements of my life. I feel proud, accomplished, and more capable than I ever imagined.

Authorship Attribution Statement

This thesis contains my original work under the supervision of Honorary Associate Professor Lynda Matthews and co-supervised by Dr Rob Heard and Professor Nicola Hancock. This thesis contains 3 publications (detailed below), and for each, I was the lead author involved in all aspects from concept to manuscript publication.

Chapter 2 (Study 1) of this thesis has been published as McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review. *Australian Journal of Rural Health*, 30(2), 264-280. https://doi.org/10.1111/ajr.12857. I designed the study, analysed the data, and wrote the manuscript drafts. The *Australian Journal of Rural Health* requires that the lead author must be the corresponding author.

Chapter 3 (Study 2) of this thesis has been published as McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2024). Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia. *Health & Social Care in the Community*, 2024, 2823441. https://doi.org/10.1155/2024/2823441. I designed the study, analysed the data, and wrote the manuscript drafts. The Journal of *Health & Social Care in the Community* requires that the lead author must be the corresponding author.

Chapter 4 (Study 3) of this thesis has been published as McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2025). Levels Of Compassion Satisfaction, Burnout and Secondary Traumatic Stress in Rehabilitation Healthcare Workers in Rural and Remote Australia and Their Associations with Demographic and Work-related Variables. *Australian Journal of Rural Health*,

33(6), e70128-n/a. https://doi.org/10.1111/ajr.70128. I designed the study, analysed the data, and wrote the manuscript drafts. The *Australian Journal of Rural Health* requires that the lead author must be the corresponding author.

I, Kelly McGrath, hereby declare that I was the principal researcher of all work included in this thesis, including work published with multiple authors.

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As the supervisor for this thesis's candidature, I can confirm that the authorship attribution statement above is correct.

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Awards Arising from Thesis Publications

The following paper (Chapter 2, Study 1) received the awards listed below.

McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors Of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review. *Australian Journal of Rural Health, 30*(2), 264-280. doi: https://doi.org/10.1111/ajr.12857

- *Top Downloaded Article during its first 12 months of publication*, in the Australian Journal of Rural Health (among work published in an issue between 1 January 2022 and 31 December 2022).
- *Top Cited Article 2021-2022*, in the Australian Journal of Rural Health (among work published in an issue between 1 January 2021 and 15 December 2022).
- *Top Cited Article 2022-2023*, in the Australian Journal of Rural Health (among work published between 1 January 2022 and 31 December 2023).

Conference Presentations

Conference Presentations (Posters)

McGrath, K., Matthews, L. R., & Heard, R., & Hancock, N. What Are the Impacts, Influences and Rates of Compassion Satisfaction and Compassion Fatigue in Rehabilitation Healthcare Workers in Rural and Remote Locations? Presented at the National Allied Health Conference, September 2023.

See Appendix A: National Allied Health Conference Poster.

McGrath, K., Matthews, L. R., & Heard, R., & Hancock, N. Health, Safety and Wellbeing Influences on Compassion Satisfaction and Compassion Fatigue Outcomes for Rural and Remote Rehabilitation Healthcare Workers. Presented at the Rural Mental Health Conference, November 2023.

See Appendix B: Rural Mental Health Conference Poster.

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Definition of Terms

Term	Meaning within the context of this thesis
Billable hours	The time spent on tasks or services charged to a client or employer. In rehabilitation healthcare, this includes the hours worked on a specific case or service.
Burnout	Mental and emotional exhaustion from work-related psychological stress, measured by the ProQOL5 scale.
Caseload	Number of cases (care recipients) managed by rehabilitation healthcare workers.
Compassion fatigue	The negative psychological impact of care provisioning on healthcare workers.
Compassion satisfaction	The positive psychological outcome of care provisioning on healthcare workers, measured by the ProQOL5 scale.
Insurer	The provider of compensation insurance, covering financial liabilities for individuals with a disability or employers and employees in case of work-related injuries.
KPI	Key performance indicator, a performance-based measurement to monitor and assess

	rehabilitation outcomes. KPIs are employment conditions, which include performance targets such as billable hours.
Model of care	The framework for how healthcare services are delivered.
National Disability Insurance Scheme (NDIS)	An Australian government program that provides support and services to people with permanent and significant disabilities.
Professional Quality of Life model (ProQOL)	The measure of compassion satisfaction and compassion fatigue, which is used as the framework for this thesis.
ProQOL scale	The ProQOL is measured using the ProQOL scale, which includes three subscales: compassion satisfaction, burnout, and secondary traumatic stress. Burnout and secondary traumatic stress together represent the two components of compassion fatigue.
Rehabilitation	Healthcare interventions designed to assist individuals to overcome and/or manage injury, illness or disability.
Rehabilitation healthcare provider	An allied or medical healthcare professional who engages in rehabilitation healthcare.

Rural or Remote	This study covers rural and remote Australia, home to roughly 28% of the population and occupying more than 99.8% of the nation's 7.7 million square kilometres.
Secondary traumatic stress	The emotional impact of providing care to individuals who have experienced trauma. The healthcare provider is traumatised from witnessing the aftermath of trauma, whether that be physical injury or hearing the care recipient's recollection of events. Measured by the ProQOL5 scale.
Workers' compensation	Insurance is paid to employees who sustain an injury, illness, disease, or death from factors arising out of or during their employment. All employers pay an insurance premium to their workers' compensation insurer.

Abstract

Background

Rehabilitation healthcare professionals working in rural and remote settings face unique challenges in rehabilitation service delivery, particularly when working within an insurance-based framework such as that of workers' compensation or disability insurance schemes. Rehabilitation healthcare delivered within insurance-based frameworks operate under strict legislative and contractual requirements, resulting in standardised Key Performance Indicators (KPIs) for practitioners, regardless of geographic location. While designed to ensure consistency, this uniform service delivery model overlooks the complexities of rural and remote practice, including poor physical conditions and remote or isolated work. Insurers recognise that applying uniform KPIs across diverse geographic contexts creates systemic challenges, including unrealistic expectations and limited flexibility for rehabilitation healthcare providers. These challenges influence clinical decision-making, service accessibility, workload, client outcomes, and ultimately affect practitioner mental health and wellbeing.

In delivering rehabilitation healthcare in rural and remote locations, additional challenges include professional isolation, excessive travel, longer working hours, resource constraints, and hazardous environmental conditions, such as adverse weather, difficult terrain, and limited telecommunications connectivity. These challenges may impact rehabilitation healthcare professionals' professional quality of life. Professional quality of life is the positive (compassion satisfaction) and negative (compassion fatigue) aspects of working in rehabilitation service delivery and is measured by the Professional Quality of Life Scale, Version

5 (ProQOL5). Compassion satisfaction is the fulfilment and satisfaction derived from helping others, and compassion fatigue can arise from the negative emotional and physical impacts associated with ongoing exposure to client suffering and is measured by the burnout and secondary traumatic stress measures in the ProQOL5 scale. Although common mental health challenges and some experiences of compassion satisfaction and compassion fatigue have been reported among clinical healthcare workers in rural and remote areas, little has been documented regarding the experiences of compassion satisfaction and compassion fatigue among rural and remote rehabilitation workers. It is known that the Australian rehabilitation healthcare industry faces ongoing recruitment and retention challenges, making it crucial to understand the factors affecting these aspects of professional quality of life within this sector of the Australian rural and remote workforce. Having a better understanding of the variables that influence compassion satisfaction and compassion fatigue in this sector of the healthcare workforce will help to guide the development of targeted intervention strategies to ensure a safe and sustainable workforce and maintain service delivery.

Aim

The aim of this research was to examine the levels, experiences, risk factors, and protective factors of compassion satisfaction and compassion fatigue in Australian rural and remote rehabilitation healthcare workers.

Methods

The Professional Quality of Life (ProQOL) model was used as the overarching framework for the research reported in this thesis. The model comprises two concepts: compassion satisfaction and compassion fatigue. While compassion satisfaction is a standalone

concept, compassion fatigue comprises two elements: burnout and secondary traumatic stress. The measure used to document compassion satisfaction and compassion fatigue was the ProQOL5 scale.

Three studies were designed to collect data relevant to the research questions included in this thesis. Each study informed the subsequent study. First, a scoping review was conducted to identify previously published predictors of compassion satisfaction and compassion fatigue in healthcare workers providing health and rehabilitation services in rural and remote locations. Second, semi-structured interviews were conducted with Australian rural and remote rehabilitation healthcare workers (n = 16) to gain insight into their perceptions and experiences of compassion satisfaction and compassion fatigue. Finally, a national survey was conducted using a mixed-methods approach, comprising a cross-sectional design and survey methodology, with Australian rural and remote rehabilitation healthcare workers (n = 29). This study sought to document their compassion satisfaction, burnout, and secondary traumatic stress, and to locate the results within those of other professionals working in the Australian healthcare system who had previously completed the ProQOL5 scale.

Results

The scoping review's search strategy yielded 946 articles, of which 12 articles were included in analyses. No existing research was found on compassion satisfaction or compassion fatigue among rural and remote rehabilitation healthcare workers. Most studies focused on clinical settings, particularly medicine and nursing, with very little attention given to community-based healthcare or professions outside these disciplines. Consequently, little is known about what might predict compassion satisfaction and compassion fatigue for rural and

remote rehabilitation healthcare workers. The review identified potential risk and protective factors likely relevant to those providing rehabilitation services in rural areas. Risk factors associated with burnout and compassion fatigue included professional and work-related characteristics related to the nature of the work role (including profession, job dissatisfaction, inadequate staffing, and remuneration), as well as high workload, reflected in poor work-life balance and increased work hours. Work environment factors, including professional isolation and rurality, were also identified as contributors. Protective factors associated with compassion satisfaction included positive aspects of the work role, such as adequate remuneration, appropriate work hours, and supportive work environments with adequate staffing. No factors were consistently associated with secondary traumatic stress. Findings on age and gender were inconsistent across the literature.

Findings from the interviews revealed that organisational factors, including poor workplace culture, unsupportive management practices, and the unrealistic demands of achieving KPIs, appear to contribute to both compassion satisfaction and compassion fatigue, depending on the degree to which participants were impacted by the factors. Interview participants reported normalising a poor Workplace Health and Safety (WHS) culture due to inaction and poor support from their employers, which resulted from employers prioritising rehabilitation outcomes, such as clinically successful rehabilitation and case closure, over staff safety. Ongoing exposure to risks such as occupational violence, isolation, and fatigue left staff vulnerable to compassion fatigue.

Responses to the national survey indicated that Australian rural and remote rehabilitation healthcare workers reported lower compassion satisfaction and higher levels of

burnout and secondary traumatic stress compared with reference data from Australian healthcare workforce who had completed the ProQOL5 scale, most of whom were based in urban settings. This finding is possibly due to the unique challenges of providing rehabilitation services in an insurance-based scheme in rural and remote settings and a higher prevalence of mental health issues in the rural and remote healthcare workforce when compared to their urban counterparts. The national survey also confirmed the interview findings, showing that the same organisational factors of poor workplace culture and unsupportive management practices were also present at a broader scale.

Findings from the national survey suggest that although the ProQOL5 scale provides a useful measure for documenting levels of compassion satisfaction, burnout, and secondary traumatic stress, it may not fully capture the range and interaction of work-related factors influencing these outcomes in this workforce. Additional potential influences identified in the interviews, including the nature of rehabilitation work and organisational and workplace management factors, extend beyond those represented in the ProQOL5 scale.

Conclusions

The studies in this thesis highlight that Australian rural and remote rehabilitation healthcare workers are likely more vulnerable to experiencing lower levels of compassion satisfaction and higher rates of compassion fatigue than other Australian urban-based healthcare workers. The findings provide baseline data for compassion satisfaction and compassion fatigue for this sector of the healthcare workforce. They identify both advantages and limitations in the use of the ProQOL5 scale and call for validation studies based on rural and remote rehabilitation healthcare workers. Findings emphasise the importance of addressing

organisational factors in managing compassion fatigue. These factors include poor workplace culture, unsuitable job design for rural and remote practice, lack of workplace support, and the working environment, particularly poor physical conditions and remote or isolated work. These factors align with the psychosocial hazards documented in recent Safe Work Australia legislative updates. Implementing evidence-based strategies to improve professional supervision, better manage workloads, and foster supportive environments is critical to sustaining the Australian rural and remote rehabilitation healthcare workforce.

Chapter 1: Introduction

This chapter introduces and provides an overview of the thesis. First, I present my motivations for this investigation. Second, I introduce the background literature, providing an overview of the key variables in the series of studies conducted and reported in this thesis, culminating with a problem statement. The research explores experiences of what Stamm (2010) has labelled compassion satisfaction and compassion fatigue among Australian rural and remote rehabilitation healthcare workers providing services in community rehabilitation settings within an insurance-based framework. The studies focus on identifying what is known about the risk and protective factors of compassion satisfaction and compassion fatigue in this population. Finally, I present the structure of the thesis, including the overarching aim, the research questions explored in each study contained within the thesis, and a brief outline for each chapter.

Personal Motivation for the Research

Working as a rehabilitation counsellor in rural and remote New South Wales, Australia, inspired the research in this thesis. I valued several aspects of the role, including the work's adventure, travel, autonomy, and variety. However, despite the positive elements, I soon realised that components of the role were impacting my quality of work life, and I started to enjoy the role less than I once did.

Discussions with industry colleagues highlighted high turnover rates among rehabilitation healthcare workers in these locations. They reported that this was due to the lack of workplace support, which is commonly experienced by people working in rural and remote settings. Many of these colleagues had either left the industry or considered doing so, reporting

that the job demands and negative psychological impacts contributed to their poor quality of work life.

My work was primarily within the workers' compensation sector, which provides insurance to employees who sustain work-related injury, illness, or aggravation to a pre-existing condition (Fair Work Ombudsman, 2025). In this role, I was engaged by insurers within the insurance sector to deliver return-to-work services under their insurance frameworks. Through this work, I became interested in the initial liability of claim determinations, a process insurers use to decide whether an employer is liable for a workers' compensation claim under the relevant legislation, and Workplace Health and Safety (WHS) practices. Over time, I became increasingly aware of the employee and organisational risks and impacts of workers' compensation claims, particularly those involving psychological injury. Employees faced the recovery process associated with psychological injury, which may also include financial and long-term career prospects, and organisations experienced the impact of employee psychological injuries through the significant economic burden of increased workers' compensation premiums, and the risk of reputational damage.

This research was driven by my interest in understanding how workplace conditions and experiences in rehabilitation workplaces in rural and remote Australia may influence rehabilitation healthcare workers' experiences of compassion satisfaction and compassion fatigue (discussed below). There is a significant amount of literature exploring the psychological impacts of healthcare work that highlights the increased risks of anxiety, depression, and post-traumatic stress disorder among healthcare professionals (Hill et al., 2022). Australian rural and remote healthcare workers also experience these psychological impacts; however, they report

higher rates of burnout as compared to healthcare workers in urban areas (Tham et al., 2022). The higher levels of burnout may be attributed to the resourcing challenges in rural and remote areas, excessive travel, higher workloads, longer working hours, poor organisational support, and professional isolation (Holland et al., 2024; McEvoy et al., 2024).

However, limited research appears to have explored how rural and remote rehabilitation healthcare workers' quality of work life is impacted by compassion satisfaction and compassion fatigue. The series of investigations contained within this thesis aimed to address this gap in the literature.

Background Literature

The following sections introduce literature relevant to the overarching framework and key variables appearing in this thesis. Main variables relevant to the framework and focus of this research include compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress. Within this framework, the key variables relate to rehabilitation healthcare work in rural and remote Australia. Previously researched variables known to impact compassion satisfaction, burnout, and secondary traumatic stress in healthcare workers are also presented.

Professional Quality of Life Model

There are several theoretical models that may have been used to guide the research in this thesis. These models include specific models of burnout (e.g. Maslach & Jackson, 1981) and compassion satisfaction (Sacco & Copel, 2018) to broader models of social determinants of health in rural and remote Australia (Australian Government Australian Institute of Health and Welfare, 2024b) and frameworks based on organisation and systems theory, for example the

Job-Demand-Resource Theory (Montgomery et al., 2013). However, the research in this thesis presents studies that provide an initial understanding the nature of compassion satisfaction and compassion fatigue experienced in this relatively new and growing cohort of the rural and remote health workforce in Australia. For this reason, it was important to be able to place the findings from this research in the context of existing published findings on compassion satisfaction and compassion fatigue using similar models and measures from the wider rural and remote healthcare sector in Australia.

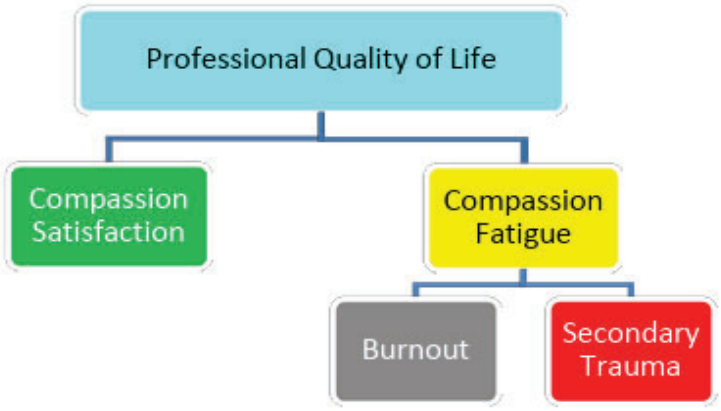
International systematic and scoping reviews identify the Professional Quality of Life (ProQOL) model (Stamm, 2010) and its measure, the ProQOL5 scale (Stamm, 2010), as the most widely used tools for documenting compassion satisfaction and compassion fatigue among healthcare professionals (Garnett et al., 2023; Singh et al., 2020). Unlike other possible models identified earlier in this section, the ProQOL model uniquely integrates the conceptualisation and measurement of both positive (compassion satisfaction) and negative (compassion fatigue) dimensions of ProQOL within a single framework.

In the absence of an existing population-specific framework to guide this research, the ProQOL model was selected as the guiding framework for understanding the experiences of compassion satisfaction and compassion fatigue in rehabilitation healthcare workers in rural and remote Australia. Throughout this thesis, the use of the term ProQOL is used to ensure consistency with the ProQOL model.

Compassion satisfaction and compassion fatigue influence ProQOL by positively or negatively impacting healthcare workers' wellbeing and job satisfaction (Saliya et al., 2024). While compassion satisfaction is a standalone concept, compassion fatigue comprises two

elements: burnout and secondary traumatic stress (Stamm, 2010). Figure 1 illustrates the ProQOL model.

Figure 1. *The ProQOL Model.*



Note. From: The ProQOL manual. (B. H. Stamm, 2005, p. 8) https://proqol.org/. Copyright 2008 by Beth Hudnall Stamm.

The term compassion fatigue in the ProQOL model is contentious. Some authors suggest that the terminology is incorrect and that compassion fatigue should instead be referred to as empathetic distress fatigue (Dowling, 2018; Hofmeyer et al., 2020). This is because compassion fatigue implies that caregivers are fatigued by providing compassionate care, whereas, instead, they are fatigued by poor emotional regulation that leads them to take on the distress of others as their own (Hofmeyer et al., 2020; Klimecki & Singer, 2011).

In contrast, Dowling (2018) suggests that empathy can evoke sadness when working with emotionally difficult and hard-to-resolve client situations, whereas compassion elicits positive emotions, counteracting the adverse effects of empathy. Therefore, one of the most contentious aspects of the terminology of compassion fatigue lies in the theoretical

understanding of the concept and the role of empathy (Coetzee & Laschinger, 2018). Despite this debate about terminology in the literature, the term compassion fatigue continues to dominate in the research and education literature (Hofmeyer et al., 2020).

Most published qualitative research in compassion fatigue has focused on workers' understanding of the concept, and their perceptions of risk and protective factors (Gustafsson & Hemberg, 2022; Singh et al., 2020; Wu & Lu, 2025). That is, it has focused on the concept of compassion fatigue, not on burnout and secondary traumatic stress. Conversely, most quantitative research has used the ProQOL5 scale to measure the subscales of burnout and secondary traumatic stress. As this thesis contains both qualitative and quantitative studies, in later sections we will review existing literature relating to each element of compassion fatigue: compassion fatigue, burnout, and secondary traumatic stress, as appropriate to the research context.

Measuring ProQOL

ProQOL is assessed using the ProQOL5 scale (Stamm, 2010), which is the most widely used measure of compassion satisfaction and compassion fatigue in healthcare professionals (Galiana et al., 2020). The ProQOL5 scale conceptualises ProQOL through the outcomes of its compassion satisfaction, burnout, and secondary traumatic stress subscales. However, it does not provide an overall score.

The first ProQOL scale was developed in 1995, based on the Figley (1995) Compassion Fatigue Self-Test (CFST) and has undergone several revisions, with the most used version, the ProQOL5 (30 items), developed in 2010 (Halamová et al., 2024). The ProQOL5 scale has been reported to have good reliability and construct validity across studies with diverse professionals

(Stamm, 2005). The ProQOL manual reports Cronbach's alpha coefficients for the compassion satisfaction (α = .88), burnout (α = .75), and secondary traumatic stress (α = .81) subscales, supporting their use as related but distinct measures of ProQOL (Stamm, 2010). Several shorter versions of the ProQOL scale have been developed in recent years with view to improving the construct validity of its burnout and secondary traumatic stress subscales, however it is apparent there is not yet consensus on revisions of the ProQOL5 scale.

For example, the ProQOL21 scale (Heritage et al., 2018) introduced updated measurement options for each of the three existing subscales, compassion satisfaction, burnout and secondary traumatic stress. A shorter version, the ProQOL9 scale (Galiana et al., 2020), was published with revised 3-item scales for compassion satisfaction, compassion fatigue, and burnout. More recently, the ProQOL12 scale, uses 4-item scales for compassion satisfaction, burnout, and secondary traumatic stress, and frames items around experiences over the past seven days (Hotchkiss & Wong, 2025). The newer versions of the ProQOL scale have reported improved psychometrics for the burnout and secondary traumatic stress subscales, however, given their recency, few studies that utilise the revised scales have been reported in the published literature. The multiple versions of ProQOL scale used in research challenge the ability to undertake comparisons between study findings.

Of all the versions of the ProQOL scale, the ProQOL5 is the only freely available measure with a published scale that captures both compassion satisfaction and compassion fatigue in a single instrument. A shortened nine-item version, the ProQOL9, is also freely available with a published scale; however, it is intended as a brief screening tool to provide insights into quality of work life rather than a comprehensive measure of compassion satisfaction or compassion

fatigue (Saeidzadeh et al., 2025). The ongoing popularity of the ProQOL5 scale in research on compassion satisfaction and compassion fatigue is attributed to its widespread use and contextual relevance across helping professions, including healthcare workers, law enforcement, educators, and social services providers (Vracevic et al., 2025). Since the commencement of this thesis in early 2017, the ProQOL5 scale has been cited approximately 16,900 times according to Google Scholar, highlighting its widespread use and supporting the ProQOL model as the framework for the studies in this thesis.

The Use of the ProQOL Framework in this Series of Studies

The recent debate on the accuracy of the terminology used for compassion fatigue appears to be part of a continuing discussion. Within this thesis, the language of compassion fatigue was used in Studies 1 and 2. However, by the time Study 3 was conducted, with deeper engagement, knowledge and the benefit of critical discourse with peer researchers, a decision was made to focus on the subscales of burnout and secondary traumatic stress rather than the overarching construct of compassion fatigue.

Despite recent concerns raised regarding the construct validity of the ProQOL5's burnout and secondary traumatic stress scales (included in the discussion of limitations in the National Survey publication in Chapter 4), the ProQOL5 scale is still widely used as evidenced above. In addition, one of the research questions posed in Chapter 4 below is answerable only by using published data as comparisons, and ProQOL5 scale data is the only available information. For these reasons, the ProQOL5 scale was the version used within the thesis.

Compassion Satisfaction

Compassion satisfaction is the pleasure healthcare workers derive from caring for and helping others (Makic, 2015; Salloum et al., 2015). In nursing, compassion satisfaction creates a sense of fulfilment from caring for others, including understanding the patient's perspective, offering emotional support, and advocating for their needs (Nadarajan et al., 2025). High levels of compassion satisfaction assist healthcare workers in coping with the harmful elements of their work role by increasing their overall positivity when providing care and improving their job satisfaction (Sacco & Copel, 2018). Compassion satisfaction is associated with a lower risk for WHS concerns, including burnout (Conrad & Kellar-Guenther, 2006). Higher compassion satisfaction levels generally indicate lower levels of compassion fatigue, and it may also reduce the effects of burnout and secondary traumatic stress (Rayani et al., 2024; Smart et al., 2014).

International research shows that nurses are more likely to experience compassion satisfaction when working in supportive environments with manageable workloads, positive social connections, professional autonomy, decision-making authority, and access to the resources needed to perform their roles effectively (Maillet & Read, 2024). When nurses experience compassion satisfaction, they tend to have higher job satisfaction, which contributes to reduced emotional fatigue, improved communication, and stronger organisational commitment, all of which enhance patient safety (Ryu & Shim, 2022).

Compassion satisfaction in healthcare workers tends to increase with age, level of work experience, adequate remuneration and overall job satisfaction (Keshavarz et al., 2019; Milutinović et al., 2023; Sacco & Copel, 2018). In contrast, healthcare workers who care for complex patients and work in poor environments, characterised by unpredictable hours and

strained relationships with colleagues, tend to experience lower levels of compassion satisfaction (Kartsonaki et al., 2023).

There is no available literature on compassion satisfaction among Australian rural and remote rehabilitation healthcare workers. Existing research generally focuses on healthcare workers in clinical and urban settings, with limited attention to rehabilitation providers overall. Much of this literature emphasises job satisfaction, self-compassion, and resilience rather than compassion satisfaction. One Australian study examined rural mental health workers and discussed compassion satisfaction in relation to mindfulness techniques; however, although it reported compassion satisfaction levels, it did not provide a broader context beyond this specific mindfulness focus (Samios, 2018). International studies have identified that rural healthcare workers during the COVID-19 pandemic reported high levels of compassion satisfaction (Bailey et al., 2023) and that rehabilitation providers engaged in vocational rehabilitation have a high potential for compassion satisfaction in their roles (Tabaj et al., 2015). Together, these findings, combined with the lack of Australian research, highlight the need to examine compassion satisfaction within rural rehabilitation contexts.

Compassion Fatigue

Compassion fatigue is characterised by the negative feelings associated with providing healthcare and is mostly a cumulative effect of the emotional, physical, and spiritual exhaustion resulting from repeated exposure to patient or client suffering (Lowe & Griffiths, 2025; Yee & Kauric-Klein, 2025). In healthcare workers, compassion fatigue can lead to physical (gastrointestinal, headaches, interrupted sleep) and emotional symptoms (irritability, depression, anxiety, concentration and judgement problems), which negatively impact work

engagement and performance, often impacting client care, workplace relationships, and personal life (Sorenson et al., 2016).

The impact of healthcare worker compassion fatigue on organisations and workplaces includes an overall decline in organisational performance, difficulties with staff attraction and retention, absenteeism, problematic workplace relationships, and poor client outcomes (Vu & Bodenmann, 2017). In addition to this, compassion fatigue results in an increase in workers' compensation claims for stress and anxiety-related psychological injury, often with disability impairment, meaning they are unable to return to work for an extended period due to their symptoms related to the claim (Lee et al., 2019).

Generally, in health and human services work, organisations view compassion fatigue as an individual's issue to manage (Edwards & Goussios, 2021). Rather than addressing the work-related stressors that lead to compassion fatigue, employers tend to focus on employee self-management strategies, including education and training, that emphasise self-care and self-awareness to develop resilience (Nolte et al., 2017).

Although compassion fatigue has been widely examined across many healthcare professions internationally, there is no existing literature on compassion fatigue among Australian rehabilitation healthcare workers in either rural or remote locations, or in urban settings. However, a Slovenian study examined compassion fatigue in vocational rehabilitation healthcare workers and found that they are experiencing high levels of compassion fatigue (Tabaj et al., 2015). Studies on rural and remote healthcare workers often discussed compassion fatigue conceptually, drawing on qualitative data, but did not measure it using validated tools such as the ProQOL5 (Dekeseredy et al., 2019; Lespérance et al., 2022). One

international study that did use the ProQOL5 scale found rural healthcare workers during the COVID-19 pandemic presented with low levels of compassion fatigue (Bailey et al., 2023).

Burnout

Burnout arises from chronic work-related stress stemming from job factors and demands, including heavy workload, lack of support, poor working hours, inadequate supervision, limited autonomy, role conflict, strained work relationships, and emotional strain, rather than from individual personality traits (Edú-Valsania et al., 2022). Although burnout and compassion fatigue are related and can occur simultaneously, they differ in that compassion fatigue arises from exposure to work that requires empathy and tends to have a sudden onset, and it is associated with desensitisation to patients, feelings of apathy, depersonalisation, and helplessness (Forrest et al., 2020; Henson, 2020). Burnout develops gradually and is characterised by emotional exhaustion, negative and cynical attitudes towards clients and patients, and negative self-perceptions of work performance (Maslach & Jackson, 1981). In terms of symptomology, burnout may present with physical symptoms such as increased blood pressure, headaches, gastrointestinal problems, chronic fatigue, and muscle tension. Psychological symptoms often include depression, anxiety and substance misuse (Tabaj et al., 2015). Burnout negatively affects the health and well-being of rehabilitation healthcare workers, resulting in decreased empathy and reduced quality of service delivery to clients and affecting their therapeutic alliance, and generally develops in high-pressure work environments without exposure to traumatised clients (Lu et al., 2024; Tujague & Ryan, 2023). Burnout also contributes to adverse organisational outcomes by increasing staff attrition, reducing productivity, and compromising patient care (Oser et al., 2013).

Burnout drives absenteeism and early retirement, and in healthcare, it reduces the quality of care, leading to patient dissatisfaction, revenue loss (Han et al., 2019; Khammissa et al., 2022). Among U.S. urban physicians, burnout is estimated to cost USD 4.6 billion annually due to turnover and reduced clinical hours, averaging USD 7600 per employee (Han et al., 2019). As this figure excludes rural and broader healthcare sectors, the true cost is likely significantly higher. Burnout rates among healthcare workers have remained consistently higher than pre–COVID-19 levels, indicating they are still elevated compared to 2018; this suggests that recovery may be slow and that managing burnout requires tailored approaches across healthcare specialisations and work locations (Mohr et al., 2025).

Healthcare workers are particularly vulnerable to burnout due to the emotional demands of caring for unwell individuals and the tendency to prioritise others' needs, often at the expense of their own well-being (Bridgeman et al., 2018). People are often drawn to caregiving careers because of their values and sense of purpose, often expecting their employer to share the same ethos. However, when personal values do not align with the inherent requirements of their role, healthcare workers often push themselves too hard to navigate the conflict, which can lead to burnout (Jones & Griep, 2018).

In the Australian healthcare system, there is a tendency among both employers and employees to blame individuals when they cannot meet work demands, with burnout often seen as a sign of weakness or incompetence (Mueller & Morley, 2020). This attitude is also reflected in the international literature, where burnout is often depicted as a personal issue linked to traits such as personality, coping styles, and attitudes, rather than recognised as a consequence of organisational factors (Korhonen & Komulainen, 2023).

Although there is limited literature on burnout among rehabilitation healthcare workers in rural and remote Australia, an Australian study of community-based rehabilitation workers, which did not specify whether participants were rural, remote, or urban, found that half of the workers reported experiencing burnout (Currie & Dafny, 2025). Similarly, an international study, that also did not identify participant location reported that rehabilitation healthcare workers face a moderate risk of burnout (Tabaj et al., 2015). These findings highlight the need for further research to understand the prevalence and contributing factors of burnout in rural and remote rehabilitation settings.

Secondary Traumatic Stress

Secondary traumatic stress in healthcare workers results from indirect exposure to trauma through caregiving relationships (Stearns, 2017). It can also result from a one-off experience in providing care during a traumatic event or from having intimate knowledge of a traumatic event their patient or client has experienced (Cavanagh et al., 2020). Symptoms of secondary traumatic stress arise from helping others who are suffering, or from working with trauma victims, and they present as negative thoughts, emotions, and behaviours (Ogińska-Bulik et al., 2021). As Figley (1995) noted, the symptoms of secondary traumatic stress often resemble those of post-traumatic stress disorder (PTSD). The key difference is that PTSD results from direct trauma exposure, whereas secondary traumatic stress occurs in individuals who have not experienced the trauma firsthand (Kianpoor et al., 2017). Secondary traumatic stress symptoms can range from mild to clinically significant, and when severe, they may cause functional impairment similar to PTSD, however, secondary traumatic stress symptoms would not meet the DSM-5 diagnostic criteria for PTSD unless the exposure was extreme or repeated

(Sprang et al., 2019). At least 50% of the healthcare workforce experience symptoms of secondary traumatic stress, suggesting healthcare workers face significant exposure to graphic details of their patients' traumatic experiences (Orrù et al., 2021; Xu et al., 2024).

Organisational factors can reduce secondary traumatic stress experiences for employees, particularly when organisational culture is client-focused, provides adequate management support, and provides fair and equitable organisational justice (Caringi et al., 2017). When healthcare workers experience traumatic workloads (distressing cases, high emotional strain, crisis situations), long hours, and poor working conditions, and they receive inadequate organisational support, their coping capacity can decline and significantly increase the risk of experiencing secondary traumatic stress (Ogińska-Bulik et al., 2021).

Internationally, nurses in rural and remote areas report levels of secondary traumatic stress similar to their urban counterparts, with almost 40% experiencing symptoms (Swan & Hobbs, 2021). There is currently no research examining secondary traumatic stress among rehabilitation healthcare workers in Australia, and very limited information specific to rural and remote settings. While some studies on Australian healthcare workers exist, they generally focus on vicarious trauma or post-traumatic stress disorder rather than secondary traumatic stress.

Rehabilitation Healthcare

Rehabilitation healthcare is an emerging and rapidly expanding multidisciplinary healthcare field in Australia and internationally, which can be delivered in a clinical or community setting (World Health Organization, 2011). Clinical rehabilitation is generally focused on recovery and prevention of complications following an emergency or surgical

intervention, and it is considered a restorative intervention (Leary & Stevenson, 2025). Whereas rehabilitation healthcare delivered in community settings aims to increase functional capacity, enhance activities of daily living, and improve workforce and community participation (Mills et al., 2017). Rehabilitation healthcare professionals providing services in community settings are typically medical practitioners and tertiary-qualified allied health professionals (World Health Organisation, 2024). Community-based rehabilitation is usually provided under insurance-funded schemes. However, it can also be offered as part of an outpatient treatment service, or through not-for-profit and charitable organisations (Bragge et al., 2023; Preston et al., 2023).

While medical practitioners diagnose the condition and establish the treatment plan, rehabilitation activities are implemented under an insurer-approved rehabilitation plan and program. Within this framework, allied health professionals such as physiotherapists, psychologists, and occupational therapists primarily deliver treatment interventions. Rehabilitation healthcare workers engaged by insurers are also allied health professionals, typically occupational therapists and rehabilitation counsellors; however, when operating in a rehabilitation provider role, their function is distinct from treatment delivery. In this context, rehabilitation healthcare workers coordinate treatment planning, service delivery, and approved rehabilitation activities, liaising between treating practitioners, the worker, and the insurer, and in some schemes may undertake vocational and functional assessments to support return to work planning (Comcare, 2026b).

Participants of studies included in this thesis were rehabilitation professionals with full membership of their professional body, working in insurance-based schemes based in rural and remote locations. Their work involved undertaking case management and disability

management work, rehabilitation, insurance scheme eligibility assessments, and work preparation and return to work services.

Insurance-Based Schemes

In Australia, rehabilitation healthcare is generally privatised, and operates within a competitive business model which is underpinned by legislative requirements, particularly within the insurance-based schemes (Kendall & Clapton, 2006). Rehabilitation provided in the community within an insurance-based scheme represents the primary source of employment for Australian rehabilitation providers (McLennan et al., 2018). In insurance-based rehabilitation, the business model emphasises timely client outcomes, as promoting quicker recovery benefits both the client's wellbeing and the insurer's financial performance (Robichaud et al., 2019). In these schemes, rehabilitation healthcare workers must comply with the legislated insurer requirements and their approved costing schedules, which can prove to be a barrier to successful rehabilitation outcomes (Buys & Kendall, 1998).

Across Australia, insurance schemes include workers' compensation, compulsory third party (CTP), life and income protection, the Department of Veterans Affairs (DVA), and the Australian National Disability Insurance Scheme (NDIS).

Workers' compensation is an employer-funded insurance required under Australian law to protect employees who become ill, are injured, experience an exacerbation of a pre-existing condition, or suffer a fatality due to their employment. Rehabilitation healthcare under this scheme is financed through premiums paid by employers, calculated on their total payroll (Safe Work Australia, 2023b). In 2023–24, Australia recorded approximately 146,700 serious workers' compensation claims, defined as claims involving one or more weeks of time lost from work

(Safe Work Australia, 2025). Serious claims are concentrated within a small number of industries, particularly healthcare and social assistance, construction, manufacturing, public administration and safety, transport and warehousing, and agriculture, which together account for around 61% of all claims (Safe Work Australia, 2025). The most common causes of these claims include musculoskeletal injury (body stressing) and mental stress, with mental health–related claims representing a growing and costly component of the workers' compensation system.

CTP insurance is a mandatory, state- and territory-based scheme operating across Australia that enables people injured in motor vehicle accidents to access funded medical treatment, rehabilitation services, and compensation (Krever & Teoh, 2017). Although the core function of CTP insurance is nationally consistent, each jurisdiction administers and regulates its own scheme through a legislated regulatory authority, shaping how rehabilitation services are approved, funded, and delivered within that jurisdiction (Motor Accident Insurance Commission, 2024). The state and territory regulation results in variation across scheme design and reporting practices, limiting the availability of consistent national data on claimant numbers and rehabilitation demand.

Life and income protection insurance are generally financed through one of three arrangements: employee contributions, through a company trust, or as part of an employee's superannuation fund. Life and income-protection insurance operate within a national private market with estimates indicating that approximately 69% of Australians do not hold income-protection insurance, and demand is low across all age groups (Australian Law Reform Commission, 2012). Life insurance provides payments to help cover policyholder financial costs,

including loss of income, health (including rehabilitation), and medical expenses resulting from trauma, personal accidents, and total and permanent disability (NSW Government, 2025). Income protection provides ongoing payments from the insurer to the policyholder as a source of income when they are unable to work due to a disabling injury or illness (Australian Financial Complaints Authority, 2025).

The Australian Government funds the DVA, which provides financial and vocational supports and health services (including rehabilitation) to support serving and ex-serving Australian Defence Force members and their families (Department of Veterans' Affairs, 2025). The DVA supports approximately 230,000 veterans with accepted service-related conditions across its compensation, treatment, and rehabilitation arrangements (Department of Veterans' Affairs, 2025). In 2024–25, DVA administered several billions of dollars in health, compensation, and support expenditure; however, publicly available data does not identify payments made exclusively to veterans from those provided to partners, widows, or dependents (Transparency Portal, 2024). Recent claims data (2023–24) indicate that the most frequently claimed conditions under the Veterans' Entitlements Act primarily comprised musculoskeletal disorders and mental health conditions (Transparency Portal, 2024).

Finally, NDIS provides disability support for Australians with a permanent and significant disability or developmental delay. The NDIS is funded by the Australian Government, with contributions from all Australian state and territory governments, and it provides funding for approved services under a NDIS plan (NDIS, 2024). As at March 2026, the NDIS supported 774,456 participants. Over the 12 months ending March 2026, the NDIS provided approximately $50.17 billion in paid supports, with the average annual payment per participant

approximately $66,800 (NDIS, 2026). The size of the NDIS and its continued expansion highlight the growing demand for disability and rehabilitation services, placing increasing pressure on the rehabilitation healthcare workforce.

Outside formal insurance frameworks, employers across all sectors commonly engage rehabilitation healthcare services as part of early intervention programs to support employees in returning to work following illness or injury (McLennan & Ludvik, 2021). Early Intervention is generally provided as a proactive human resources initiative by employers to minimise absenteeism and manage the health and wellbeing of their workforce. The benefits of early intervention services for work- and non-work-related health conditions include lower rates of accepted workers' compensation claims and shorter durations of incapacity periods (Lemstra & Olszynski, 2003). Regardless of sector, employers are legally obligated under WHS legislation to provide workplace rehabilitation services for compensable conditions, which are generally outsourced to rehabilitation healthcare workers (Safe Work Australia, 2023a).

Person-Centred Approach

Rehabilitation healthcare provided in the community uses a person-centred approach, a fundamental principle of rehabilitation healthcare, where treatment planning is conducted in collaboration with the care recipient, prioritising their goals, preferences, and shared decision-making (World Health Organisation, 2024). This approach addresses the biological, psychological, social, and environmental factors influencing health and participation outcomes (French et al., 2022). A person-centred approach is deeply embedded in the professional standards and ethical frameworks established by professional associations within the

healthcare sector, particularly rehabilitation associations, which uphold person-centred care as the core model for rehabilitation practice (Hunt & Ells, 2013).

Case Management Model

Services delivered under insurance-based schemes use a case management model (Choppa et al., 1996). Case management is the coordination of all activities, interventions and referral services needed to support rehabilitation, all whilst managing costs and driving outcomes (Martin, 1995). While case management structures and processes vary across insurance schemes, they are underpinned by shared principles focused on supporting recovery and optimising functional capacity and, facilitating timely and sustainable outcomes within defined funding parameters (Giardino & De Jesus, 2020). These principles are operationalised within insurance-based schemes through differing case-management structures. Rehabilitation recommendations are typically made by treating practitioners and approved by insurers, with rehabilitation planning and coordination undertaken by rehabilitation healthcare providers (State Insurance Regulatory Authority, 2025).

Within insurance-based schemes, rehabilitation funding is determined by the accepted compensable condition and is generally limited to services considered reasonable and necessary for that condition. As a result, comorbid or non-compensable factors that influence recovery typically fall outside the scope of funded care, which may constrain rehabilitation progress in rural and remote settings where alternative service options are limited (Langstaff, 2011). In some circumstances, information about non-compensable conditions may be sought within case-management processes where these are relevant to recovery risk or claims

management considerations; however, insurer-funded treatment is generally limited to services relating to the accepted compensable condition (State Insurance Regulatory Authority, 2025).

A compensable condition refers to an injury, illness, disease, or aggravation of a pre-existing condition sustained by an employee in the course of employment, for which the workers' compensation insurer has determined the employer is liable under workers' compensation legislation (Fair Work Ombudsman, 2025). Although research on best-practice case management in rural and remote Australia is limited, Dellemain and Warburton (2013) suggest it should be tailored to the unique strengths, needs, and sociocultural context of these communities.

Workplace Conditions and Organisational Practices

People generally become rehabilitation healthcare workers due to their desire to help those with disabilities, injuries, or illnesses and make a positive impact on their lives (Bhugra & Ventriglio, 2024). After commencing a career in rehabilitation healthcare within an insurance-based scheme, many individuals come to realise that they are working under a business-oriented model which prioritises performance and profit over person-centred healthcare (Chun et al., 2025). In this context, the "Key Performance Indicator (KPI) model" referred to throughout this thesis describes the performance management systems used within insurance-based rehabilitation schemes to monitor, regulate, and fund service delivery. These systems are enacted through insurer-mandated performance indicators embedded within legislative and contractual arrangements, which rehabilitation organisations are required to meet to secure payment and maintain contractual obligations (Safe Work Australia, 2020). The KPIs most relevant to rehabilitation healthcare commonly relate to facilitating return-to-work

outcomes where appropriate, managing ongoing disability and functional capacity, delivering rehabilitation in a cost-effective manner, and meeting expectations for timely communication and decision-making. These performance expectations directly shape the day-to-day work of rehabilitation healthcare workers by influencing caseload expectations, approval processes, documentation requirements, and outcome timelines (Comcare, 2023). Within the conceptual framework of this thesis, KPI models are understood as organisational and structural conditions that shape work demands and value systems, thereby potentially influencing professional quality-of-life outcomes such as compassion satisfaction and compassion fatigue. Enforced KPIs set by insurers and rehabilitation organisations for rehabilitation healthcare workers often lead to ethical and moral dilemmas as workers struggle to balance their professional obligations with their commitment to providing a person-centred approach to compassionate care (Buys & Kendall, 1998).

In Australia, rehabilitation organisations engaged in insurance-based work enforce strict KPIs for their staff, also known as Practice Standards and Quality Indicators in the NDIS. Within this context, KPIs differ from those in most other healthcare sectors, which share a common theme of focusing on safety, quality, and delivering a patient-centred approach to care (Gartner & Lemaire, 2022). Within the insurance-based rehabilitation healthcare sector, KPIs imposed on workers are focused on economic and business-driven outcomes rather than person-centred care, as employers and insurers pursue outcomes delivered as quickly as possible, with minimal financial outlay from the insurer (Comcare, 2021; Kilgour et al., 2015). The KPIs are also designed and implemented without consideration for the needs or preferences of care recipients (Pasanen, 2021).

In the rehabilitation healthcare industry, insurers implement performance-based funding models by setting KPIs that define service quality and outcomes to be delivered by rehabilitation healthcare organisations and workers. Rehabilitation healthcare workers and their organisations must achieve these insurer-defined KPIs to qualify for payment by the insurer, replacing the traditional fee-for-service approach that remains common in most other healthcare sectors (de Silva Etges et al., 2023; Selviaridis & Wynstra, 2015). Insurers' legislative requirements and economic considerations largely drive the KPIs set for both insurers and rehabilitation organisations, leaving little emphasis on best practice in rehabilitation (McAulay et al., 2023; Roberts-Yates, 2003). Insurers are responsible for the administrative management of compensation claims and have the final say over the cost expenditure and coordination of rehabilitation activity (Pasanen, 2021).

The legislative and contractual obligations within the rehabilitation industry do not adequately account for the complexities of rural practice (described below), resulting in a uniform service delivery model, incorporating KPIs across the rehabilitation healthcare industry, which insurers have acknowledged as problematic (McAulay et al., 2023; Robichaud et al., 2019). This uniformity means that the outcome expectations of KPIs are the same for rehabilitation healthcare workers, regardless of their geographic location. These uniform outcome expectations assume timely engagement and progression, yet in rural and remote communities, rehabilitation practitioners are often initially perceived as 'outsiders', meaning that trust-building and community acceptance may take time (Landon et al., 2021).

Australian employment specialists from urban and rural providers have reported that KPIs result in significant stress due to excessive workloads, a high proportion of complex cases, and

bureaucratic processes (McDowell et al., 2022). The ongoing contradiction between managing KPIs, delivering quality person-centred services, and working within economic constraints is also a significant source of stress for rehabilitation healthcare workers (Kendall & Clapton, 2006). The occupational stress experienced by this population is likely due to financial pressures imposed by their organisation to ensure they meet their KPIs, as the organisation needs to demonstrate achievement of those KPIs to receive payment from the insurer.

While KPIs are intended to measure success in insurance-based rehabilitation healthcare, they often fail to motivate workers; instead, the ongoing pressure to meet these targets can negatively impact psychological well-being, contributing to stress, pressure, and negative feelings that must be carefully balanced to avoid burnout (McAulay et al., 2023). The emphasis on KPI outcomes by insurers can often be at odds with the person-centred values promoted in education programs for healthcare professionals, and expressed in their professional ethical standards, which increases their risk of developing work-related stress (McLennan et al., 2018). To manage concerns with professional ethics, rehabilitation healthcare workers generally rely on informal support from their supervisors and peers (McLennan et al., 2018), which is often difficult in rural and remote locations due to professional isolation.

Psychosocial Hazards

Psychosocial hazards refer to aspects of work that may cause psychological or physical harm, due to stress reaction (Comcare, 2026). Although psychosocial risk is present across all occupational groups, healthcare, emergency, and humanitarian workers are more likely to experience adverse working environments that negatively affect mental health (World Health Organisation, 2024). National workers' compensation data indicate that mental health

conditions account for approximately 12% of all serious workers' compensation claims, with claims for psychological injury associated with substantially longer periods of work absence and significantly higher compensation costs than claims for physical injury (Safe Work Australia, 2025). Psychosocial hazards contribute to mortality indirectly by increasing the risk of cardiovascular disease and mental health conditions, including suicide, through sustained exposure to poorly designed or managed work environments (International Labour Organisation, 2026).

Since the commencement of this thesis, psychosocial hazards have been legislated in Australia, placing clear obligations on employers to identify, assess, and manage psychosocial risks arising from work (Comcare, 2024). Psychosocial hazards have long been recognised under the Work Health and Safety Act 2011; however, recent legislative reforms have increased attention on their active management, aligning psychological safety more closely with physical safety obligations (Safe Work Australia, 2024).

The legislative recognition of psychosocial hazards acknowledges that psychological harm may result from workplace conditions such as excessive workload, limited support, and poorly managed job demands. However, recent legislative reforms in jurisdictions such as New South Wales and Queensland have, in practice, made it more difficult for psychological injury claims to achieve accepted liability (with the exception of first responders), due to the introduction of higher impairment thresholds and expanded exclusions associated with 'reasonable management action' (icare, 2026; Queensland Government, 2024). As a result, workers experiencing work-related psychological harm may face more limited access to workers' compensation pathways. This gap between the formal recognition of psychosocial

hazards and the practical constraints on compensation may create ongoing barriers for workers exposed to psychosocial risk and has potential implications for rehabilitation providers, particularly those operating in high-demand and resource-constrained rural settings.

Rural And Remote Healthcare Workers

The study area encompassed rural and remote Australia, which covers approximately 99.8% of the country's 7.7 million km² landmass (McGrail & Humphreys, 2015). The landmass of Australia is almost the same size as the United States of America, excluding Alaska, approximately 50% larger than Europe (excluding the former USSR), and 32 times greater than the United Kingdom (Australian Bureau of Statistics, 2005). Despite this vast area, rural and remote Australia are sparsely populated, with approximately 28% of Australians living in rural or remote areas (Australian Institute of Health and Welfare, 2024). These populations face poorer health outcomes and experience more barriers to healthcare accessibility than those in urban areas. The barriers include limited infrastructure, limited healthcare providers and referral services, geographic isolation, and socioeconomic constraints (Australian Institute of Health and Welfare, 2024). Health outcomes in rural and remote locations are shaped by social determinants of health, which are often worse than in urban settings (Flavel et al., 2024). The outcomes are further complicated by the unique challenges of providing healthcare in rural and remote areas, including workforce shortages, isolation and limited resources (Maganty et al., 2023), and fewer employment options for their clients (Landon et al., 2019). In rural and remote Australia, these challenges also influence how rehabilitation is delivered, which typically occurs in the person's home or through local outreach centres as a socially inclusive partnership involving the client, their family, and broader community networks (Brown et al., 2017).

For healthcare workers to have a successful career in rural and remote areas, they need to understand these locations' sociocultural, sociodemographic and environmental considerations through growing up in these areas or undertaking specialised rural and remote training (Brown et al., 2017). Everyday stressors faced by rural and remote healthcare workers that result in burnout include poor organisational and workplace support, excessive workload, poor resourcing, inadequate remuneration, working excessive hours, and managing crises outside their expertise (Liebenberg et al., 2018). While these factors may align with the experiences of some urban healthcare workers, those in rural and remote areas also contend with geographic isolation. Such isolation leads to restricted access to healthcare and referral services, which amplifies socioeconomic, sociocultural and sociodemographic disparities, negatively impacting healthcare delivery (Dewi et al., 2024).

Geographic and professional isolation may increase WHS risks, which are work-related factors that impact employees' psychological well-being (Di Tecco et al., 2023). WHS risks include job content (lack of autonomy, limited professional development, conflicting demands), work organisation and management (excessive workload, poor change management, poor work-life balance, and lack of top-down communication), and the social context of the job (lack of workplace support, unsafe work environment, and job insecurity) (Franklin & Gkiouleka, 2021). A global systematic review of nurses working in rural and remote locations found that nurses report fears for personal safety when working in isolation and without security support (MacKay et al., 2021). Australian rural and remote healthcare workers often work in isolation within their clients' homes with non-existent or unreliable telecommunication reception, which

is a significant risk in an emergency, particularly when there are threats to personal safety (Terry et al., 2015).

The way in which the workplace manages these WHS risks can lead to positive outcomes, including increased work engagement and productivity, or negative outcomes such as stress, physical illness and absenteeism (Di Tecco et al., 2023). Poorly managed WHS risks ultimately contribute to healthcare worker burnout, increased staff turnover, decreased quality of care and poorer health outcomes for rural and remote healthcare consumers (Malik et al., 2024). Without the appropriate safe work support for rural and remote locations, the organisations fail in their duty of care to workers. As a result, employees are exposed to unsafe work practices, which, although they may not cause physical harm, can lead to frustration and resentment with the organisation (Wright et al., 2021).

In rural and remote Australia, rehabilitation healthcare workers operate under the same service delivery frameworks as their urban colleagues, meaning they have the same performance delivery expectations (Comcare, 2021). Their workload includes similar numbers of clients, but as experienced in the US, they are geographically dispersed, and they have fewer supports and resources to deliver their services (Landon et al., 2019). Hussain et al. (2015) argue that rural and remote models of healthcare need to differ from those in urban areas, as there are unique barriers and challenges in the provision of rural and remote healthcare, namely due to cultural sensitivities, sociodemographic differences, and geographic isolation.

Rehabilitation healthcare workers practising in rural and remote Canada describe how they are required to manage vast and diverse caseloads, often using a broad skill set beyond their scope of expertise, which is likely uncommon in urban locations (Roots et al., 2014).

Rehabilitation healthcare workers in the United States report a strong positive correlation between caseload size and burnout, attributing it to three factors: the strain of large caseloads, a negative work environment, and challenges in maintaining work-life balance (O'Sullivan & Bates, 2014). Consistent with these findings, caseload incongruence, which is defined as the gap between actual and preferred caseload size, has been identified as one of the strongest predictors of intent to leave rehabilitation counselling, with actual caseloads typically exceeding practitioners' ideal workloads and placing strain on service delivery and relationship management amid rising referral demand and limited resources (Landon et al., 2024).

Factors That Impact Compassion Satisfaction and Compassion Fatigue (Burnout and Secondary Traumatic Stress) in Healthcare Professionals

Personal and Sociodemographic Factors

Personal and sociodemographic factors associated with compassion satisfaction and compassion fatigue include age, marital status, years in the profession, level of education, adequacy of remuneration, and gender (Çakmak et al., 2025; Nadarajan et al., 2025; Sacco et al., 2015; Schroeder et al., 2023; Sibuea et al., 2024). However, across the literature, there are inconsistencies with the impacts these factors have on compassion satisfaction and compassion fatigue, particularly between various nursing specialisations across urban and rural settings (Ruiz-Fernández et al., 2020). The differences may be influenced by differing workplace cultures across work locations, responsibility perceptions, and the levels of patient care and ongoing engagement, and professional education associated with each nursing specialisation (Lykins et al., 2024; Mangoulia et al., 2015). Those with strong faith, religion, and spirituality may experience these as protective factors in compassion satisfaction and as a coping mechanism

for managing stressful work-related situations, providing additional meaning to their role (Farmahini Farahani et al., 2023).

Individual Qualities and Experiences

Healthcare workers with high motivation levels, who are idealistic, experience personal life stress, and have cumulative grief, are more likely to develop compassion fatigue, whereas personal resilience is a commonly reported protective factor for compassion satisfaction (LoboPrabhu & Molinari, 2019; Unjai et al., 2022). Personal resilience enables individuals to better manage and cope with work-related stressors, including trauma exposure, excessive workloads and ethical dilemmas, which may lead to compassion fatigue (Stanley & Sebastine, 2024). Resilience is more likely to occur when healthcare workers perceive they have adequate organisational and workplace support to manage workplace stressors (Liu et al., 2024).

Having a personal history of exposure to traumatic events may result in healthcare workers being triggered in the workplace when they are providing care to individuals who have also experienced trauma, as this may remind them of their own suffering (Yu et al., 2021). Similarly, healthcare workers who have experienced complex health conditions themselves may experience decreased compassion satisfaction when providing care to individuals with serious co-morbid health conditions and poor prognosis (Glover-Stief et al., 2020).

Support from Friends and Family

Social and familial support significantly influence compassion satisfaction and burnout, with social isolation, particularly in rural and remote settings being a major contributor to burnout among healthcare workers (Gustafsson & Hemberg, 2022; McKenzie, 2019; Nadarajan et al., 2025; Yu et al., 2021). Personal support from friends or family may alleviate the stressors

associated with patient care and act as a protective factor against burnout and compassion fatigue (Mirutse et al., 2023). However, when clients are also part of a healthcare worker's social network, maintaining professional boundaries can be challenging, particularly in rural and remote communities where personal and professional relationships often overlap (Szumer & Arnold, 2023). Compassion fatigue also negatively impacts social and personal relationships as it affects personal time and often leads to the healthcare worker withdrawing from family and social activities (Gustafsson & Hemberg, 2022).

Workplace Wellbeing Practices

Healthcare workers who recognise the symptoms of compassion fatigue and receive support from their workplace through organisational wellbeing programs are better equipped to manage compassion fatigue (Bhugra & Ventriglio, 2024). Employers play a key role in enabling these practices by facilitating healthy work–life balance through flexible working arrangements, encouraging regular breaks, providing access to wellbeing resources, including mindfulness programs and peer support groups (Bae et al., 2020; Yoder, 2010) Implementing wellbeing strategies that also address depression and anxiety may reduce compassion fatigue in rural and remote healthcare, as these conditions are associated with higher rates of compassion fatigue (Bailey et al., 2023).

There is a broad consensus that staff consultation should be central to any employee support model to ensure initiatives reflect actual staff needs rather than employer assumptions (Lee et al., 2019). Consultation is particularly important for rural and remote healthcare workers who experience higher rates of compassion fatigue than those in urban areas, mainly because they require alternative modes of workplace support due to their geographic isolation

(Slatten et al., 2020). Rural healthcare workers are rarely consulted on the support they need, and existing services to help manage burnout are often inadequate compared to those available in urban areas (Cosgrave, 2020; Malik et al., 2024).

Workplace Culture

Rural and remote settings can present unique workplace and organisational challenges that can influence compassion fatigue outcomes in healthcare workers. These include working outside their scope of expertise due to limited staffing, poor support for problematic workplace relationships, lack of access to professional development opportunities, and social and professional isolation (Whiteing et al., 2022). Healthcare workers in rural and remote locations often do not receive the same organisational support and recognition as their urban colleagues, which leads to service delivery issues, increased workloads, and risk of burnout (Endalamaw et al., 2024). Those in rural and remote areas often feel that they miss out on the technology available in urban areas, are distanced from their profession and are not afforded the same professional development opportunities as colleagues in urban areas (Williams, 2012).

In rural and remote locations, healthcare workers often work alone or in small and mobile teams (Williams, 2012). This brings challenges in maintaining a positive workplace culture, where healthcare workers may already feel there is an 'us and them' dynamic with management (Roberts, 2021, p. 818). Building and maintaining a positive workplace culture is important as it may serve as a protective factor against developing compassion fatigue, particularly when healthcare workers experience increased collaboration and involvement in decision-making (Ayed et al., 2024).

Safety Risks

Rurality and remoteness increase the risk of exposure to occupational violence for Australian healthcare workers in the forms of verbal and physical threats, intimidation, and violence, and often these events go unreported as they are generally normalised as part of the job (Terry et al., 2015). This normalisation of workplace violence typically occurs when the workplace management adopts a poor safety culture that accepts violent incidents being an accepted part of the role (Wright et al., 2021). When healthcare workers are exposed to unsafe work situations, including physical or verbal violence, and disrespectful patient or client conduct, their risks of developing compassion fatigue, burnout, and secondary traumatic stress significantly increase, and compassion satisfaction decreases (Murray & Chiotu, 2024; Okoli et al., 2020).

Organisational and Workplace Support

Organisational and workplace support is associated positively with compassion satisfaction and negatively with burnout (Tang et al., 2024). Supportive workplace relationships between colleagues and management facilitate a culture where healthcare workers feel more positively about their workplace and job demands, which in turn increases compassion satisfaction (Glover-Stief et al., 2020).

As noted earlier, rural and remote healthcare workers usually work alone, without any locally based colleagues, and experience professional, social, and geographic isolation, which can lead to burnout (McKenzie, 2019). Participants in the McKenzie (2019) study reported frustrations with managers being difficult to contact, having inadequate local knowledge, and

feeling depersonalised when their requests for support were responded to with a referral to their Employee Assistance Program (EAP).

In rural and remote areas, debriefing opportunities with leadership following distressing incidents are typically available but often delayed and difficult to access due to employee workload pressures, isolation, and under-resourcing of staff and infrastructure, with similar barriers also hindering access to EAP (Jahner et al., 2020). Supportive managers with good social-emotional skills who provide appropriate debriefing, communicate well and facilitate a positive working environment are more likely to have a team of healthcare workers experiencing compassion satisfaction (Hunsaker et al., 2015).

Stakeholder Management

Internationally, vocational rehabilitation providers suggest that they are at increased risk of burnout due to frequent engagement with multiple stakeholders and the associated administrative burden that it involves (Tabaj et al., 2015). Similar findings have been reported in Australia, where high workloads associated with managing ongoing stakeholder demands contribute to stress and burnout (Tujague & Ryan, 2023).

Australian rehabilitation counsellors manage complex relationships with clients, colleagues, and external stakeholders such as treating practitioners and insurers, who often have conflicting expectations: insurers focus on financially driven outcomes, while practitioners advocate for the client's recovery (McLennan et al., 2018). People's claims within the insurance-based framework can become litigious, involve unions and lawyers, and evolve into medicolegal conflicts, placing rehabilitation providers in an adversarial position (Buys & Kendall, 1998). Managing these relationships can leave rehabilitation healthcare workers feeling isolated,

reducing self-esteem and self-efficacy, and increasing the risk of burnout (Buys & Kendall, 1998). A lack of managerial support when raising concerns about people's claims or conflicts with their professional responsibilities and values was viewed by rehabilitation workers as reflecting a business-driven approach that limited autonomy and subsequently contributed to heightened stress and burnout (McLennan et al., 2018).

Healthcare workers in rural and remote locations manage complex stakeholder engagements with diverse populations, often involving cultural sensitivities, challenges in building trust (particularly if the worker is not local) and mistrust of the healthcare system (McKenzie, 2019). When rural and remote healthcare workers feel inadequately trained or supported to provide culturally safe care, gaps in cultural awareness can cause care recipients to feel shame or disrespect, and the resulting stress of managing these relationships increases the risk of burnout (Hansen et al., 2021; Mullan et al., 2023). Community-based Australian healthcare workers within the NDIS are particularly vulnerable, as the nature of their work requires ongoing relationships with clients and their families, balancing professional boundaries with advocacy, and managing the emotional demands of sustained engagement, all of which can exacerbate stress and increase burnout risk (Bethea et al., 2020; Currie & Dafny, 2025).

Workload

Generally, healthcare providers in rural and remote areas have higher caseloads than their urban colleagues, which can result in work-related stress (Hansen et al., 2021). The higher workloads are potentially influenced by high staff attrition and the barriers to service delivery resulting from inadequate training for healthcare provisioning in rural and remote locations (Mullan et al., 2023).

Rehabilitation healthcare workers tend to have large caseloads of people with complex needs who need to be returned to work in challenging economic environments (O'Sullivan & Bates, 2014). Excessive workload has been consistently linked with compassion fatigue across the literature, with the flow-on effects often resulting in working excessive hours, which is also known is a risk factor for burnout (Dee et al., 2023; Garnett et al., 2023).

Problem Statement

The existing literature suggests that the factors discussed in the section above are potential risk and protective factors for compassion satisfaction and compassion fatigue in healthcare workers. However, no literature appears to be available to determine whether these findings apply to Australian rural and remote rehabilitation healthcare workers and, if so, how they influence their ProQOL.

Australian rehabilitation healthcare is an exceptionally high-turnover industry with persistent issues of attraction and retention (Kendall & Clapton, 2006). There is also an awareness that rural and remote healthcare workers face heightened risks for compassion fatigue due to factors such as isolation, limited resources, and the emotionally demanding nature of their roles, which may impact staff attrition (Sprang et al., 2007). Whether these workplace conditions and practices also apply to the rural and remote rehabilitation healthcare workforce in Australia is unknown.

Research Aim

The overarching aim of this thesis is to examine the levels, experiences, risk factors, and protective factors of compassion satisfaction and compassion fatigue in Australian rural and remote rehabilitation healthcare workers.

Research Questions

The following research questions guided the studies within this thesis:

Research Question 1 (Chapter 2, Study 1)

What are the predictors of compassion satisfaction and compassion fatigue in healthcare workers providing health and rehabilitation services in rural and remote locations?

Research Question 2 (Chapter 3, Study 2)

What experiences or situations do rehabilitation healthcare workers in rural and remote Australia describe as influencing their compassion satisfaction and compassion fatigue?

Research Question 3 (Chapter 4, Study 3)

What levels of compassion satisfaction, burnout, and secondary traumatic stress do Australian rural and remote rehabilitation healthcare workers report?

Research Question 4 (Chapter 4, Study 3)

How do their levels compare with reference groups of Australian healthcare workers?

Research Question 5 (Chapter 4, Study 3)

What demographic and work-related variables relate to their compassion satisfaction, burnout, and secondary traumatic stress outcomes?

Research Question 6 (Chapter 4, Study 3)

What stressors impact their work-life quality and compassion satisfaction?

Thesis Outline

The following is an outline of the thesis.

Chapter 1: Introduction

Chapter 1 introduces the thesis, outlining my motivations for this investigation, background literature, and the problem statement. It also explains the organisation of the thesis chapters and the interconnection of the studies (Figure 2).

Chapter 2: Study 1 (Scoping Review)

Chapter 2 is a peer-reviewed publication resulting from Study 1. It is titled 'Predictors of Compassion Satisfaction and Compassion Fatigue in Healthcare Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review'. This review involved the synthesis of existing literature on rural and remote healthcare workers, which assessed the following variables: compassion satisfaction, compassion fatigue, burnout, secondary traumatic stress or vicarious trauma. Key findings included:

- There is no research on compassion satisfaction and compassion fatigue experienced by the rehabilitation sector of the rural and remote health workforce.
- Several personal and work-related variables are identified as influencing the development of compassion fatigue and compassion satisfaction in rurally located healthcare workers, but not all findings are consistent between studies.

Using the ProQOL model, a visual representation of potential predictor variables for compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers was created, which informed the development of Study 2.

Chapter 3: Study 2 (Semi-Structured Interviews)

Chapter 3 is a peer-reviewed publication arising from Study 2. It is titled 'Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural

and Remote Locations in Australia'. This study used semi-structured interviews, thematically analysed, to explore Australian rural and remote rehabilitation healthcare workers' perceptions of compassion satisfaction and compassion fatigue. The interview questions were developed based on findings from Study 1. The key findings from Study 2 were:

- Quality of work life, organisational and workplace culture, and organisational management practices, particularly key performance indicators (KPIs), were reported as impacting compassion satisfaction and compassion fatigue.
- Sources of compassion satisfaction were also common to the development of compassion fatigue, suggesting that compassion satisfaction is unlikely to be experienced without the risk of compassion fatigue.

Chapter 4: Study 3 (National Survey)

Chapter 4 is a peer-reviewed publication arising from Study 3. It is titled 'Levels of Compassion Satisfaction, Burnout, and Secondary Traumatic Stress in Rehabilitation Healthcare Workers in Rural and Remote Australia and their Associations with Demographic and Work-Related Variables.' The findings from Study 1 and Study 2 informed this study. They assisted in developing the demographic and extended response questions. Open-ended questions enabled the participants to include free-text responses. This study also included the ProQOL5 scale to document participants' quality of work life and review their outcomes against reference groups of Australian healthcare workers who had previously completed the ProQOL5 scale. Key findings of this study were:

- Participants reported moderate levels of compassion satisfaction, burnout, and secondary traumatic stress, as determined using the ProQOL5 scale score ranges documented in the ProQOL5 scale manual.
- When results were reviewed using the reference groups, the participants were experiencing significantly lower rates of compassion satisfaction, significantly higher rates of burnout and significantly worse secondary traumatic stress than most reference groups.
- Compassion satisfaction and burnout were significantly associated with workplace and organisational factors, including work-life balance, workplace culture, and work arrangements.

Chapter 5: Discussion and Conclusion

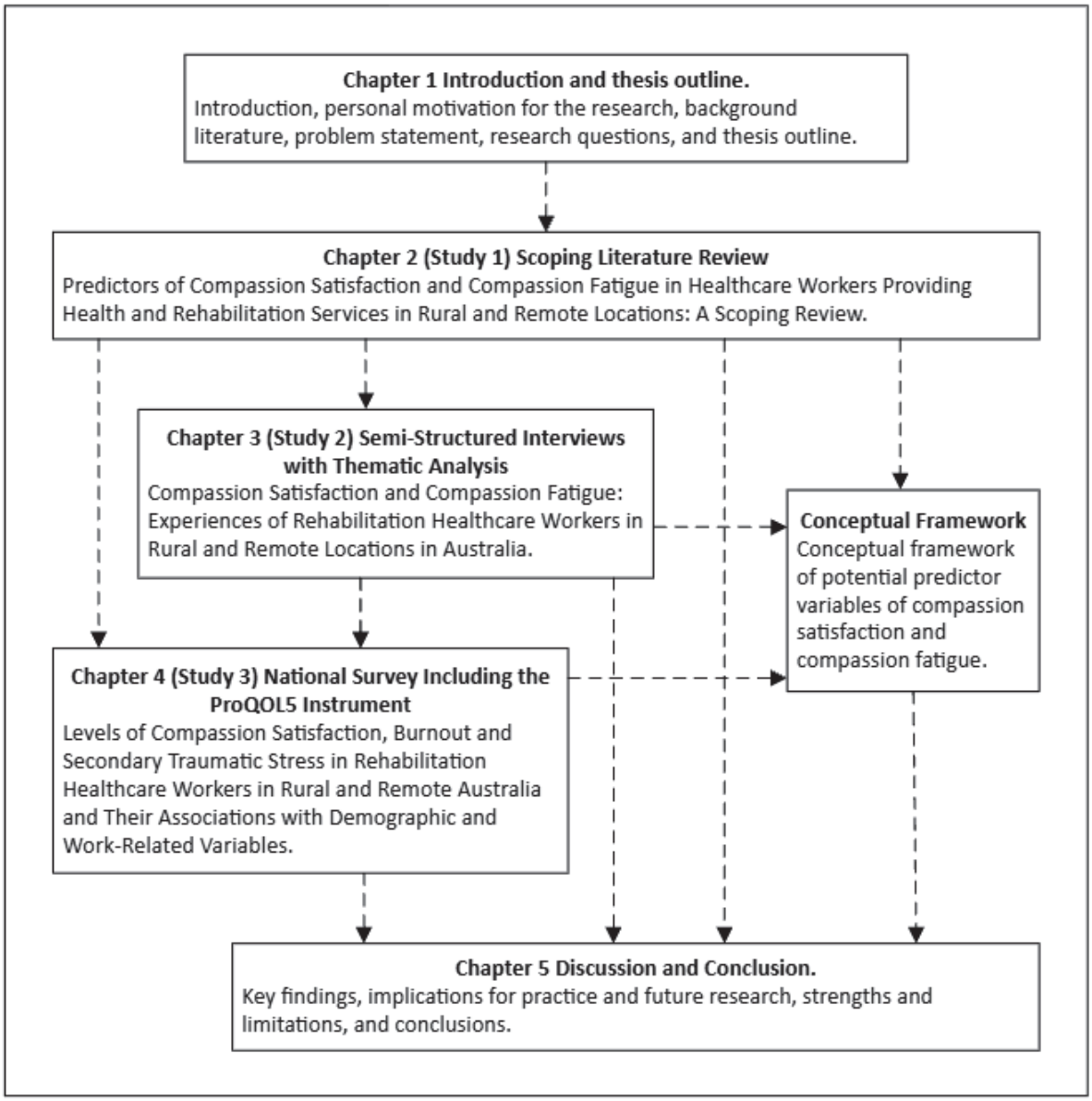
This final chapter discusses five key findings drawn from the three studies in the thesis, including their implications for practice and recommendations for future research. The findings are presented as a conceptual framework of risk and protective factors for compassion satisfaction and compassion fatigue (burnout and secondary traumatic stress) in rural and remote rehabilitation healthcare workers. Findings include:

1. Australian rural and remote rehabilitation healthcare workers experience compassion satisfaction and compassion fatigue in the conduct of their work. They report lower compassion satisfaction and higher burnout and secondary traumatic stress than most other Australian healthcare professionals who provided data using the ProQOL5 scale.

2. Work-related factors identified as contributing to compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3) show similarities with newly legislated WHS psychosocial hazards.
3. Rehabilitation job design and KPI demands influence compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3).
4. The ProQOL5 scale may not fully reflect the range and interplay of work-related factors influencing compassion satisfaction, burnout, and secondary traumatic stress within this sector of the workforce.
5. Limited WHS action by employers may increase compassion fatigue (Study 2) and burnout (Study 3) in Australian rural and remote rehabilitation healthcare workers.

Next, the thesis' strengths and limitations are discussed, followed by recommendations for further research. The chapter ends with a thesis conclusion.

Figure 2. *Diagram of the Relationship Between Thesis Chapters.*



References

Australian Bureau of Statistics. (2005). *Geography and Climate, 2005* Retrieved November 22, 2025 from https://www.abs.gov.au/ausstats/abs%40.nsf/94713ad445ff1425ca25682000192af2/5B10622703A022B0CA256F7200833007?opendocument=&utm

Australian Financial Complaints Authority. (2025). *Income Protection Benefits in Superannuation*. Retrieved November 22, 2025 from https://www.afca.org.au/about-afca/publications/income-protection-benefits-in-superannuation

Australian Institute of Health and Welfare. (2024). *Rural and Remote Health*. Retrieved February 9, 2025 from https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health

Australian Government Australian Institute of Health and Welfare. (2024b). *Social Determinants of Health.* Retrieved May 14, 2026 from https://www.aihw.gov.au/reports/australias-health/social-determinants-of-health

Australian Law Reform Commission. (2012). Insurance in Australia. Retrieved April 25, 2026 from https://www.alrc.gov.au/publication/grey-areas-age-barriers-to-work-in-commonwealth-laws-dp-78/4-insurance/insurance-in-australia/

Ayed, A., Abu Ejheisheh, M., Aqtam, I., Batran, A., & Farajallah, M. (2024). The Relationship Between Professional Quality of Life and Work Environment Among Nurses in Intensive Care Units. *Inquiry*, *61*, 469580241297974. https://doi.org/10.1177/00469580241297974

Bae, J., Jennings, P. F., Hardeman, C. P., Kim, E., Lee, M., Littleton, T., & Saasa, S. (2020). Compassion Satisfaction Among Social Work Practitioners: The Role of Work-Life Balance. *Journal of Social Service Research*, *46*(3), 320-330. https://doi.org/10.1080/01488376.2019.1566195

Bailey, B. C., Cox, S., Terris, L., van Oppen, D., Howsare, J., Berry, J. H., & Winstanley, E. L. (2023). Rural Health Care Worker Wellness During COVID-19: Compassion fatigue, Compassion Satisfaction & Utilization of Wellness Resources. *PloS One*, *18*(12), e0295020. https://doi.org/10.1371/journal.pone.0295020

Beck, C. T. (2011). Secondary Traumatic Stress in Nurses: A Systematic Review. Archives of Psychiatric Nursing, 25(1), 1-10. https://doi.org/https://doi.org/10.1016/j.apnu.2010.05.005

Bethea, A., Samanta, D., Kali, M., Lucente, F. C., & Richmond, B. K. (2020). The Impact of Burnout Syndrome on Practitioners Working Within Rural Healthcare Systems. *The American Journal of Emergency Medicine*, *38*(3), 582-588. https://doi.org/10.1016/j.ajem.2019.07.009

Bhugra, D., & Ventriglio, A. (2024). Compassion Fatigue and Healthcare Professionals: Challenges. *International Journal of Social Psychiatry*, *70*(6), 1009-1010. https://doi.org/10.1177/00207640241283097

Bragge, P., Wright, B., Grundy, E., Goodwin, D., Gozt, A., Clynes, L., Calabritto, M., & Fitzgerald, M. (2023). What Happens Next? Traumatic Brain Injury in the Community. *The Journal Head Trauma Rehabilitation*, 38(3), 279- 282. https://doi.org/10.1097/htr.0000000000000824

Bridgeman, P. J., Bridgeman, M. B., & Barone, J. (2018). Burnout Syndrome Among Healthcare Professionals. *American Journal of Health-System Pharmacy*, *75*(3), 147-152. https://doi.org/10.2146/ajhp170460

Brown, A. R., Walters, J., Jones, A., & Akinsola, O. (2017). Rural Social Work: Recruitment, Job Satisfaction, Burnout, and Turnover. *Contemporary Rural Social Work*, *9*(1). https://doi.org/10.61611/2165-4611.1148

Buys, N., & Kendall, E. (1998). Stress and Burnout Among Rehabilitation Counsellors Within the Context of Insurance-Based Rehabilitation: An Institutional-Level Analysis. *The Australian Journal of Rehabilitation Counselling*, *4*(1), 1-12. https://doi.org/10.1017/S1323892200001344

Çakmak, B., Çilingir, D., & Candas Altinbas, B. (2025). Determination of Compassion Satisfaction and Compassion Fatigue Among Surgical Nurses. *Journal of Perianesthesia Nursing*, *40*(3), 658-663. https://doi.org/https://doi.org/10.1016/j.jopan.2024.08.007

Caringi, J. C., Hardiman, E. R., Weldon, P., Fletcher, S., Devlin, M., & Stanick, C. (2017). Secondary Traumatic Stress and Licensed Clinical Social Workers. *Traumatology*, *23*(2), 186-195. https://doi.org/10.1037/trm0000061

Cavanagh, N., Cockett, G., Heinrich, C., Doig, L., Fiest, K., Guichon, J. R., Page, S., Mitchell, I., & Doig, C. J. (2020). Compassion Fatigue in Healthcare Providers: A Systematic Review and Meta-Analysis. *Nursing Ethics*, *27*(3), 639-665. https://doi.org/10.1177/0969733019889400

Choppa, A. J., Shafer, K., Reid, K. M., & Siefker, J. M. (1996). Vocational Rehabilitation Counselors as Case Managers. *The Case Manager*, *7*(5), 45-50. https://doi.org/10.1016/S1061-9259(96)80108-1

Chun, J., Levine, A., Hartley, M. T., & Richard, C. (2025). Navigating the Path Forward: Early Career Perspectives on the Evolution and Future of Rehabilitation Counseling. *Rehabilitation Counseling Bulletin*. https://doi.org/10.1177/00343552251320947

Coetzee, S. K., & Laschinger, H. K. S. (2018). Toward a Comprehensive, Theoretical Model of Compassion Fatigue: An Integrative Literature Review. *Nursing & Health Sciences*, *20*(1), 4-15. https://doi.org/https://doi.org/10.1111/nhs.12387

Comcare. (2021). *Workplace Rehabilitation Provider Performance Monitoring Framework*. Retrieved February 24, 2025 from https://www.comcare.gov.au/about/forms-pubs/docs/pubs/rehabilitation/wrp-performance-monitoring-framework.pdf

Comcare. (2023). *Operating as a Rehabilitation Provider*. Retrieved October 31, 2023 from https://www.comcare.gov.au/service-providers/workplace-rehabilitation-providers/operating

Comcare. (2026). *About Psychosocial Hazards*. Retrieved April 25, 2026 from https://www.comcare.gov.au/safe-healthy-work/prevent-harm/psychosocial-hazards/about-psych-hazards

Comcare. (2026b). *Roles in the Claims Process*. Retrieved April 27, 2026 from https://www.comcare.gov.au/claims/roles-in-claims-process

Conrad, D., & Kellar-Guenther, Y. (2006). Compassion Fatigue, Burnout, and Compassion Satisfaction Among Colorado Child Protection Workers. *Child Abuse and Neglect*, *30*(10), 1071-1080. https://doi.org/10.1016/j.chiabu.2006.03.009

Cosgrave, C. (2020). The Whole-of-Person Retention Improvement Framework: a Guide for Addressing Health Workforce Challenges in the Rural Context. *International Journal of Environmental Research and Public Health*, *17*(8), 2698. https://doi.org/10.3390/ijerph17082698

Currie, M., & Dafny, H. A. (2025). Burnout in Physiotherapists and Occupational Therapists Working in the Australian Community Disability Sector Under the National Disability Insurance Scheme: A Qualitative Study. *Disability and Rehabilitation*, 1. https://doi.org/10.1080/09638288.2025.2476022

De Silva Etges, A. P. B., Liu, H. H., Jones, P., & Polanczyk, C. A. (2023). Value-based Reimbursement as a Mechanism to Achieve Social and Financial Impact in the Healthcare System. *Journal of Health Economics and Outcomes Research*, *10*(2), 100-103. https://doi.org/10.36469/001c.89151

Dee, J., Dhuhaibawi, N., & Hayden, J. C. (2023). A Systematic Review and Pooled Prevalence of Burnout in Pharmacists. *International Journal of Clinical Pharmacy*, *45*(5), 1027-1036.

Dekeseredy, P., Landy, C. M. K., & Sedney, C. L. (2019). An Exploration of Work Related Stressors Experienced by Rural Emergency Nurses. *Online Journal of Rural Nursing and Health Care*, *19*(2), 2-24. https://doi.org/10.14574/ojrnhc.v19i2.550

Dellemain, J., & Warburton, J. (2013). Case Management in Rural Australia: Arguments for Improved Practice Understandings. *Australian Social Work*, *66*(2), 297-310. https://doi.org/10.1080/0312407X.2012.675345

Department of Veterans' Affairs. (2025). Stats at a Glance September 2025. Retrieved April 25, 2026 from https://www.dva.gov.au/sites/default/files/2025-11/saag_sep2025.pdf

Department of Veterans' Affairs. (2025). *Australia's Veteran Support System at a Glance*. Retrieved November 22, 2025 from https://www.dva.gov.au/about-us/what-we-do/australias-veteran-support-system-at-a-glance

Dewi, S. P., Kasim, R., Sutarsa, I. N., & Dykgraaf, S. H. (2024). A Scoping Review of the Impact of Extreme Weather Events on Health Outcomes and Healthcare Utilization in Rural and Remote Areas. *BMC Health Services Research*, *24*(1), 1333-1316. https://doi.org/10.1186/s12913-024-11695-5

Di Tecco, C., Persechino, B., & Iavicoli, S. (2023). Psychosocial Risks in the Changing World of Work: Moving from the Risk Assessment Culture to the Management of Opportunities. *La Medicina del Lavoro*, *114*(2), e2023013. https://doi.org/10.23749/mdl.v114i2.14362

Dowling, T. (2018). Compassion Does Not Fatigue. *Canadian Veterinary Journal*, *59*(7), 749-750. https://pmc.ncbi.nlm.nih.gov/articles/PMC6005077/

Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A Review of Theory and Measurement. *International Journal of Environmental Research and Public Health*, *19*(3), 1780. https://www.mdpi.com/1660-4601/19/3/1780

Edwards, K., & Goussios, A. (2021). Who is Responsible for Compassion Satisfaction? Shifting Ethical Responsibility for Compassion Fatigue from the Individual to the Ecological. *Ethics and Social Welfare*, *15*(3), 246-262. https://doi.org/10.1080/17496535.2021.1888141

Endalamaw, A., Khatri, R. B., Erku, D., Zewdie, A., Wolka, E., Nigatu, F., & Assefa, Y. (2024). Barriers and Strategies for Primary Health Care Workforce Development: Synthesis of

Evidence. *BMC Family Practice*, *25*(1), 99-11. https://doi.org/10.1186/s12875-024-02336-1

Fair Work Ombudsman. (2025). *Workers Compensation*. Retrieved November 21, 2025 from https://www.fairwork.gov.au/employment-conditions/workers-compensation

Farmahini Farahani, M., Jaberi, K., Purfarzad, Z., & Ramos-Pichardo, J. D. (2023). Workplace Spirituality, Compassion Satisfaction, Burnout, and Secondary Traumatic Stress: A Cross-Sectional Study in Iranian Nurses. *Perspectives in Psychiatric Care*, *2023*(1). https://doi.org/10.1155/2023/7685791

Figley, C. R. (1995). Compassion fatigue: Toward a New Understanding of the Costs of Caring. In B. H. Stamm (Ed.), *Secondary Traumatic Stress: Self-Care Issues for Clinicians, Researchers, and Educators.* (pp. 3-28). The Sidran Press. https://www.researchgate.net/publication/232604330_Compassion_fatigue_Toward_a_new_understanding_of_the_costs_of_caring

Flavel, J., Kedzior, S. G. E., Isaac, V., Cameron, D., & Baum, F. (2024). Regional Health Inequalities in Australia and Social Determinants of Health: Analysis of Trends and Distribution by Remoteness [Journal Article]. *Rural and Remote Health*, *24*(1), 1-11. https://doi.org/10.22605/RRH7726

Forrest, L., Abdurrahman, M., & Ritsma, A. (2020). Recognizing Compassion Fatigue, Vicarious Trauma, and Burnout. In A. Hategan, K. Saperson, S. Harms, & H. Waters (Eds.), *Humanism and Resilience in Residency Training: A Guide to Physician Wellness* (pp. 297-330). Springer International Publishing. https://doi.org/10.1007/978-3-030-45627-6_10

Franklin, P., & Gkiouleka, A. (2021). A Scoping Review of Psychosocial Risks to Health Workers During the Covid-19 Pandemic. *International Journal of Environmental Research and Public Health*, *18*(5), 120. https://doi.org/10.3390/ijerph18052453

French, M. A., Roemmich, R. T., Daley, K., Beier, M., Penttinen, S., Raghavan, P., Searson, P., Wegener, S., & Celnik, P. (2022). Precision Rehabilitation: Optimizing Function, Adding Value to Health Care. *Archives of Physical Medicine and Rehabilitation*, *103*(6), 1233-1239. https://doi.org/https://doi.org/10.1016/j.apmr.2022.01.154

Galiana, L., Oliver, A., Arena, F., De Simone, G., Tomás, J. M., Vidal-Blanco, G., Muñoz-Martínez, I., & Sansó, N. (2020). Development and validation of the Short Professional Quality of Life Scale based on versions IV and V of the Professional Quality of Life Scale. *Health and Quality of Life Outcomes*, *18*(1), 364. https://doi.org/10.1186/s12955-020-01618-3

Garnett, A., Hui, L., Oleynikov, C., & Boamah, S. (2023). Compassion Fatigue in Healthcare Providers: a Scoping Review. *BMC Health Services Research*, *23*(1), 1336. https://doi.org/10.1186/s12913-023-10356-3

Gartner, J. B., & Lemaire, C. (2022). Dimensions of Performance and Related Key Performance Indicators Addressed in Healthcare Organisations: A Literature Review. *The International Journal of Health Planning and Management*, *37*(4), 1941-1952. https://doi.org/10.1002/hpm.3452

Giardino, A. P., & De Jesus, O. (2026). Case Management. In StatPearls. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK562214/

Glover-Stief, M., Jannen, S., & Cohn, T. (2020). An Exploratory Descriptive Study of Compassion Fatigue and Compassion Satisfaction: Examining Potential Risk and Protective Factors in

Advanced Nurse Practitioners. *Journal of the American Association of Nurse Practitioners*, *33*(2), 143-149. https://doi.org/10.1097/JXX.0000000000000357

Gustafsson, T., & Hemberg, J. (2022). Compassion Fatigue as Bruises in The Soul: A Qualitative Study on Nurses. *Nursing Ethics*, *29*(1), 157-170. https://doi.org/10.1177/09697330211003215

Halamová, J., Kanovský, M., Krizova, K., Šoková, B., Baránková, M., & Figley, C. (2024). The Development of the Compassion Satisfaction and Compassion Fatigue Scale. *Frontiers in Public Health*, *12*, 1406467. https://doi.org/10.3389/fpubh.2024.1406467

Han, S., Shanafelt, T. D., Sinsky, C. A., Awad, K. M., Dyrbye, L. N., Fiscus, L. C., Trockel, M., & Goh, J. (2019). Estimating the Attributable Cost of Physician Burnout in the United States. *Annals of Internal Medicine*, *170*(11), 784. https://doi.org/10.7326/M18-1422

Hansen, N., Jensen, K., MacNiven, I., Pollock, N., D'Hont, T., & Chatwood, S. (2021). Exploring the Impact of Rural Health System Factors on Physician Burnout: A Mixed-Methods Study in Northern Canada. *BMC Health Services Research*, *21*(1), 1-869. https://doi.org/10.1186/s12913-021-06899-y

Henson, J. S. (2020). Burnout or Compassion Fatigue: A Comparison of Concepts. *Medsurg Nursing*, *29*(2), 77-95.

Heritage, B., Rees, C. S., & Hegney, D. G. (2018). The ProQOL-21: A Revised Version of The Professional Quality of Life (ProQOL) Scale Based on Rasch Analysis. *PloS One*, *13*(2), e0193478-e0193478. https://doi.org/10.1371/journal.pone.0193478

Hill, J. E., Harris, C., Danielle L, C., Boland, P., Doherty, Alison J., Benedetto, V., Gita, B. E., & Clegg, A. J. (2022). The Prevalence of Mental Health Conditions in Healthcare Workers During and After a Pandemic: Systematic Review and Meta-Analysis. *Journal of Advanced Nursing*, *78*(6), 1551-1573. https://doi.org/10.1111/jan.15175

Hofmeyer, A., Kennedy, K., & Taylor, R. (2020). Contesting the Term 'Compassion Fatigue': Integrating Findings From Social Neuroscience and Self-Care Research. *Collegian*, *27*(2), 232-237. https://doi.org/10.1016/j.colegn.2019.07.001

Holland, C., Malatzky, C., & Pardosi, J. (2024). What do Nurses Practising in Rural, Remote and Isolated Locations Consider Important for Attraction and Retention?: A Scoping Review. *Rural Remote Health*, *24*, 1-13. https://doi.org/10.22605/RRH8696

Hotchkiss, J. T., & Wong, C. M. Y. (2025). Truth on ProQOL and Burnout Assessment—Development and Intercultural Validation of the Brief ProQOL-12 from the Professional Quality of Life, Version 5. *American Journal of Hospice & Palliative Medicine*, *42*(4), 334-354. https://doi.org/10.1177/10499091241260284

Hunsaker, S., Chen, H. C., Maughan, D., & Heaston, S. (2015). Factors that Influence the Development of Compassion Fatigue, Burnout, and Compassion Satisfaction in Emergency Department Nurses. *Journal of Nursing Scholarship*, *47*(2), 186-194. https://doi.org/10.1111/jnu.12122

Hunt, M. R., & Ells, C. (2013). A Patient-Centered Care Ethics Analysis Model for Rehabilitation. *American Journal of Physical Medicine and Rehabilitation*, *92*(9), 818-827. https://doi.org/10.1097/PHM.0b013e318292309b

Hussain, R., Maple, M., Hunter, S. V., Mapedzahama, V., & Reddy, P. (2015). The Fly-in Fly-out and Drive-in Drive-out model of Health Care Service Provision for Rural and Remote

Australia: Benefits and Disadvantages. *Rural Remote Health*, *15*(3), 3068. https://doi.org/10.22605/RRH3068

icare. (2026). *NSW Workers Compensation Reform*. Retrieved April 25, 2026 from https://www.icare.nsw.gov.au/employers/employer-obligations/workers-compensation-reform-faqs

International Labour Organisation. (2026). *840,000 Deaths a Year Linked to Psychosocial Risks at Work*. Retrieved April 25, 2026 from https://www.ilo.org/resource/news/840000-deaths-year-linked-psychosocial-risks-work

Jahner, S., Penz, K., Stewart, N. J., & MacLeod, M. L. P. (2020). Exploring the Distressing Events and Perceptions of Support Experienced by Rural and Remote Nurses: A Thematic Analysis of National Survey Data. *Workplace Health & Safety*, *68*(10), 480-490. https://doi.org/10.1177/2165079920924685

Jones, S. K., & Griep, Y. (2018). "I Can Only Work So Hard Before I Burn Out." A Time Sensitive Conceptual Integration of Ideological Psychological Contract Breach, Work Effort, and Burnout. *Frontiers in Psychology*, *9*, 131-131. https://doi.org/10.3389/fpsyg.2018.00131

Kartsonaki, M. G., Georgopoulos, D., Kondili, E., Nieri, A. S., Alevizaki, A., Nyktari, V., & Papaioannou, A. (2023). Prevalence and Factors Associated with Compassion Fatigue, Compassion Satisfaction, Burnout in Health Professionals. *Nursing in Critical Care*, *28*(2), 225-235. https://doi.org/https://doi.org/10.1111/nicc.12769

Kendall, E., & Clapton, J. (2006). Time for a Shift in Australian Rehabilitation? *Disability and Rehabilitation*, *28*(17), 1097-1101. https://doi.org/10.1080/09638280500531784

Keshavarz, Z., Gorji, M., Houshyar, Z., Tamajani, Z., & Martin, J. (2019). The Professional Quality of Life Among Health-Care Providers and its Related Factors. *Social Health and Behavior*, *2*(1), 32-38. https://doi.org/10.4103/SHB.SHB_43_18

Khammissa, R. A. G., Nemutandani, S., Feller, G., Lemmer, J., & Feller, L. (2022). Burnout Phenomenon: Neurophysiological Factors, Clinical Features, and Aspects of Management. *Journal of International Medical Research*, *50*(9), 3000605221106428. https://doi.org/10.1177/03000605221106428

Kianpoor, M., Rahmanian, P., Mojahed, A., & Amouchie, R. (2017). Secondary Traumatic Stress, Dissociative and Somatization Symptoms in Spouses of Veterans with PTSD in Zahedan, Iran. *Electronic Physician*, *9*(4), 4202-4206. https://doi.org/10.19082/4202

Kilgour, E., Kosny, A., McKenzie, D., & Collie, A. (2015). Healing or Harming? Healthcare Provider Interactions with Injured Workers and Insurers in Workers' Compensation Systems. *Journal of Occupational Rehabilitation*, *25*(1), 220-239. https://doi.org/10.1007/s10926-014-9521-x

Klimecki, O., & Singer, T. (2011). Empathic Distress Fatigue Rather Than Compassion Fatigue? Integrating Findings from Empathy Research in Psychology and Social Neuroscience. In *Pathological Altruism*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199738571.003.0253

Korhonen, M., & Komulainen, K. (2023). Individualizing the Burnout Problem: Health Professionals' Discourses of Burnout and Recovery in the Context of Rehabilitation. *Health*, *27*(5), 789-809. https://doi.org/10.1177/13634593211063053

Krever, R., & Teoh, J. (2017). GST and Insurance: Australia. In R. F. van Brederode & R. Krever (Eds.), VAT and Financial Services: *Comparative Law and Economic Perspectives*,319-335. Springer Singapore. https://doi.org/10.1007/978-981-10-3465-7_17

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A New Tool for the Assessment of Burnout. *Work and Stress*, 19(3), 192-207. https://doi.org/10.1080/02678370500297720

Landon, T., Connor, A., McKnight-Lizotte, M., & Pena, J. (2019). Rehabilitation Counseling in Rural Settings: A Phenomenological Study on Barriers and Supports. *The Journal of Rehabilitation*, *85*(2), 47-57.

Landon, T. J., Phillips, B. N., McKnight, M., Sabella, S. A., & Kline, K. M. (2024). The Impact of Organizational Factors and Professional Identity on Turn Over Intent in State Vocational Rehabilitation Agencies. *Rehabilitation Counseling Bulletin*, 67(4), 269-282. https://doi.org/10.1177/00343552231155215

Landon, T. J., Sabella, S. A., McKnight-Lizotte, M., & Bernacchio, C. (2021). Rehabilitation Counselor Supervisors' Perceptions of Counselor Professional Dispositions For Rural Service Delivery. *Rehabilitation Counseling Bulletin*, 64(3), 145-157.

Langstaff, M. A. (2011). Case Managers Take "Whole Person" Approach to Workers' Compensation Cases. *Professional Case Management*, *16*(5), 267-269. https://doi.org/10.1097/NCM.0b013e318225d47e

Leary, S. M., & Stevenson, V. L. (2025). What is Rehabilitation? *Practical Neurology*, *25*(1), 4-5. https://doi.org/10.1136/pn-2024-004384

Lee, E., Daugherty, J., Eskierka, K., & Hamelin, K. (2019). Compassion Fatigue and Burnout, One Institution's Interventions. *Journal of Perianesthesia Nursing*, *34*(4), 767-773. https://doi.org/10.1016/j.jopan.2018.11.003

Lemstra, M., & Olszynski, W. P. (2003). The Effectiveness of Standard Care, Early Intervention, and Occupational Management in Worker's Compensation Claims. *Spine*, *28*(3), 299-304. https://doi.org/10.1097/01.BRS.0000042249.21349.22

Lespérance, S., Anaraki, N. R., Ashgari, S., & Churchill, A. (2022). Systemic Challenges and Resiliency in Rural Family Practice. *Canadian Journal of Rural Medicine*, *27*(3), 91-98. https://doi.org/10.4103/cjrm.cjrm_39_21

Liebenberg, A. R., Coetzee Jnr, J. F., Conradie, H. H., & Coetzee, J. F. (2018). Burnout Among Rural Hospital Doctors in the Western Cape: Comparison with Previous South African Studies. *African Journal of Primary Health Care & Family Medicine*, *10*(1), e1-e7. https://doi.org/http://dx.doi.org/10.4102/phcfm.v10i1.1568

Linzer, M., McLoughlin, C., Poplau, S., Goelz, E., Brown, R., & Sinsky, C. (2022). The Mini Z Worklife and Burnout Reduction Instrument: Psychometrics and Clinical Implications. *Journal of General Internal Medicine*, 37(11), 2876-2878. https://doi.org/10.1007/s11606-021-07278-3

Liu, D., Xie, S., Jing, J., Niyomsilp, E., Xie, L., Nie, X., & Liang, Y. (2024). The Effect of Perceived Organizational Support and Ego-Resilience on the Relationship Between Occupational Stressors and Compassion Fatigue in Covid-19 Frontline Nurses: A Cross-Sectional Study in Sichuan, China. *BMC Nursing*, *23*(1), 817-812. https://doi.org/10.1186/s12912-024-02473-z

LoboPrabhu, S., Rouse, H., &, & Molinari, V. (2019). Understanding Burnout and Its Potential Effects on Clinical Care. In S. LoboPrabhu, R. F. Summers, & S. H. Moffic (Eds.), *Combating Physician Burnout: A Guide for Psychiatrists* (pp. 65-83). American Psychiatric Association Publishing.

Lowe, J., & Griffiths, S. (2025). Residue and Resilience: Understanding and Addressing Post-Traumatic Stress Disorder, Compassion Fatigue, Moral Injury, and Burnout in Emergency Medicine. *The Journal of Emergency Medicine*, *77*, 14-20. https://doi.org/https://doi.org/10.1016/j.jemermed.2025.07.017

Lu, J., Lund, E. M., & Granger, T. A. (2024). A Path Analysis of Burnout of Vocational Rehabilitation Counselors. *Rehabilitation Counseling Bulletin*. https://doi.org/10.1177/00343552241265314

Lykins, A. B., Seroka, N. W., Mayor, M., Seng, S., Higgins, J. T., & Okoli, C. T. C. (2024). Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Nursing Staff at an Academic Medical Center: A Cross-Sectional Analysis. *Journal of the American Psychiatric Nurses Association*, *30*(1), 63-73. https://doi.org/10.1177/10783903211066125

MacKay, S. C., Smith, A., Kyle, R. G., & Beattie, M. (2021). What Influences Nurses' Decisions to Work in Rural and Remote Settings?: A Systematic Review and Meta-Synthesis of Qualitative Research. *Rural and Remote Health*, *21*(1), 1-26. https://doi.org/10.22605/RRH6335

Maganty, A., Byrnes, M. E., Hamm, M., Wasilko, R., Sabik, L. M., Davies, B. J., & Jacobs, B. L. (2023). Barriers to Rural Health Care from the Provider Perspective. *Rural and Remote Health*, *23*(2), 1-11. https://doi.org/10.22605/RRH7769

Maillet, S., & Read, E. A. (2024). Areas of Work-Life, Psychological Capital and Emotional Intelligence on Compassion Fatigue and Compassion Satisfaction Among Nurses: A Cross-Sectional Study. *Nursing Open*, *11*(2), e2098. https://doi.org/https://doi.org/10.1002/nop2.2098

Makic, M. B. F. (2015). Taking Care of the Caregiver: Compassion Satisfaction and Compassion Fatigue. *Journal of Perianesthesia Nursing*, *30*(6), 546-547. https://doi.org/10.1016/j.jopan.2015.09.006

Malik, M., Penalosa, M., Busch, I. M., Burhanullah, H., Weston, C., Weeks, K., Connors, C., Michtalik, H. J., Everly, G., Wu, A. W., Shepardson, R. L., Polaha, J., Macchi, C. R., & Kessler, R. (2024). Rural Healthcare Workers' Well-Being: A Systematic Review of Support Interventions. *Families Systems & Health*, *42*(3), 355-374. https://doi.org/10.1037/fsh0000921

Mangoulia, P., Koukia, E., Alevizopoulos, G., Fildissis, G., & Katostaras, T. (2015). Prevalence of Secondary Traumatic Stress Among Psychiatric Nurses in Greece. *Archives of Psychiatric Nursing*, *29*(5), 333-338. https://doi.org/10.1016/j.apnu.2015.06.001

Martin, K. J. (1995). Workers' Compensation: Case Management Strategies. *Workplace Health & Safety Journal*, *43*(5), 245-250. https://doi.org/10.1177/216507999504300503

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99-113. https://doi.org/https://doi.org/10.1002/job.4030020205

McAulay, L., Fadyl, J., & Terry, G. (2023). Effective Teams in Vocational Rehabilitation: An Exploration of Complexities and Practice in Aotearoa-New Zealand. *Journal of Occupational Rehabilitation*, *33*(3), 518-527. https://doi.org/10.1007/s10926-022-10089-w

McDowell, C., Fossey, E., & Harvey, C. (2022). Moving Clients Forward: A Grounded Theory of Disability Employment Specialists' Views and Practices. *Disability and Rehabilitation*, *44*(19), 5504-5512. https://doi.org/10.1080/09638288.2021.1937341

McEvoy, M., Caccaviello, G., Crombie, A., Skinner, T., Begg, S. J., Faulkner, P., McEvoy, A., Masman, K., Bamforth, L., Parker, C., Stanyer, E., Collings, A., & Li, X. (2024). Health and Wellbeing of Regional and Rural Australian Healthcare Workers during the COVID-19 Pandemic: Baseline Cross-Sectional Findings from the Loddon Mallee Healthcare Worker COVID-19 Study—A Prospective Cohort Study. *International Journal of Environmental Research and Public Health*, *21*(5), 649. https://www.mdpi.com/1660-4601/21/5/649

McGrail, M. R., & Humphreys, J. S. (2015). Spatial Access Disparities to Primary Health Care in Rural and Remote Australia. *Geospatial Health*, *10*(2), 358. https://doi.org/10.4081/gh.2015.358

McKenzie, C. (2019). Burnout North of 60. *Critical Social Work*, *17*(2). https://doi.org/10.22329/csw.v17i2.5900

McLennan, V., & Ludvik, D. (2021). Early Vocational Rehabilitation After Serious Injury or Illness: A Systematic Review. *Rehabilitation Counseling Bulletin*, *64*(4), 235-243. https://doi.org/10.1177/0034355220962218

McLennan, V., Ryan, K., & Randall, C. (2018). Ethical Dilemmas Experienced by Australian Rehabilitation Counsellors. *Online Journal of Health Ethics*, *14*(1). https://doi.org/10.18785/ojhe.1401.07

Mills, J.-A., Marks, E., Reynolds, T., & Cieza, A. (2017). Rehabilitation: Essential Along the Continuum of Care. In D. T. Jamison (Ed.), *Disease Control Priorities: Improving Health and Reducing Poverty* (Third edition ed., pp. 357-371). World Bank Group. https://www.ncbi.nlm.nih.gov/books/NBK525298/

Milutinović, D., Marcinowicz, L., Jovanović, N. B., & Dragnić, N. (2023). Impact of Compassion Satisfaction and Compassion Fatigue on Satisfaction with Life in Serbian and Polish nurses: A Cross-Sectional Study. *International Nursing Review*, *70*(2), 194-203. https://doi.org/https://doi.org/10.1111/inr.12793

Mirutse, A., Mengistu, Z., & Bizuwork, K. (2023). Prevalence of Compassion Fatigue, Burnout, Compassion Satisfaction, and Associated Factors Among Nurses Working in Cancer Treatment Centers in Ethiopia, 2020. *BMC Nursing*, *22*(1), 1-373. https://doi.org/10.1186/s12912-023-01383-w

Montgomery, A., Todorova, I., Baban, A., & Panagopoulou, E. (2013). Improving Quality and Safety in the Hospital: The Link Between Organizational Culture, Burnout, and Quality of Care. *British Journal of Health Psychology*, 18(3), 656-662. https://doi.org/10.1111/bjhp.12045

Mohr, D. C., Elnahal, S., Marks, M. L., Derickson, R., & Osatuke, K. (2025). Burnout Trends Among US Health Care Workers. *JAMA Network Open*, *8*(4), e255954-e255954. https://doi.org/10.1001/jamanetworkopen.2025.5954

Motor Accident Insurance Commission. (2024). About CTP Insurance. Retrieved April 25, 2026 from https://maic.qld.gov.au/for-drivers/about-ctp-insurance/

Mueller, V., & Morley, C. (2020). Blaming Individuals for Burnout: Developing Critical Practice Responses to Workplace Stress. *Social Alternatives*, *39*(3), 20-28.

Mullan, L., Armstrong, K., & Job, J. (2023). Barriers and Enablers to Structured Care Delivery in Australian Rural Primary Care. *The Australian Journal of Rural Health*, *31*(3), 361-384. https://doi.org/10.1111/ajr.12963

Murray, D. D., & Chiotu, L. B. (2024). How Mental Health Nurses Report Their Compassion Fatigue and Compassion Satisfaction: A Cross-Sectional Study and the Implications for Healthcare Leaders. *Issues in Mental Health Nursing*, *45*(5), 1-519. https://doi.org/10.1080/01612840.2024.2322045

Nadarajan, S. S., Chui, P. L., Lee, W. L., & Zaini, N. H. (2025). Factors Influencing Compassion Satisfaction and Compassion Fatigue Among Nurses: A Study in a Tertiary Hospital. *BMC Nursing*, *24*(1), 93. https://doi.org/10.1186/s12912-025-02736-3

NDIS. (2026). *Summary of Statistics Reporting Month March 2026.* Retrieved April 25, 2026 from https://dataresearch.ndis.gov.au/reports-and-analyses/ndis-focus

NDIS. (2024). *Understanding Your Plan*. Retrieved November 22, 2025 from https://www.ndis.gov.au/participants/using-your-plan/understanding-your-plan

Nolte, A. G. W., Downing, C., Temane, A., & Hastings-Tolsma, M. (2017). Compassion Fatigue in Nurses: A Metasynthesis. *Journal of Clinical Nursing*, *26*(23-24), 4364-4378. https://doi.org/10.1111/jocn.13766

NSW Government. (2025). *Life Insurance*. Retrieved November 22, 2025 from https://www.nsw.gov.au/health/serious-illness-and-injury/if-you-have-a-serious-injury/getting-help-costs/life-insurance

O'Sullivan, D., & Bates, J. K. (2014). The Relationship Among Personal and Work Experiences: Implications for Rehabilitation Counselor Well-Being and Service Provision. *Rehabilitation Research, Policy, and Education*, *28*(1), 45-60. https://doi.org/10.1891/2168-6653.28.1.45

Ogińska-Bulik, N., Gurowiec, P. J., Michalska, P., & Kędra, E. (2021). Prevalence and Predictors of Secondary Traumatic Stress Symptoms in Health Care Professionals Working with Trauma Victims: A Cross-Sectional Study. *PloS One*, *16*(2), e0247596. https://doi.org/10.1371/journal.pone.0247596

Okoli, C. T. C., Seng, S., Otachi, J. K., Higgins, J. T., Lawrence, J., Lykins, A., & Bryant, E. (2020). A Cross-Sectional Examination of Factors Associated with Compassion Satisfaction and Compassion Fatigue Across Healthcare Workers in an Academic Medical Centre. *International Journal of Mental Health Nursing*, *29*(3), 476-487. https://doi.org/10.1111/inm.12682

Orrù, G., Marzetti, F., Conversano, C., Vagheggini, G., Miccoli, M., Ciacchini, R., Panait, E., & Gemignani, A. (2021). Secondary Traumatic Stress and Burnout in Healthcare Workers During Covid-19 Outbreak. *International Journal of Environmental Research and Public Health*, *18*(1), 1-13. https://doi.org/10.3390/ijerph18010337

Oser, C. B., Biebel, E. P., Pullen, E., & Harp, K. L. H. (2013). Causes, Consequences, and Prevention of Burnout Among Substance Abuse Treatment Counselors: A Rural Versus

Urban Comparison. *Journal of Psychoactive Drugs*, *45*(1), 17-27. https://doi.org/10.1080/02791072.2013.763558

Pasanen, J. (2021). The Nature of Positive Encounters Between Disabled Workers and Insurers in the Return to Work Process. *Work: A Journal of Prevention, Assessment & Rehabilitation*, *70*(1), 287-300. https://doi.org/10.3233/WOR-213573

Preston, G., Rampes, S., Bayly, J., Rice, H. T., Angelova, R., Richardson, H., & Maddocks, M. (2023). Using Volunteers to Improve Access to Community Rehabilitation in Palliative Care: The St Christopher's Living Well at Home Team. *Frontiers in Rehabilitation Sciences*, *4*, 1229442. https://doi.org/10.3389/fresc.2023.1229442

Queensland Government. (2024). *Workers' Compensation and Rehabilitation and Other Legislation Amendment Act 2024*. Retrieved April 25, 2026 from https://www.worksafe.qld.gov.au/laws-and-compliance/workers-compensation-and-rehabilitation-and-other-legislation-amendment-act-2024

Rayani, A., Hannan, J., Alreshidi, S., Aboshaiqah, A., Alodhailah, A., & Hakamy, E. (2024). Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Saudi Nurses at Medical City: A Cross-Sectional Study. *Healthcare (Basel)*, *12*(8). https://doi.org/10.3390/healthcare12080847

Roberts-Yates, D. C. (2003). Examining the Role of Rehabilitation in the South Australian Workers' Compensation System. *The Australian Journal of Rehabilitation Counselling*, *9*(2), 82-101. https://doi.org/10.1017/S1323892200000399

Roberts, R. (2021). A Rural Health Governance Model That is Fit for Purpose—It's Not Them and Us: It's 'We'. *The Australian Journal of Rural Health*, *29*(6), 816-820. https://doi.org/10.1111/ajr.12830

Robichaud, M.-M., Truchon, M., St-Arnaud, L., & Nastasia, I. (2019). Insurers' Rerspective on Barriers and Facilitators for Return to Work After Occupational Injuries. *Work*, *63*(1), 81-97. https://doi.org/10.3233/WOR-192910

Roots, R. K., Brown, H., Bainbridge, L., & Li, L. C. (2014). Rural Rehabilitation Practice: Perspectives of Occupational Therapists and Physical Therapists in British Columbia, Canada. *Rural and Remote Health*, *14*, 2506-2506. https://doi.org/10.22605/RRH2506

Ruiz-Fernández, M. D., Pérez-García, E., & Ortega-Galán, Á. M. (2020). Quality of Life in Nursing Professionals: Burnout, Fatigue, and Compassion Satisfaction. *International Journal of Environmental Research and Public Health*, *17*(4), 1253. https://doi.org/10.3390/ijerph17041253

Ryu, I. S., & Shim, J. L. (2022). The Relationship Between Compassion Satisfaction and Fatigue with Shift Nurses' Patient Safety-Related Activities. *Iranian Journal of Public Health*, *51*(12), 2724-2732. https://doi.org/10.18502/ijph.v51i12.11463

Sacco, T. L., Ciurzynski, S. M., Harvey, M. E., & Ingersoll, G. L. (2015). Compassion Satisfaction and Compassion Fatigue Among Critical Care Nurses. *Critical Care Nurse*, *35*(4), 32-42. https://doi.org/10.4037/ccn2015392

Sacco, T. L., & Copel, L. C. (2018). Compassion Satisfaction: A Concept Analysis in Nursing. *Nursing Forum*, *53*(1), 76-83. https://doi.org/10.1111/nuf.12213

Saeidzadeh, S., Wang, A., Duan, Y., Hipel, I., Norton, P. G., & Estabrooks, C. A. (2025). Examining Factorial Validity and Internal Consistency of Professional Quality of Life (ProQoL-9)

Among Care Aides Working in Long-term Care (LTC). *BMC Health Services Research*, *25*(1), 4. https://doi.org/10.1186/s12913-024-12143-0

Safe Work Australia. (2023a). *Comparison of Workers' Compensation Arrangements in Australia and New Zealand 2023*. Safe Work Australia. https://www.safeworkaustralia.gov.au/book/comparison-wc-arrangements-29ed

Safe Work Australia. (2020). *National Return to Work Strategy 2020-2023 Methodology for the Measurement Framework*. https://www.safeworkaustralia.gov.au/sites/default/files/2020-06/NRTWS_Methodology%20for%20the%20Measurement%20Framework_June2020.pdf

Safe Work Australia. (2025). *Key Work Health and Safety Statistics Australia 2025*. Retrieved April 25, 2026 from https://data.safeworkaustralia.gov.au/sites/default/files/2025-10/Key_Work_Health_and_Safety_Statistics_Australia_2025.pdf

Safe Work Australia. (2023b). *Premiums*. Retrieved November 22, 2025 from https://www.safeworkaustralia.gov.au/book/comparison-wc-arrangements-29ed/chapter-8/premiums

Saliya, S. A., Ashine, T. M., Heliso, A. Z., Babore, G. O., Birhanu, B., & Hailu, A. G. (2024). Professional Quality of Life and Job Satisfaction Among Nurses Working at Tertiary Hospitals in Central Ethiopia. *BMC Nursing*, *23*(1), 417-412. https://doi.org/10.1186/s12912-024-02101-w

Salloum, A., Kondrat, D. C., Johnco, C., & Olson, K. R. (2015). The role of Self-Care on Compassion Satisfaction, Burnout and Secondary Trauma Among Child Welfare Workers. *Children and Youth Services Review*, *49*, 54-61. https://doi.org/10.1016/j.childyouth.2014.12.023

Samios, C. (2018). Burnout and Psychological Adjustment in Mental Health Workers in Rural Australia: The Roles of Mindfulness and Compassion Satisfaction. *Mindfulness*, *9*(4), 1088-1099. https://doi.org/10.1007/s12671-017-0844-5

Schroeder, S., Kelly, D., & Leighton, K. (2023). Influence of Years of Experience and Age on Hospital Workforce Compassion Satisfaction, Anxiety, Depression, Stress, and Burnout During Pandemic: Implications for Retention. *Psychology, Health & Medicine*, *28*(7), 1741-1754. https://doi.org/10.1080/13548506.2022.2159988

Selviaridis, K., & Wynstra, F. (2015). Performance-Based Contracting: A Literature Review and Future Research Directions. *International Journal of Production Research*, *53*. https://doi.org/10.1080/00207543.2014.978031

Shoman, Y., Marca, S. C., Bianchi, R., Godderis, L., van der Molen, H. F., & Guseva Canu, I. (2021). Psychometric Properties of Burnout Measures: a Systematic Review. *Epidemiology and Psychiatric Sciences*, 30, e8. https://doi.org/10.1017/S2045796020001134

Sibuea, Z. M., Sulastiana, M., & Fitriana, E. (2024). Factor Affecting the Quality of Work Life Among Nurses: A Systematic Review. *Journal of Multidisciplinary Healthcare*, *17*, 491-503. https://doi.org/10.2147/JMDH.S446459

Sinclair, S., Norris, J. M., McConnell, S. J., Chochinov, H. M., Hack, T. F., Hagen, N. A., McClement, S., & Bouchal, S. R. (2016). Compassion: A Scoping Review of the Healthcare Literature. *BMC Palliative Care*, 15, 6. https://doi.org/10.1186/s12904-016-0080-0

Sinclair, S., Raffin-Bouchal, S., Venturato, L., Mijovic-Kondejewski, J., & Smith-MacDonald, L. (2017). Compassion Fatigue: A Meta-Narrative Review of the Healthcare Literature. *International Journal of Nursing Studies*, 69, 9-24. https://doi.org/10.1016/j.ijnurstu.2017.01.003

Singh, J., Karanika-Murray, M., Baguley, T., & Hudson, J. (2020). A Systematic Review of Job Demands and Resources Associated with Compassion Fatigue in Mental Health Professionals. *International Journal of Environmental Research and Public Health*, *17*(19), 6987. https://doi.org/10.3390/ijerph17196987

Slatten, L. A., Carson, K. D., & Carson, P. P. (2011). Compassion Fatigue and Burnout: What Managers Should Know. *The Health Care Manager*, 30(4), 325-333. https://doi.org/10.1097/HCM.0b013e31823511f7

Smart, D., English, A., James, J., Wilson, M., Daratha, K. B., Childers, B., & Magera, C. (2014). Compassion fatigue and Satisfaction: a Cross-Sectional Survey Among US Healthcare Workers. *Nursing and Health Sciences*, *16*(1), 3-10. https://doi.org/10.1111/nhs.12068

Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding Compassion Fatigue in Healthcare Providers: A Review of Current Literature. *Journal of Nursing Scholarship*, *48*(5), 456-465. https://doi.org/https://doi.org/10.1111/jnu.12229

Sprang, G., Clark, J. J., & Whitt-Woosley, A. (2007). Compassion Fatigue, Compassion Satisfaction, and Burnout: Factors Impacting a Professional's Quality of Life. *Journal of Loss and Trauma*, *12*(3), 259-280. https://doi.org/10.1080/15325020701238093

Sprang, G., Ford, J., Kerig, P., & Bride, B. (2019). Defining Secondary Traumatic Stress and Developing Targeted Assessments and Interventions: Lessons Learned From Research and Leading Experts. *Traumatology*, *25*(2), 72-81. https://doi.org/10.1037/trm0000180

Stamm, B. H. (2009). *Professional Quality of Life Measure*. Retrieved February 8 2023 from https://proqol.org/ProQol_Test.html

Stamm, B. H. (2010). *The Concise ProQOL Manual, 2nd ed*. Retrieved February 8 2023 from https://proqol.org/proqol-manual

Stanley, S., & Sebastine, A. J. (2024). Predictors of Compassion Fatigue and Compassion Satisfaction in Social Workers (A Quantitative Study from India). *Human Service Organizations, Management, Leadership & Governance*, *48*(5), 540-554. https://doi.org/10.1080/23303131.2024.2319210

State Insurance Regulatory Authority. (2025). *Workers Compensation Guide for Allied Health Practitioners*. Retrieved April 26, 2026 from https://www.sira.nsw.gov.au/resources-library/workers-compensation-resources/publications/health-professionals-for-workers-compensation/workers-compensation-guide-for-allied-health-practitioners

Stearns, S., & Benight, C. C. (2017). Organizational Factors in Burnout and Secondary Traumatic Stress. In C. C. Benight (Ed.), *Secondary Trauma and Burnout in Military Behavioral Health Providers* (pp. 85-113). Palgrave Macmillan. https://doi.org/10.1057/978-1-349-95103-1_5

Swan, M., & Hobbs, B. (2021). Lack of Anonymity and Secondary Traumatic Stress in Rural Nurses. *Online Journal of Rural Nursing and Health Care*, *21*(1), 183-201. https://doi.org/10.14574/ojrnhc.v21i1.651

Szumer, R. T. O., & Arnold, M. (2023). The Ethics of Overlapping Relationships in Rural and Remote Healthcare. A Narrative Review. *Journal of Bioethical Inquiry*, *20*(2), 181-190. https://doi.org/10.1007/s11673-023-10243-w

Tabaj, A., Pastirk, S., Bitenc, Č., & Masten, R. (2015). Work-Related Stress, Burnout, Compassion, and Work Satisfaction of Professional Workers in Vocational Rehabilitation. *Rehabilitation Counseling Bulletin*, *58*(2), 113-123. https://doi.org/10.1177/0034355214537383

Tang, L., Wang, F., & Tang, T. (2024). Exploring the Relationship Between Family Care, Organizational Support, and Resilience on the Professional Quality of Life Among Emergency Nurses: A Cross-Sectional Study. *International Emergency Nursing*, *72*, 101399. https://doi.org/10.1016/j.ienj.2023.101399

Terry, D., Lê, Q., Nguyen, U., & Hoang, H. (2015). Workplace Health and Safety Issues Among Community Nurses: a Study Regarding the Impact on Providing Care to Rural Consumers. *BMJ Open*, *5*(8), e008306. https://doi.org/10.1136/bmjopen-2015-008306

Tham, R., Pascoe, A., Willis, K., Kay, M., & Smallwood, N. (2022). Differences in Psychosocial Distress Among Rural and Metropolitan Health Care Workers During the COVID-19 Pandemic. *Australian Journal of Rural Health*, *30*(5), 683-696. https://doi.org/10.1111/ajr.12873

Transparency Portal. (2024). *Department of Veterans' Affairs Annual Report 2023-24*. Retrieved April 25, 2026 from https://www.transparency.gov.au/publications/veterans-affairs/department-of-veterans-affairs/dva-annual-report-2023-24/07-appendices/appendix-a---veteran-and-claim-statistics

Tujague, N., & Ryan, K. (2023). The Cost of Caring: Vicarious Trauma and Compassion Fatigue. In N. Tujague & K. Ryan (Eds.), *Cultural Safety in Trauma-Informed Practice from a First Nations Perspective: Billabongs of Knowledge* (pp. 221-242). Springer International Publishing. https://doi.org/10.1007/978-3-031-13138-7_8

Unjai, S., Forster, E. M., Mitchell, A. E., & Creedy, D. K. (2022). Compassion Satisfaction, Resilience and Passion for Work Among Nurses and Physicians Working in Intensive Care Units: A Mixed Method Systematic Review. *Intensive and Critical Care Nursing*, *71*, 103248. https://doi.org/https://doi.org/10.1016/j.iccn.2022.103248

Vracevic, M., Pavlovic, V., Todorovic, N., Milic, N. M., Matejic, B., Brkic, P., Milic, N. V., Savic, M., Masic, S., Pavlovic, A., Stanisic, V., Tasic, A., Spaic, D., Matovic, S., Tiosavljevic, D., & Stanisavljevic, D. (2025). Compassion Fatigue and Satisfaction Among Frontline Staff in Long Term Care Facilities: Psychometric Properties of the Serbian Version of the Professional Quality of Life Scale. *Frontiers in Psychiatry*, *16*, 1479190. https://doi.org/10.3389/fpsyt.2025.1479190

Vu, F., & Bodenmann, P. (2017). Preventing, Managing and Treating Compassion Fatigue. *Schweizer Archiv für Neurologie und Psychiatrie*, *168*, 224-231.

Whiteing, N., Barr, J., & Rossi, D. M. (2022). The Practice of Rural and Remote Nurses in Australia: A Case Study. *Journal of Clinical Nursing*, *31*(11-12), 1502-1518. https://doi.org/10.1111/jocn.16002

Williams, M. A. (2012). Rural Professional Isolation: An Integrative Review. *Online Journal of Rural Nursing and Health Care*, *12*(2), 3-10. https://doi.org/10.14574/ojrnhc.v12i2.51

World Health Organisation. (2024). *Mental Health at Work*. Retrieved April 25, 2026 from

https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work
World Health Organisation. (2024). *Rehabilitation*. Retrieved February 9, 2025 from https://www.who.int/news-room/fact-sheets/detail/rehabilitation
World Health Organization. (2011). *World Report on Disability*. Retrieved April 25, 2026 from https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability
Wright, L. K., Jatrana, S., & Lindsay, D. (2021). Workforce Safety in the Remote Health Sector of Australia: A Scoping Review. *BMJ Open*, *11*(8), e051345-e051345. https://doi.org/10.1136/bmjopen-2021-051345
Wu, T., & Lu, C. R. (2025). Understanding Compassion Fatigue Among Social Workers: A Scoping Review. *Frontiers in Psychology*, *16*, 1500305. https://doi.org/10.3389/fpsyg.2025.1500305
Xu, Z., Zhao, B., Zhang, Z., Wang, X., Jiang, Y., Zhang, M., & Li, P. (2024). Prevalence and Associated Factors of Secondary Traumatic Stress in Emergency Nurses: a Systematic Review and Meta-Analysis. *European Journal of Psychotraumatology*, *15*(1), 2321761. https://doi.org/10.1080/20008066.2024.2321761
Yee, A., & Kauric-Klein, Z. (2025). Managing Compassion Fatigue in Intensive Care Unit Nurses: A Systematic Review. *Dimensions of Critical Care Nursing*, *44*(3), 145-158. https://doi.org/10.1097/DCC.0000000000000692
Yoder, E. A. (2010). Compassion Fatigue in Nurses. *Applied Nursing Research*, *23*(4), 191-197. https://doi.org/10.1016/j.apnr.2008.09.003
Yu, H., Qiao, A., & Gui, L. (2021). Predictors of Compassion Fatigue, Burnout, and Compassion Satisfaction Among Emergency Nurses: A Cross-Sectional Survey. *International Emergency Nursing*, *55*, 100961. https://doi.org/10.1016/j.ienj.2020.100961

Chapter 2: Predictors of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review

Chapter Introduction

Chapter 2 presents the first published study of this thesis, a scoping review. This study examined existing literature on compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress among rural and remote healthcare workers. Findings highlighted a lack of research focusing on the rehabilitation healthcare workforce and identified a range of personal and work-related factors influencing compassion satisfaction, compassion fatigue, and burnout, although the results were not always consistent. Using the ProQOL model as a guide, a conceptual framework was developed to identify potential predictors of compassion satisfaction and compassion fatigue among rural and remote rehabilitation professionals.

Note to the reader: This study concluded in 2019 in order to allow progression of the PhD research, as the findings from Study 1 informed the design of the subsequent study.

The supporting document can be found at: Appendix C: Study 1 PRISMA-ScR Checklist.

Chapter Publication Details

McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review. *Australian Journal of Rural Health, 30*(2), 264-280. doi: https://doi.org/10.1111/ajr.12857

Received: 1 June 2021 | Revised: 4 November 2021 | Accepted: 6 February 2022

DOI: 10.1111/ajr.12857

REVIEW NARRATIVE

AJRH National Rural Health Alliance WILEY

Predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations: A scoping review

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Abstract

Introduction: A better understanding of the predictors of compassion satisfaction and compassion fatigue in health care workers in rural and remote communities is needed to inform preventative interventions for this sector of the health workforce.

Objective: To identify predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations.

Design: A scoping review informed by Arksey and O'Malley's five-stage framework and the scoping review protocol of the PRISMA-ScR statement.

Findings: The search yielded 946 articles, and 34 full texts were screened for eligibility, leaving 12 studies meeting the inclusion criteria. No studies on workers providing rehabilitation services were identified. Three studies assessed possible predictors of compassion satisfaction and compassion fatigue in health care workers, and all studies evaluated burnout. The most studied predictor variables were age, gender, profession and workload.

Discussion: This study identified potential risk and protective factors for health care workers that are likely relevant to those providing rehabilitation services in rural locations. Little is known about possible predictors of compassion satisfaction and compassion fatigue in professionals working in rural and remote areas outside of medicine and nursing or health care workers in rural community-based settings.

Conclusion: Research examining predictors of compassion satisfaction and compassion fatigue in rehabilitation health care workers working in rural and remote locations is scant. Research that identifies risk and protective factors in this rapidly growing sector of the health care workforce is needed to inform the development of interventions that promote professional quality of life.

KEYWORDS

burnout, ProQOL, rehabilitation, rurality, secondary traumatic stress

1 | INTRODUCTION

In the past decade, there has been an increasing need for rehabilitation health care services across Australia, mainly due to a rise in workers' compensation claims, employer early intervention programs, life insurance schemes and, more recently, the implementation of the National Disability Insurance Scheme (NDIS). The NDIS is an initiative implemented by the Australian Government to assist with providing disability services to individuals with a disability and their families, including those residing in rural and remote Australian locations.[1]

Rehabilitation health care services primarily concentrate on injury/illness and disability management and are provided by health and allied health providers.[2] Rehabilitation health care extends beyond preventative and curative health care. It assists individuals impacted by disability, illness, injury or ageing, to optimise their functioning and reduce negative impacts of their condition ensuring they can remain independent and engaged in work, education and avocational activities.[3] Rehabilitation health care workers are often exposed to patients with complex trauma histories, life-threatening conditions and chronic illness. The nature of rehabilitation health care requires providers to be empathetically available to the impacted individual and their caregivers.[4] Health care workers are expected to be compassionate; however, those with a high proportion of traumatic cases or are overly responsive with compassion reactions are at risk of developing compassion fatigue.[5] Health care workers are often impacted by compassion fatigue,[6,7] but little appears in the literature about rehabilitation health care workers' experiences with compassion fatigue. As with all health care workers, health workers providing rehabilitation services must be adequately supported to minimise the risk of compassion fatigue.

Stamm's professional quality-of-life model provides a conceptual basis for examining compassion satisfaction and compassion fatigue.[7,8] The model proposes that compassion satisfaction results from pleasure from undertaking a health care role. In contrast, compassion fatigue is the negative result of health care provisioning to those who have experienced traumatic events and suffering, with compassion fatigue comprising burnout and secondary traumatic stress.[9] The measure developed from the professional quality-of-life (ProQOL) model is the most commonly used measure of negative and positive effects experienced by health care workers in roles that exposed them to suffering and trauma.[9] Symptoms from these conditions are likely to result in increased time off work (medical absenteeism), high staff attrition rates, increased likelihood of psychological injury workers' compensation claims, suboptimal patient care and increased errors by health care workers.[7,10] Although compassion fatigue, burnout and secondary traumatic stress are important issues for all health care workers, they may be especially so for health care workers in rural and remote areas where services are not resourced to the extent of those in metropolitan areas.[11]

Based on the Australian Bureau of Statistics (ABS) geographical classification system, almost one-third of Australians live in rural and remote locations.[12] Health care workers in rural and remote locations face stress not experienced by their urban colleagues. These stress include excessive travel, poor clinical support services, lack of accessibility to locally based health care workers (eg diagnostic and therapeutic services), and a disproportionate number of older residents and residents in receipt of social welfare facing psychosocial issues.[8,13] The lack of client referral services results in a barrier to treatment planning and recovery, which is a significant stress.[14]

What is already known on this subject:

- Health care workers are often impacted by compassion fatigue resulting from emotional exhaustion and exposure to high rates of trauma cases
- In rural and remote locations, health care workers face several contextual stress not experienced by their urban colleagues that may increase their vulnerability to compassion fatigue
- Most studies examining compassion fatigue and compassion satisfaction in rural and remote locations have focused on medical personnel, typically physicians and nurses, working in clinical settings

What this study adds:

- There is little research on compassion satisfaction and compassion fatigue experienced by the rehabilitation sector of the rural and remote health workforce
- Several personal and work-related variables are identified as influencing the development of compassion fatigue and compassion satisfaction, but not all findings are consistent between studies
- Findings organised using the professional quality-of-life model provide a visual representation of potential predictor variables to inform future research

Although there have been developments in the linkage of metropolitan services to rurally based health services in the delivery of telehealth and e-consultations, these services are not accessible to all and do not provide physical services. Poor Internet and phone coverage, lack of specialists providing e-consultations, and lack of services to assist with treatment and diagnostics all impact the ability of health care workers to undertake their duties. Further, rural and remote health care workers are generally required to undertake a broader scope of responsibilities than their urban counterparts, including administrative and management tasks and additional patient services. They do not have the organisational resources or referral services urbanised locations have available.[8,15] Several psychosocial factors, such as living conditions and personal supports, may increase workplace stress and influence rehabilitation health care workers' decision to remain in or relocate to rural or remote locations.[16] Arguably, the most significant work stress faced by rural health care workers includes lack of organisational support, inadequate remuneration, critical decision-making without the support of onsite colleagues, and dealing with crises outside their scope of ability.[17]

The existing literature on compassion satisfaction and compassion fatigue provides some insight into the experiences of health care workers from various professional and occupational groups and a variety of work settings.[18] However, most studies focus on the experiences of nurses and physicians working in acute care hospitals, clinics and outpatient treatment settings, not on health care in rehabilitation settings.[18] Further, few reviews have focused solely on health care workers in rural and remote locations, and many studies do not identify rurality in their findings.[19]

Accordingly, the purpose of our scoping review is to identify predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations reported in the existing literature. The primary intention of the review is to identify variables assessed as predictors in existing studies rather than to critique their concepts or methods. Information from Western countries with similar socio-economic development levels will be considered to increase the relevance of findings to the Australian setting. Although the ABS geographical classification for rural and remote locations is practical, the international scope of this review precludes its application.

The findings of this review will form a basis from which to advance studies on the experiences of compassion satisfaction and compassion fatigue in health care workers providing rehabilitation services in rural and remote locations. This information is needed to inform workplace-based interventions to help minimise the impact of compassion fatigue and increase the professional quality of life of rural health care workers providing rehabilitation services in Australia.

2 | METHODS

This scoping review was informed by the five-stage framework developed by Arksey and O'Malley[20] and followed the protocol in the scoping review extension of the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA-ScR) statement.[21] The review was not registered. The following research question guided the review: What are the predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations?

2.1 | Search strategy

We used a search strategy with a broad reach across published literature on health to increase our ability to identify articles reporting on all forms of health care provided by various health professions in rural and remote settings. Studies were identified using a systematic search of databases covering different research areas, including occupational health, medicine, allied health, psychology, rehabilitation and social sciences: MEDLINE (OVID), PsycINFO (OVID), PILOTS, AMED and Embase. Stamm's professional quality-of-life model informed the search terms for this review's concepts of interest. The model comprises compassion satisfaction and compassion fatigue and identifies burnout and secondary traumatic stress (also known as vicarious trauma) as components of compassion fatigue.[22] The electronic search strategy for MEDLINE was as follows: "([compassion satisfaction OR compassion fatigue OR burnout OR secondary traumatic stress OR vicarious trauma] AND health AND [rural OR remote]).af." The search was limited to English language sources. A manual search of Google Scholar was undertaken using the search criteria to ensure that no relevant material was missed. We examined reference lists of meta-analyses and reviews identified by the search to ensure we included all individual studies that met the inclusion criteria.

2.2 | Inclusion and exclusion criteria

To be included in the study, the articles needed to (a) be in English, (b) use quantitative research methods, (c) have participants who worked in health care roles in rural or

remote locations, (d) be in Western countries to increase the relevance of findings to the Australian setting, (e) identify risk and protective factors for the main variables of interest—compassion satisfaction, compassion fatigue, burnout, secondary traumatic stress or vicarious trauma, (f) use validated measures to document these outcome variables and (g) be published in peer-reviewed journals. To avoid duplication of data, studies were excluded if they reported meta-analyses or a secondary analysis of data. All quantitative studies published up to November 2019 were considered for inclusion in the review. The search results were exported to Endnote X9. Duplicate citations were removed, titles and abstracts were scanned, and the full text of the articles included in the screening process was reviewed by two researchers independently of each other. Any conflict about an article's inclusion was resolved through discussion.

2.3 | Data extraction and synthesis

The extraction of data from eligible articles was undertaken by two researchers using a form (based on Table 1) that was piloted on several articles to make sure it secured all relevant data. The data from this form would populate the evidence table. Data extracted were author, country, sample, design, measures used to document outcome variables, and statistical analysis used to identify significant predictors of the outcome variables. Where articles reported significant results of tests of relationships between potential predictor variables and any of the outcome variables, they were included in the evidence table. Once protective and risk factors from all articles were identified, they were discussed and organised into meaningful elements. The extracted findings were then visually organised against the ProQOL model[9] to illustrate the identification of possible predictor variables for compassion satisfaction and compassion fatigue.

3 | RESULTS

The literature search identified 946 articles from which 34 full texts were screened for eligibility and 12 were included in the review (see Figure 1). Of these studies, four were conducted in the USA,[11,15,23,24] two in Canada,[25,26] two in Australia,[12,27] two in Spain[28,29] and one each in Switzerland[30] and Germany.[31] Studies spanned 18 years with seven (58%) conducted in the past 5 years and four (33%) published since 2017. The literature identified three studies each that assessed possible predictors of compassion satisfaction[11,12,25] and compassion fatigue,[11,24,25] with burnout evaluated by all 12 studies. Secondary traumatic stress was not measured independently of compassion fatigue in studies included in this review. The characteristics of the included studies are summarised in Table 1.

All studies included health care workers employed in rural and remote locations, and eight of the studies specifically assessed rurality as a potential predictor variable. Only one study distinguished between workers from rural or remote areas, but these groups were not analysed separately.[12] As none of the other studies distinguished 'rural' from 'remote,' the terms 'rural' and 'rurality' may refer to both rural and remote settings. Study cohorts were recruited from clinical, hospital and community settings. The studies had a combined sample size of 5073 (range = 1686; 69–1755). Participants comprised physicians (45.28%), nurses (14.96%), general mental health professionals (social workers, counsellors, child welfare workers and marriage and family therapists; 8.43%), outpatient mental health workers (medical and non-medical—unspecified; 4.42%), physician assistants (advanced practice providers; 3.25%), child welfare workers (profession unspecified; 2.84%), school-based mental health professionals (profession unspecified; 2.61%), psychiatrists (2.07%), psychologists (2.03%), emergency services providers (1.12%), inpatient mental health workers (medical and non-medical—unspecified; 0.47%), unspecified health care workers (0.1%) and physical therapists (0.02%).

Studies that reported gender or sex proportions included a total of 2321 (46%) men and 2178 (43%) women. Two studies, accounting for 480 (9%) participants, did not summarise participants' biological or identified sex.[15,27] Four studies had a reporting deficit, with gender or sex proportions not aligned with reported participant numbers (2%).[11,24–26] The participant age range was 21–95 [sic] years with a mean age of 45.4 years. Seven studies provided the mean age,[11,12,23–26,31] one study provided the median age,[29] three studies did not provide age ranges or the mean age of participants,[15,27,29] and one study provided age range, but not mean age.[30] All studies weighted equally in the review. The most frequently used measures were the Maslach Burnout Inventory (MBI; $n = 7$) and the ProQOL ($n = 4$).

3.1 | Predictors of compassion satisfaction and compassion fatigue

All studies included in this review used a cross-sectional design so it was not possible to determine whether reported predictors were causal. As revealed by the statistical analyses, the approach of all was to look for correlational associations between measures taken at a point in time, with no analyses attempting to model

TABLE 1 Variables that have significant associations with compassion satisfaction, compassion fatigue and burnout in rural and remote health care workers

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Samios 2018[12]	Australia	Rural mental health workers $n = 69$ Registered and probationary psychologists, counsellors and social workers Response rate = 26% Gender: 20% male and 80% female Age: 25–95 years Mean = 48.78 years	Cross-sectional study	The 10-item Burnout subscale of the ProQOL 5-item Mindful Attention Awareness Scale The 10-item Compassion Satisfaction subscale of the ProQOL Sociodemographic questionnaire	Hierarchical multiple regression analysis	*Burnout*: • Income—significant negative relationship with burnout • Life satisfaction—significant negative relationship with burnout • Depression—significant positive relationship with burnout • Mindfulness—significant negative relationship with burnout • Age, gender, relationship, caseload and work location—no significant relationship with burnout *Compassion satisfaction*: • Income—significant positive relationship with compassion satisfaction • Mindfulness—significant positive relationship with compassion satisfaction • Depression—significant negative relationship with compassion satisfaction • Age, gender, relationship, caseload and work location—no significant relationships with compassion satisfaction
Singh et al 2015[27]	Australia	Australian-registered mental health nurses with a minimum of 1-year mental health nursing experience $n = 319$ Response rate =80% Gender response rates were not reported Age range and mean not reported	Cross-sectional study with cluster sampling	MBI Sociodemographic questionnaire	Descriptive and inferential analyses	*Burnout*: • Gender—men had a significant relationship with depersonalisation • Age—being younger than 30 years had a significant negative relationship with emotional exhaustion • Qualifications—higher number of qualifications and higher levels of qualifications—significant positive relationship with depersonalisation • Present work location, work duration and living arrangements (alone or with others)—no significant relationship with burnout

TABLE 1 (Continued)

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Sawatzky & Enns 2012[25]	Canada	Registered nurses in Canadian emergency departments $n = 261$ Rural participants, 27% of the sample Response rate = not reported Gender: 11% male and 89% female Age: 21–70 years Mean = 41.1 years	Cross-sectional study	The Perceived Nurse Working Environment (PNWE) Scale The Engagement Composite Questionnaire ProQOL Job satisfaction was measured by a single item (1 = not at all satisfied; 5 = very satisfied) Sociodemographic questionnaire	Bivariate and regression analyses Contingency table analysis Analysis of variance	*Burnout*: • Work engagement—significant association with burnout • Adequate staffing/resources—significant negative relationship with burnout • Marital status—being married has a significant negative relationship with burnout • Collaboration with physicians—significant negative relationship with burnout • Gender, age, education, employment status, shift rotation and years' experience—no significant relationships with burnout *Compassion Satisfaction/Fatigue*: • Work engagement—significant predictor of compassion satisfaction and compassion fatigue • Negative staff engagement—significant predictor of compassion fatigue • Adequate staffing levels and appropriate resourcing—significant predictors of compassion satisfaction • Intention to leave nursing—significant negative relationship with compassion satisfaction • Working only day shifts—significantly higher compassion satisfaction and lower compassion fatigue • Inadequate remuneration—negative significant relationship with compassion satisfaction • Sex, age, education, employment status and years' experience—no significant relationships with burnout
Thommasen et al 2001[26]	Canada	Rurally practising physicians registered with the 1998 physician register of the College of Physicians and Surgeons of British Columbia $N = 131$ Response rate =66% Sex: 74% male and 26% female Age: <30–59> years <30 years (3%) 30–39 years (37%) 40–49 years (29%) 50–59 years (23%) >59 years (8%) Mean = 43.6 years	Cross-sectional study	Beck Depression Inventory MBI Sociodemographic questionnaire	Multiple regression analysis	*Burnout*: • Job dissatisfaction—significantly associated with high emotional exhaustion and poor sense of personal accomplishment • Relocation—desire to relocate was significantly associated with high emotional exhaustion • Mental health—depression significantly associated with high emotional exhaustion and depersonalisation

TABLE 1 (Continued)

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Adarkwah et al 2018[31]	Germany	General practitioners working in a rural location $n = 85$ Response rate = 53.8% Gender: 75% male and 25% female Age range = 32–73 years Mean age = 53.5 years (SD 8.93) Median age = 54 years	Cross-sectional study	Maslach Burnout Inventory (MBI)—German version	Canonical correlation analysis	*Burnout*: • Patient care—significant negative association with depersonalisation • personal rewards—significant negative association with depersonalisation • professional relationships—significant negative association with depersonalisation • Age, gender, years in practice, group or single practices, number of hours worked and percentage of client contact—not significantly associated with burnout
Yuguero et al 2015[28]	Spain	General practitioners from rural and urban areas of the Lleida district $n = 108$ Response rate = 61% Sex: 64% female and 36% male Age range and mean of the total sample not reported	Cross-sectional study	Spanish version of the MBI Spanish version of the Jefferson Scale of Physician Empathy (JSPE) Sociodemographic questionnaire	Descriptive analysis	*Burnout*: • Empathy—high empathy was significantly associated with low burnout • Clients—there was no relationship between sick leave prescription (% patients on sick leave, duration of sick leave and repeated sick leave) and burnout • Sex, age and location (urban/rural)—no significant associated with burnout
Yuguero et al 2017[29]	Spain	Family physicians and nurses from rural and urban areas of the Lleida District $n = 267$ Response rate = 53% Rural participants were 58% of the sample Sex: 22% male and 78% female Age range: 31–65 years Median age 48 years	Cross-sectional study	The Spanish version of the 22-item MBI The Spanish version of the JSPE Sociodemographic questionnaire	Descriptive analysis	*Burnout*: • Empathy—empathy had a significant negative relationship with burnout • Sex, age, profession and location (urban/rural)—no relationship with burnout

TABLE 1 (Continued)

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Goehring et al 2005[30]	Switzerland	Primary care physicians $n = 1755$ Rural participants were 30% of the sample Response rate = 59% Sex: 84% male and 16% female Age: <45 years (23.4%) 45–50 years (25.8%) 51–55 years (25.0%) >55 years (25.8%) Mean age not reported	Cross-sectional study	MBI translated into French, German and Italian Sociodemographic questionnaire	Multiple logistic regression	*Burnout*: • Men—significant risk factor • Age—45–55 years age group, significant risk factor • Location—rural environment, significant risk factor • Profession: medical speciality—significant risk factor • Excessive perceived stress due to factors below—all significant risk factors ▪ Global workload ▪ Health care system—changes in the health care system, medical care uncertainty ▪ Type of work—health insurance workload ▪ Patients' expectations ▪ Practice factors—economic constraints in the practice, relationships with non-medical staff at the practice ▪ Work–life balance—difficulties with work–life balance • Living alone, fear of malpractice, care of terminally ill patients, medical emergencies and telephone consultations—no association with burnout
Benson et al 2016[15]	USA	Members of the American Academy of Physician Assistants who self-reported as practising in a rural location $n = 161$ Response rate = 11.3% Male/female proportions were not specified Age range and mean age not reported	Cross-sectional study	MBI	Spearman's correlation analysis	*Burnout*: • Control over workload—weakly to moderately correlated with all three burnout subscales • Adequacy of administrative support—significantly positively correlated with all three burnout subscales • Satisfaction with and access to supervisors—significant negative relationship to emotional exhaustion • Professional isolation—significant positive relationship with depersonalisation and emotional exhaustion • Geographical isolation—significant negative association with personal accomplishment • Hours worked—significant positive relationship depersonalisation
Bethea et al 2019[23]	USA	Rural health care practitioners $n = 127$ Emergency medical services providers, nurses, physicians, advanced practice providers, physical therapists and other practitioners Response rate = 74.7% Gender: 40% male and 60% female Age range not reported, mean = 42.4 years (SD = 11)	Cross-sectional study	Mini Z burnout survey (accessible through the American Medical Association's website) with additional questions targeting the perception of BO impact and the availability of BO preventative measures Sociodemographic questionnaire	Descriptive analysis	*Burnout*: • Job satisfaction—significantly lower in the 'burned-out' group • Work-related stress—job stress, control over workload, time available for documentation, chaotic work atmosphere, value alignment with institution/employer leadership, effective patient teamwork and time spent on electronic medical records at home—significantly higher proportions reported by the 'burned-out' group • Age, gender, profession, years of professional experience and availability to education on burnout—no significant differences between 'burned out' and 'not burned out'

(Continues)

TABLE 1 (Continued)

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Sprang et al 2007[11]	USA	Licensed or certified behavioural health care workers $n = 1121$ Psychologists, psychiatrists, social workers, marriage and family therapists, professional counsellors, and drug and alcohol counsellors Rural participants were 26% of the sample Response rate = 19.5% Gender: 30% male and 70% female Age: 23–81 years Mean = 45.22 years	Cross-sectional study	A survey specifically designed for this study with 102 items incorporating sociodemographics, work practices and levels of compassion satisfaction, compassion fatigue and burnout ProQOL	Analysis of variance Multivariate analysis of variance Hierarchical regression analysis	*Burnout*: • Gender—women reported significantly higher than men on burnout scores • Age—younger age predicted higher levels of burnout • Clinical experience—less clinical experience predicted burnout • Workplace—inpatient professionals had significantly higher burnout scores than private practice professionals • Rurality—respondents who provided services in the most rural areas of the state had significantly higher burnout scores than those in urban areas • Highest degree, licensure, specialist training and % of clients with PTSD—no significant relationships with burnout *Compassion satisfaction/fatigue*: • Gender—women reported significantly higher than men on compassion satisfaction and compassion fatigue scores • Age—younger age predicted higher levels of compassion fatigue; older age predicted compassion satisfaction • Qualification—MD degree predicted higher levels of compassion fatigue • Workplace—inpatient professionals had significantly higher compassion fatigue scores than private practice professionals • Clinical experience—less clinical experience predicted compassion fatigue • Client factors—a higher percentage of clients with PTSD predicted higher levels of compassion fatigue • Training—participants with specialised training in trauma work had higher compassion satisfaction and lower compassion fatigue scores than those without specialised training • Location of practice (rurality) did not have a significant relationship with compassion satisfaction or fatigue

TABLE 1 (Continued)

Authors	Country	Sample	Design	Measures	Analysis	Main findings related to the research question
Sprang et al 2011[24]	USA from six US states and Toronto, Canada	Behavioural health care workers $n = 668$ Child welfare (22.9%) Inpatient (3.8%) Psychiatrist (16.8%) Outpatient (35.6%) School based (21.0%) Rural participants = 14% of the sample Response rate = 24% Gender: 33% male and 67% female Age range not reported, mean age = 40.8 years	Cross-sectional study	ProQOL-IV Sociodemographic questionnaire	Bivariate analysis Hierarchical multiple regression analysis	*Burnout:* • Gender—men reported significantly higher than women on burnout scores • Age—younger age predicted higher levels of burnout • Religion—no religious participation was a predictor of burnout • Job type—child welfare worker status was a significant predictor of burnout • Location and race were not predictors of burnout *Compassion Fatigue:* • Gender—men reported significantly higher than women on compassion fatigue scores • Age—younger age predicted higher levels of compassion fatigue • Religion—no religious participation was a significant predictor of compassion fatigue • Job type—child welfare worker status was a significant predictor of compassion fatigue • Location—rural location was a significant predictor of compassion fatigue • Race was not a significant predictor of compassion fatigue

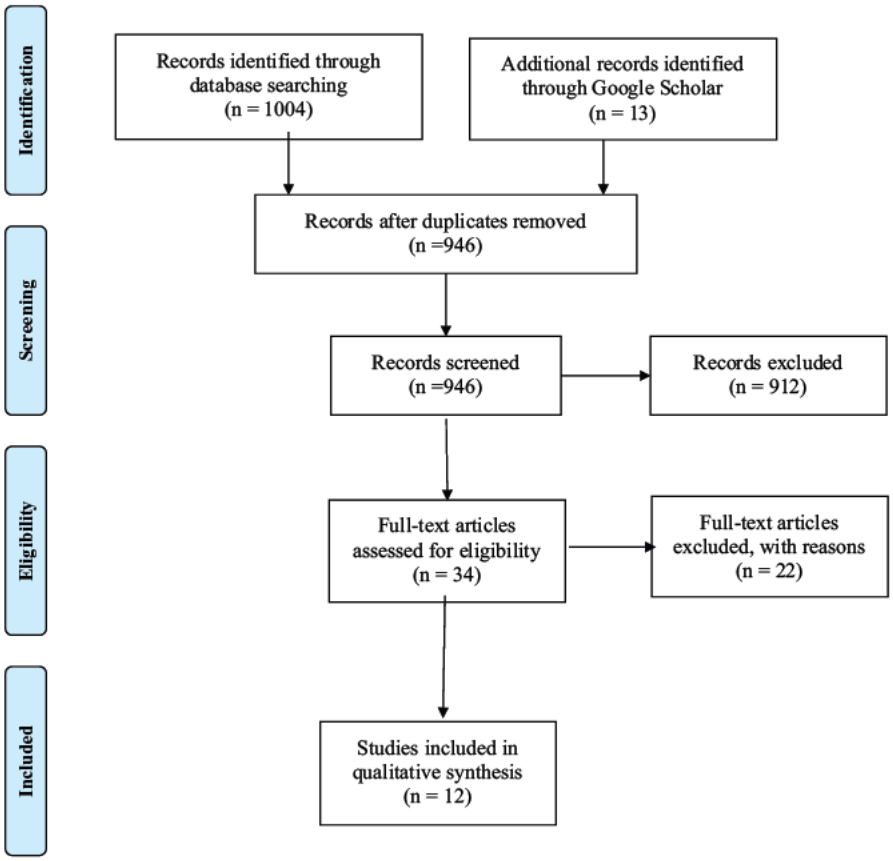

FIGURE 1 PRISMA flowchart of the scoping literature review research process

potential causal paths or statistically assess the effects of controlled interventions. Therefore, in this review, variables that were tested for an association with the outcome variables were identified as possible predictor variables. These variables were organised into two main groups: personal factors, such as age, gender and profession; and work-related factors, including job-related factors and stress. Findings are reported below for each outcome variable included in studies: compassion satisfaction, compassion fatigue and burnout.

3.1.1 | Personal factors

Personal factors were recognised in 11 of the 12 studies as likely risk and protective factors in compassion fatigue, compassion satisfaction and burnout.[11,12,23–31] These variables were organised into sociodemographics and profession factors.

3.1.2 | Sociodemographics

Ten studies examined relationships between age and the outcome variables, with conflicting results. In regard to burnout, studies from Germany, Canada and Spain found no significant relationships between age and burnout.[25,28,29,31] Two studies from Australia and the USA also reported no significant relationships between age and burnout,[12,23] but other studies from the same countries, and one from Switzerland, reported younger age as positively related to burnout.[11,24,27,30]

For compassion satisfaction and fatigue, two American studies reported younger age as being significantly associated with compassion fatigue.[11,24] Another American study reported older age as being associated with compassion satisfaction.[11] One Australian study found no significant association between age and compassion satisfaction.[12]

Ten studies included gender as a potential predictor of the outcome variables of which six, conducted in Australia, Canada, the USA, Spain and Germany, identified no relationship.[12,23,25,28,29,31] As with age, findings varied in studies reporting a significant association with the outcome variables. Studies from Australia, Switzerland and the USA reported that being male was significantly associated with having burnout,[24,27,30] while another study from the USA identified that being female was significantly associated with developing burnout, compassion satisfaction and compassion fatigue.[11]

Other sociodemographics identified were income, marital status, mental health, empathy, mindfulness and religious activity. Income was analysed in one Australian study, with income satisfaction significantly positively

correlated with compassion satisfaction and negatively with burnout.[12] Marital status[25] and religious activity[24] were assessed in studies from Canada and the USA, respectively, with being married reported as significantly decreasing the risk of burnout and active religious practice significantly correlated with a lower risk of burnout. Mental health (depression) was analysed in studies from Australia and Canada, with depression significantly positively correlated with burnout in both studies[12,26] and negatively associated with compassion satisfaction in the Australian study.[12] Empathy had a significant relationship with burnout in Spanish physicians and nurses[28,29] and Australian health care workers practising self-care in the form of mindfulness-reported higher scores on compassion satisfaction, with mindfulness acting as a potential protective factor against burnout.[12]

3.1.3 | Profession

Five studies included profession in analyses to identify associations with outcome variables.[11,23,24,29,30] Of these, two reported no significant associations with any outcome variable.[23,29] Swiss general practitioners reported higher levels of burnout than other physician specialisations.[30] For compassion fatigue, American physicians (including psychiatrists)[11] and child welfare workers[24] had significantly higher compassion fatigue scores than social workers and psychologists and other behavioural health care workers.

Other profession-related variables included professional qualifications and work experience. In one American study, medical doctors (MDs) reported significantly higher likelihood of developing compassion fatigue than health professionals with other qualifications such as master's degree or Doctor of Philosophy.[11] Years of work experience in German general practitioners were not significantly associated with developing burnout,[31] and no significant difference between years of work experience and levels of burnout was reported by a range of American health care workers.[23] In one Australian study, the number and level of qualifications in mental health nurses were positively associated with burnout.[27] In the same study, those who reported doubting their professional role abilities were also reported as having an increased risk of burnout.[27]

3.1.4 | Work-related factors

Work-related factors were noted in 11 of the 12 studies as likely factors in the development of burnout or compassion fatigue.[11,12,15,23–25,27–31] Variables were grouped into two factors: job-related factors and work stress.

3.1.5 | Job-related factors

Work hours were reported in five studies[15,23,25,30,31] and were significantly related to outcome variables in three studies.[15,23,30] In one study from the USA,[15] workers reported working more than 40 h per week, plus on-call duties and extra administrative tasks, and this load was positively correlated with burnout. Conversely, in the German study,[31] total working hours per week held no significant relationship with risk of burnout, but it was unclear whether the physicians in this study were required to undertake 'on-call' work. Canadian nurses who only worked day shifts reported significantly higher levels of compassion satisfaction and decreased levels of compassion fatigue than those who worked mixed shifts.[25]

Elements of the work environment and setting were identified in some studies. The nature of patient care and professional relationships were identified as potential predictors for depersonalisation, lack of empathy and burnout in German health care workers.[31] Health care workers employed within an American inpatient facility reported higher levels of burnout than those employed in private practice.[11] Spanish physicians with a high percentage of patients on long-term sick leave reported high levels of burnout,[28] and Swiss physicians doing insurance work and experiencing economic constraints in their practice were significantly more likely to report burnout.[30] In relation to compassion fatigue, American health care workers with a high percentage of clients with PTSD were significantly more likely to report compassion fatigue.[24]

Level of remuneration was reported in an Australian study as having a negative relationship with burnout in rural workers and a positive relationship with compassion satisfaction; this may be attributed to work being more tolerable if remuneration is perceived as adequate, mitigating financial stress and enabling avocational activities.[12] Lower income was a potential predictor of Canadian nurses leaving the profession, with inadequate remuneration inversely related to their reported compassion satisfaction levels.[25]

Rurality as a specific variable was reported as having significant associations with the outcome variables in three studies. American health care workers servicing rural and remote locations reported significantly higher burnout scores[11] and were significantly more likely to report compassion fatigue[24] than their urban colleagues. Similarly, working in a rural location was identified as a potential risk factor for the development of burnout in Swiss physicians.[30] Rurality was not a potential predictor for burnout in the Spanish studies.[28,29] One American study reported rurally practising health care workers did not require high levels of complex cases to develop

burnout; they reported that the general stress and burdens of rural practice led to the development of burnout, but not compassion fatigue.[11]

Work stress

Several work stress was identified in studies from the USA, Switzerland, Canada and Australia. They comprised stress related to workload, inadequate staffing, and issues with work–life balance,[15,23,25,30] job dissatisfaction[26] and professional isolation.[11]

All four studies examining workload-related issues found significant relationships with burnout.[15,23,25,30] Lack of control over global workload factors including the adequacy of administration support, management accessibility, consultation over role design, control over patient allocation and adequate time for reporting significantly increased the risk of burnout in American and Swiss health care workers.[15,23,30] Levels of staffing and resources were reported in one Canadian study as having significant associations with compassion fatigue and compassion satisfaction.[25] Failure to maintain a healthy work–life balance placed American and Swiss health care workers at significantly higher risk of developing burnout than those who had good work–life balance.[23,30]

Canadian physicians experiencing job dissatisfaction[26] were more likely to experience burnout, as were American health care workers who had poor value alignment with their organisation and management group.[23] American health care workers who reported feelings of professional and personal isolation were also more likely to experience burnout.[15] Conversely, American health care workers who received specialised trauma training that developed and enhanced their coping skills reported less burnout and compassion fatigue, and increased compassion satisfaction.[11]

3.2 | Visual organisation of potential predictor variables

The results of this review are represented in Figure 2 to provide a visual organisation of potential predictor variables associated with each of the elements of the ProQOL model.

4 | DISCUSSION

This scoping review sought to identify the predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations. Our search identified 12 articles that met the inclusion criteria. Several personal and work-related variables that had been assessed as potential predictors for one or more of the conditions were identified from these studies.

All studies provided potential predictors of burnout in rural health care workers. However, fewer data were available identifying potential predictors of compassion satisfaction and fatigue for workers in rural settings, possibly because they are more recent concepts in the literature than burnout, which has been researched for over 40 years.[32] Some sociodemographic and work-related variables were commonly tested; others less so, often only in one study. Together, they provide a broad view of the potential predictors of compassion satisfaction and compassion fatigue in health care workers in rural and remote locations and offer a basis for future research (see Figure 2).

The most studied potential predictors in this review were age, gender, work hours, and workload. Except for workload, which was consistently positively associated with burnout (see also the Aronsson et al. review[33]), the results were mixed in their implications for sociodemographic and work-related variables as predictors. Associations for age with burnout were either not significant or identified younger age as a potential predictor. Associations for gender were mixed. Most samples comprised unequal proportions of men and women, which may explain the mixed findings. However, our findings are consistent with existing meta-analyses that have also reported inconsistencies in results relating to relationships between sociodemographic and work-related relationships and compassion satisfaction, compassion fatigue and burnout in health care workers.[18,34]

Findings of lack of consistency in relationships of potential predictor variables with outcome variables across studies and between studies conducted in the same countries suggest there may be other factors mediating the impact of these potential predictors. The relationship between age and burnout, for example, is reported as being moderated by gender, marital status and variability in work experience.[35] The relationship between workload and burnout is moderated by workplace commitment, working team quality and recognition from supervisors.[36] Other geographical, methodological or health care system-related variables may have significantly influenced relationships with compassion satisfaction and compassion fatigue, but these factors were not examined in this review's studies.

Findings from this review identified very little is known about possible predictors of compassion satisfaction and fatigue for health care workers in rural and remote settings outside the occupations of medicine and nursing. A large proportion of the total sample from studies in this review were nurses and physicians

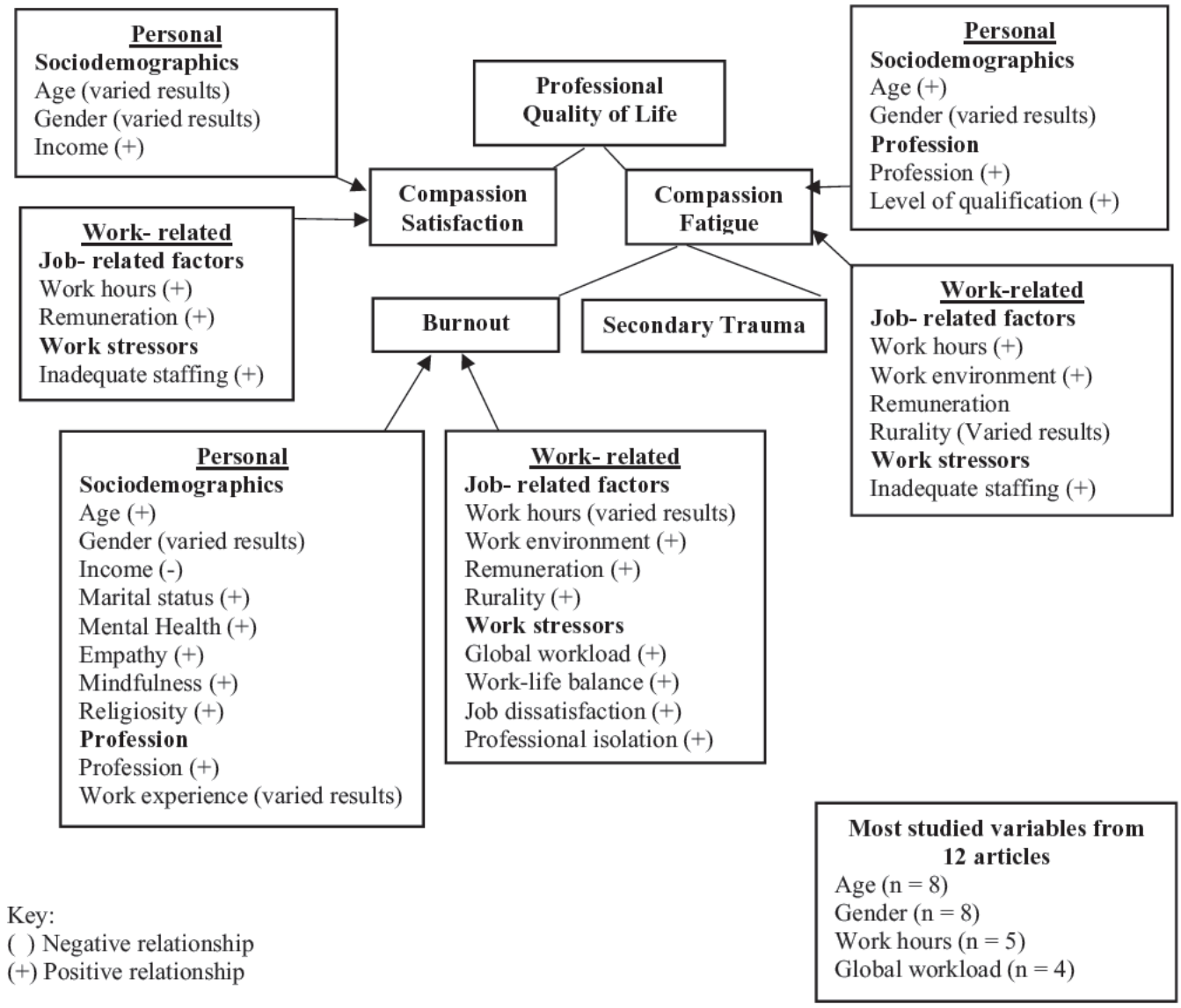

FIGURE 2 Visual representation of potential predictor variables for compassion satisfaction and compassion fatigue using the ProQOL model

(see also the Cavanagh et al review),[18] which may reflect the dominance of these professions in health care in Western nations, particularly as front-line workers.[37] It may also be that the recruitment of clinically based front-line health care workers in research occurs because of their organisations' engagement in academic research programs and partnerships such as Clinical Data Research Networks, which operate in predominantly clinical settings.[38]

We anticipated that the existing literature may have assessed the impacts of barriers to rural health care service provision, including accessibility to local referral services, adequate resourcing of equipment and funding to develop improved health outcomes. However, no studies identified in our review considered the impact of these variables. These barriers have been reported previously by practitioners with burnout as having a significant and negative impact on rural health practitioners' mental health, longevity in their role and quality-of-service provision for clients. They are therefore of interest as possible predictors of compassion fatigue.[39]

By not limiting the search strategy to any type of health care profession, care provision or system, we anticipated the findings would capture the impact of providing rehabilitation health care in schemes such as disability management (including the NDIS), workers' compensation and life insurance case management.[40] However, none of the studies included in this review provided information about health care professionals working in rehabilitation settings in rural and remote locations. It may be that the professional isolation and lack of access to professional development and organisational support faced by this

section of the health care workforce have contributed to a culture of ambivalence towards research.[41] Regardless, this finding suggests a significant gap in a rapidly growing sector of the health care workforce, especially given the rise in rehabilitation health care in Australia and other Western nations, including the USA.[42]

In urban areas, rehabilitation health care workers reported a moderate risk of burnout, an extremely high risk of developing compassion fatigue and an extremely high potential for developing and maintaining compassion satisfaction.[43] Without studies from rural contexts, it is unclear whether the risks for these conditions are the same for rural and remotely practising rehabilitation health care workers. Further, none of the studies reported on the nature of work undertaken in rehabilitation settings by rehabilitation health care workers for people with disabilities or occupational injuries. This finding was unexpected considering the size of this health care workforce and the rapidly growing nature of rehabilitation health care in other Western nations.[44]

It could be argued that what is known about risk and predictive factors for compassion satisfaction and compassion fatigue that arise from existing models of care, primarily from urban settings, could be applied to rural settings. However, in instances where urbanised health care models have been engaged in rural locations, they tend not to be fit for purpose due to the geographical, cultural and socio-economic barriers unique to rural health care.[45,46] For example, in their assessment of health care provisioning in rural and urban locations, Weinhold and Gurtner[47] advised that attributes of providing health care differed markedly between the two settings. This difference is mainly related to the need for rural health care workers to manage the barriers patients face with accessibility, affordability and difficulty obtaining holistic health care. Indeed, health care workers who have worked under urbanised models of care and then practise in rural and remote locations are often unprepared to manage these barriers and others unique to rural and remote health care. Their inability to provide effective health care results in distress, frustration and feelings of being unsupported.[48] Identifying predictors for compassion satisfaction and compassion fatigue therefore appears to be best done in the context of the location of health care delivery and informed by the workers who are engaged in delivering services to overcome challenges of accessibility, opportunity and retention.[41]

There are limitations to this study that need to be considered. Although a thorough review was undertaken, eligible studies may have been missed as we did not review all databases. The search was limited to publications in English-reporting studies conducted in Western nations. All studies identified in this review used a cross-sectional design, so we can only comment on the relationships between variables rather than causation. One-third of the studies had low response rates, which increases the risk of a non-response bias and possible over- or under-representation of subgroups of health care workers in these studies. None of the eligible studies distinguished between rural or remote settings in their analyses, so we could not report any potential predictor variables specific to these two rural locations. Finally, all studies were self-reported responses, which carries risks such as inflated or minimised responses to lived experiences, the impact of employer involvement on providing honest answers and self-stigma.

This review identified several areas for future research. Of interest was that few potential predictors had consistent findings in any of the conditions. Studies that adopt a longitudinal design to explore the influence of sociodemographic and work-related variables on the development of compassion satisfaction and compassion fatigue would provide greater clarity on identifying at-risk health care workers in rural and remote locations. Participants in the majority of studies in this review were nurses and physicians. Having information about predictors for a broader range of health professions working in clinical and allied health care in rural and remote locations would provide a better foundation for identifying specific prevention interventions for clinical and community-based workers. The admission criteria of many health care training agencies take rural lived experience into consideration. Studies that explore the rural origins of health care workers or formative years spent in rural locations as predictors of compassion satisfaction and compassion fatigue would identify differences between local and relocated health care workers. Few studies in this review reported predictors of compassion satisfaction. Given the central role of compassion satisfaction in preventing compassion fatigue, studies that identify predictors of compassion satisfaction in rural and remote health care workers are now needed. Lastly, recruitment methods that attract larger samples of rural and remote workers to research will obtain a clearer picture of the different risk and protective factors between urban and rural and remote cohorts and between rural and remote cohorts.

5 | CONCLUSION

The results from this review show that little work has concentrated on identifying predictors of compassion satisfaction and compassion fatigue in rural and remote health care workers systematically or comprehensively. Several sociodemographic and work-related variables were identified

as potential predictors in several studies, although few had consistent findings in any of the conditions. The search did not reveal any studies that reported potential predictors of compassion satisfaction and compassion fatigue in health care workers in rehabilitation settings in rural and remote locations. Further research with this group of health care workers is required to inform employers, policy-makers and rehabilitation health care workers of the risk and protective factors faced with rural and remote practice.

ACKNOWLEDGEMENT

We acknowledge the contribution of Professor Elias Mpofu in his role as Kelly McGrath's initial supervisor. Open access publishing facilitated by The University of Sydney, as part of the Wiley - The University of Sydney agreement via the Council of Australian University Librarians.

CONFLICT OF INTEREST

Kelly McGrath, Lynda Matthews and Rob Heard declare that they have no conflict of interest.

AUTHOR CONTRIBUTIONS

KM: conceptualization; formal analysis; methodology; writing – original draft; writing – review & editing. LRM: conceptualization; formal analysis; methodology; supervision; writing – original draft; writing – review & editing. RH: conceptualization; methodology; supervision.

DISCLOSURE

I certify that no external parties have a direct interest in the results of the research supporting this article and no financial assistance was received by any of the authors to fund the study.

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REFERENCES

1. Dintino R, Wakely L, Wolfgang R, Wakely KM, Little A. Powerless facing the wave of change: the lived experience of providing services in rural areas under the National Disability Insurance Scheme. Rural Remote Health. 2019;19(3):5337.
2. Allied Health Professions Australia. Rehabilitative care [internet], 2020 [cited 2020 Nov 7]. Available from https://ahpa.com.au/key-areas/rehabilitation/
3. World Health Organisation. Rehabilitation [internet], 2020 [cited 2020 Nov 8]. Available from https://www.who.int/news-room/fact-sheets/detail/rehabilitation
4. Stebnicki MA. Stress and grief reactions among rehabilitation professionals: dealing effectively with empathy fatigue. Journal of Rehabilitation. 2000;66(1):23–29.
5. Slatten LA, David Carson K, Carson PP. Compassion fatigue and burnout: what managers should know. Health Care Manag. 2011;30(4):325–333.
6. Bidlan JS, Sihag A. Occupational stress, burnout, coping and emotional intelligence: exploring gender differences among different occupational groups of healthcare professionals. Indian J Health Wellbeing. 2014;5(3):299–303.
7. Nimmo A, Huggard P. A systematic review of the measurement of compassion fatigue, vicarious trauma, and secondary traumatic stress in physicians. Australas J Disaster Trauma Stud. 2013;2013:37.
8. Stamm B, Lambert D, Piland NF, Speck NC. A rural perspective on health care for the whole person. Prof Psychol Res Pract. 2007;38(3):298–304.
9. ProQol.org. Professional Quality of Life Measure [internet], 2020 [cited Nov 8]. Available from https://proqol.org/ProQol_Test.html
10. Cocker F, Joss N. Compassion fatigue among healthcare, emergency and community service workers: a systematic review. Int J Environ Res Public Health. 2016;13(6):618.
11. Sprang G, Clark JJ, Whitt-Woosley A. Compassion fatigue, compassion satisfaction, and burnout: factors impacting a professional's quality of life. J Loss Trauma. 2007;12(3):259–280.
12. Samios C. Burnout and psychological adjustment in mental health workers in rural Australia: the roles of mindfulness and compassion satisfaction. Mindfulness. 2018;9(4):1088–1099.
13. Morgan D, Innes A, Kosteniuk J. Dementia care in rural and remote settings: a systematic review of formal or paid care. Maturitas. 2011;68(1):17–33.
14. Bourke L, Taylor J, Humphreys JS, Wakerman J. "Rural health is subjective, everyone sees it differently": understandings of rural health among Australian stakeholders. Health Place. 2013;24:65–72.
15. Benson MA, Peterson T, Salazar L, Morris W, Hall R, Howlett B, et al. Burnout in rural physician assistants: an initial study. J Physician Assist Educ. 2016;27(2):81–83.
16. Mbemba G, Gagnon M-P, Paré G, Côté J. Interventions for supporting nurse retention in rural and remote areas: an umbrella review. Hum Resour Health. 2013;11(1):44.
17. Liebenberg AR, Coetzee Jnr JF, Conradie HH, Coetzee JF. Burnout among rural hospital doctors in the Western Cape: Comparison with previous South African studies. Afr J Prim Health Care Fam Med. 2018;10(1):e1–e7.
18. Cavanagh N, Cockett G, Heinrich C, Doig L, Fiest K, Guichon JR, et al. Compassion fatigue in healthcare providers: a systematic review and meta-analysis. Nurs Ethics. 2020;27(3):639–665.
19. Jahner S, Penz K, Stewart NJ. Psychological impact of traumatic events in rural nursing practice: An Integrative review. Online J Rural Nurs Health Care. 2019;19(1):105–135.
20. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol. 2005;8(1):19–32.
21. Moher D, Liberati A, Tetzlaff J, Altman DG, Group P. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS Medicine. 2009;6(7):e1000097.
22. Stamm BH. The concise ProQOL manual. ProQOL.org; 2010.
23. Bethea A, Samanta D, Kali M, Lucente FC, Richmond BK. The impact of burnout syndrome on practitioners working within rural healthcare systems. Am J Emerg Med. 2020;38(3):582–588.
24. Sprang G, Craig C, Clark J. Secondary traumatic stress and burnout in child welfare workers: a comparative analysis of

occupational distress across professional groups. Child Welfare. 2011;90(6):149–168.
25. Sawatzky JAV, Enns CL. Exploring the key predictors of retention in emergency nurses. J Nurs Manag. 2012;20(5):696–707.
26. Thommasen HV, Lavanchy M, Connelly I, Berkowitz J, Grzybowski S. Mental health, job satisfaction, and intention to relocate. Opinions of physicians in rural British Columbia. Can Fam Physician. 2001;47:737–744.
27. Singh C, Cross W, Jackson D. Staff burnout–a comparative study of metropolitan and rural mental health nurses within Australia. Issues Ment Health Nurs. 2015;36(7):528–537.
28. Yuguero Torres O, Areste ME, Mora JRM, Soler-Gonzalez J. Association between sick leave prescribing practices and physician burnout and empathy. PLoS One. 2015;10(7):e0133379.
29. Yuguero O, Ramon Marsal J, Esquerda M, Vivanco L, Soler-Gonzalez J. Association between low empathy and high burnout among primary care physicians and nurses in Lleida, Spain. Eur J Gen Pract. 2017;23(1):4–10.
30. Goehring C, Gallacchi MB, Kunzi B, Bovier P. Psychosocial and professional characteristics of burnout in Swiss primary care practitioners: a cross-sectional survey. Swiss Med Wkly. 2005;135(7–8):101–108.
31. Adarkwah CC, Schwaffertz A, Labenz J, Becker A, Hirsch O. Burnout and work satisfaction in general practitioners practicing in rural areas: results from the HaMEdSi study. Psychol Res Behav Manag. 2018;11:483–494.
32. Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. World Psychiatry. 2016;15(2):103–111.
33. Aronsson G, Theorell T, Grape T, Hammarström A, Hogstedt C, Marteinsdottir I, et al. A systematic review including meta-analysis of work environment and burnout symptoms. BMC Public Health. 2017;17(1):264.
34. Zhang YY, Zhang C, Han XR, Li W, Wang YL. Determinants of compassion satisfaction, compassion fatigue and burn out in nursing: A correlative meta-analysis. Medicine (Baltimore). 2018;97(26):e11086.
35. Gómez-Urquiza JL, Vargas C, De la Fuente EI, Fernández-Castillo R, Cañadas-De la Fuente GA. Age as a risk factor for burnout syndrome in nursing professionals: a meta-analytic study. Res Nurs Health. 2017;40(2):99–110.
36. Portoghese I, Galletta M, Coppola RC, Finco G, Campagna M. Burnout and workload among health care workers: the moderating role of job control. Saf Health Work. 2014;5(3):152–157.
37. HRSA Health Workforce. The U.S. Health Workforce Chartbook – In Brief [internet], 2018 [cited 2018 Sep 26]. Available from https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/hrsa-us-health-workforce-chartbook-in-brief.pdf
38. Unertl KM, Fair AM, Favours JS, Dolor RJ, Smoot D, Wilkins CH. Clinicians' perspectives on and interest in participating in a clinical data research network across the Southeastern United States. BMC Health Serv Res. 2018;18(1):568.
39. Hansen N, Jensen K, MacNiven I, Pollock N, D'Hont T, Chatwood S. Exploring the impact of rural health system factors on physician burnout: a mixed-methods study in Northern Canada. BMC Health Serv Res. 2021;21(1):869.
40. Russo D, Innes E. An organizational case study of the case manager's role in a client's return-to-work programme in Australia. Occup Ther Int. 2002;9(1):57–75.
41. Paliadelis PS, Parmenter G, Parker V, Giles M, Higgins I. The challenges confronting clinicians in rural acute care settings: a participatory research project. Rural Remote Health. 2012;12:2017.
42. National Institutes of Health Medical Rehabilitation Coordinating C. National Institutes of Health Research plan on rehabilitation. Am J Occup Ther. 2017;71(3):7103320020p1-p5.
43. Tabaj A, Pastirk S, Bitenc Č, Masten R. Work-related stress, burnout, compassion, and work satisfaction of professional workers in vocational rehabilitation. Rehabil Couns Bull. 2015;58(2):113–123.
44. Krug E, Cieza A. Strengthening health systems to provide rehabilitation services. Can J Occup Ther. 2017;84(2):72–73.
45. Bourke L, Humphreys JS, Wakerman J, Taylor J. Understanding rural and remote health: a framework for analysis in Australia. Health Place. 2012;18(3):496–503.
46. Malatzky C, Bourke L. Re-producing rural health: Challenging dominant discourses and the manifestation of power. J Rural Stud. 2016;45:157–164.
47. Weinhold I, Gurtner S. Rural - urban differences in determinants of patient satisfaction with primary care. Soc Sci Med. 2018;212:76–85.
48. McCullough K, Whitehead L, Bayes S, Williams A, Cope V. The delivery of primary health care in remote communities: a grounded theory study of the perspective of nurses. Int J Nurs Stud. 2020;102:103474.

How to cite this article: McGrath K, Matthews LR, Heard R. Predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations: A scoping review. Aust J Rural Health. 2022;30:264–280. doi:10.1111/ajr.12857

Chapter 3: Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia

Chapter Introduction

Chapter 3 presents the second published study of this thesis. This qualitative study used semi-structured interviews and thematic analysis to gain an understanding of rural and remote rehabilitation healthcare workers' perceptions and experiences of compassion satisfaction and compassion fatigue. The interview guide was developed based on the findings and conceptual framework from Study 1 (Chapter 2). Findings highlighted the influence of quality of work life, organisational and workplace culture, and management practices, particularly KPIs, on both compassion satisfaction and compassion fatigue. Several sources of compassion satisfaction were also identified as contributing to compassion fatigue, suggesting that compassion satisfaction is unlikely to be experienced without the risk of compassion fatigue.

Note to the reader: Member checking was not undertaken in this study. Instead, credibility was supported through careful data handling, systematic and iterative analysis, and ongoing researcher reflexivity throughout the analytic process.

Supporting documents can be found in the following appendices:

- Appendix D: Study 2 Ethics Approval 2018-524
- Appendix E: Study 2 Invitation to Participate
- Appendix F: Study 2 Participant Information Statement
- Appendix G: Study 2 Participant Consent Form
- Appendix H: Study 2 COREQ checklist.

Chapter Publication Details

McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2024). Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia. *Health & Social Care in the Community*, 2024, 2823441. doi: https://doi.org/10.1155/2024/2823441

Hindawi
Health & Social Care in the Community
Volume 2024, Article ID 2823441, 14 pages
https://doi.org/10.1155/2024/2823441

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Research Article

Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia

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Received 28 May 2023; Revised 8 January 2024; Accepted 30 January 2024; Published 7 February 2024

Academic Editor: Shan Jiang

Purpose. This study sought to gain an understanding of rural and remote rehabilitation healthcare workers' perceptions and experiences of compassion satisfaction and compassion fatigue. *Method*. Sixteen rehabilitation workers from four national providers of rehabilitation services to rural and remote communities participated in semistructured interviews conducted by telephone over a four-month period in 2018-2019. Braun and Clarke's six-phase framework guided the thematic analysis. *Findings*. Quality of work life, organisational and workplace culture, and organisational management practices, particularly key performance indicators (KPIs), were reported as impacting compassion satisfaction and compassion fatigue. Sources of compassion satisfaction were also common to the development of compassion fatigue, suggesting that it is unlikely for compassion satisfaction to be experienced without risk of compassion fatigue. *Conclusion*. Although there are similarities in experiences of compassion satisfaction and compassion fatigue with other remote healthcare workers, for rehabilitation workers, KPIs were a unique concern, mainly due to their uniformity regardless of geographic location. Participants' concerns about meeting KPIs increased their work-related pressures, normalised unsafe work practices, and were a cause of recruitment and retention concerns. These perceived influences suggest that rehabilitation workers have a lower likelihood of developing and maintaining compassion satisfaction and a heightened risk of developing compassion fatigue than other rural or remote healthcare workers.

1. Introduction

Healthcare is associated with being a caring, fulfilling, and meaningful career; however, it is also demanding and stressful and presents an ever-changing work environment, which may influence the professional quality of life [1, 2]. The professional quality of life of healthcare workers is positively and negatively shaped by factors including workplace relationships, management, workload, and care recipient interactions [3]. Professional quality of life refers to the positive (compassion satisfaction) and negative (compassion fatigue) thoughts, feelings, and emotions when working in a care provision role, such as healthcare [4].

Compassion satisfaction and compassion fatigue are concepts associated with healthcare workers and workers in other caregiving professions, with the concepts guided, and most commonly measured by Stamm's professional quality of life measure (ProQOL) [5]. Professional quality of life outcomes are determined by the relationships between work and personal life, work environment, job role and tasks, remuneration and benefits, organisational culture, and administrative systems [6]. However, as the ProQOL measure does not have reference to rurality or remoteness, it is unclear whether the ProQOL measure was developed with consideration to rurality. Thus, we do not know if the ProQOL measure is in fact relevant to rural and remote healthcare workers.

Approximately 7 million (28%) Australians reside in rural and remote locations [7]. Due to ongoing shortages and decline in the healthcare workforce across all specialisations in rural and remote locations, Australians living outside urban areas face poorer health outcomes and significant barriers to healthcare accessibility [7].

Professional quality of work life of healthcare workers has been well documented, particularly amongst healthcare workers in urban locations. Urban practicing rehabilitation healthcare workers have a high risk of exposure to compassion fatigue with contributing factors including unreasonable time constraints, high work demands, administrative burden, critical decision making, poor work-life balance, suboptimal organisational governance, and feeling underappreciated at work [8]. Urban healthcare workers have a very high potential for developing and maintaining compassion satisfaction when they are satisfied with their work content, have positive working relationships, and are provided with flexible working arrangements. Those in management positions were also more likely to report compassion satisfaction due to their ability to influence organisational culture and have greater autonomy in their role [8].

A recent review identified that there is very little research available on the experiences of compassion satisfaction and compassion fatigue in rural and remote settings outside the occupations of medicine and nursing [9]. Within these two professions, contributions to greater compassion fatigue and lower compassion satisfaction have been identified for rural and remote workers. Nurses working in very remote areas of Australia were at risk of compassion fatigue due to high levels of emotional exhaustion, stress, and burnout, with moderate levels of job satisfaction due to the need to work beyond the scope of what would be expected in urban nursing practice [10]. Similarly, medical practitioners faced additional stressors compared to their urban colleagues. These stressors included limited healthcare resources, limited referral services, excessive travel, and greater generalist practitioner expectations, all of which may increase the risk of burnout, which is an element of compassion fatigue [11, 12]. Psychosocial support from family and friends was identified as a protective factor against the development of occupational stress and burnout in rural and remotely practicing medical practitioners [11]. While unique compassion satisfaction experiences and compassion fatigue-related challenges faced by rural and remotely practicing medical practitioners and nurses have been explored somewhat, there appears to be no exploration of the compassion satisfaction and compassion fatigue experiences of rural and remote rehabilitation sector of the healthcare workforce.

Rehabilitation healthcare workers are allied health professionals representing a growing workforce in Australia and internationally [13, 14]. Rehabilitation healthcare comprises disability management, occupational rehabilitation, medical rehabilitation, and injury management and prevention [15]. Rehabilitation healthcare is provided by multidisciplinary teams, encompassing medical and allied health professionals, with the aim of improving patient functionality, facilitating community engagement and participation in the workforce following injury or illness. Services are frequently provided through schemes such as workers' compensation, life insurance, and the Australian National Disability Insurance Scheme (NDIS).

Rehabilitation healthcare differs from medically orientated healthcare in that it is often provided within home and community settings and focuses on optimising functionality and independence of the individual to ensure a meaningful and better quality of life when undertaking activities such as work, education, and community participation [15]. Given that the role of rehabilitation healthcare workers differs from medical and nursing roles, it is not clear whether compassion satisfaction and compassion fatigue-related experiences are similar.

Investigating compassion satisfaction and compassion fatigue in rural and remotely practicing rehabilitation healthcare workers will help provide insight into issues they perceive as influencing employment attraction and retention and identify risks and protections which may have an impact on their professional quality of life. These insights could help maximise rehabilitation healthcare worker retention and, by doing so, support more positive health outcomes for the 28% of Australians residing in rural and remote locations [7].

In summary, rehabilitation healthcare workers are a growing part of the Australian healthcare workforce [16]. There is however clear evidence of high turnover and difficulties recruiting rehabilitation healthcare workers in rural and remote areas [17, 18]. We know that compassion satisfaction and compassion fatigue impact upon retention within nursing and medical professions. It is likely that this is the case for rehabilitation healthcare workers as well. To date however, there has not been an exploration of rehabilitation healthcare workers experiences of compassion satisfaction and compassion fatigue therefore we do not know if aspects are consistent with the more medically oriented professions of nursing and medicine or if they differ. Thus, the focus of the current study is to develop an understanding of rural and remotely practicing rehabilitation healthcare workers' perceptions and experiences of compassion satisfaction and compassion fatigue. The study's research question was what experiences or situations do rehabilitation healthcare workers in rural and remote Australia describe as influencing their compassion satisfaction and compassion fatigue?

2. Methods

2.1. Study Design. A qualitative approach was used to explore the perceptions and experiences of compassion satisfaction and compassion fatigue of individuals currently employed as rehabilitation healthcare workers in rural or remote locations in Australia. A qualitative methodology was chosen given the limited current understanding of the research topic [19]. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was used to guide our reporting of the study methods [20].

2.2. Participants. Sixteen rehabilitation healthcare workers from four national occupational rehabilitation companies that provide rehabilitation services to rural and remote communities participated in this study. Except for one participant (6%) employed by one of the companies as a vocational consultant to assist ill and injured workers with return-to-work planning, all participants were university-

educated allied health professionals: occupational therapist ($n = 6$, 37%), rehabilitation counsellor ($n = 3$, 19%), exercise physiologist ($n = 2$, 13%), psychologist ($n = 2$, 13%), and social worker ($n = 2$, 13%). Participants were distributed between management/supervisory roles ($n = 8$, 50%) and rehabilitation consultant positions ($n = 7$, 44%), with one vocational consultant ($n = 1$, 6%). All participants in management/supervisory roles were also actively engaged in rehabilitation care provision, with their own caseload to manage. Most were female ($n = 12$, 75%) (which reflects the dominance of females working in rehabilitation healthcare), in a partner/spouse relationship ($n = 10$, 63%), and working full time ($n = 14$, 88%) in New South Wales ($n = 9$, 56%). Other areas represented were Victoria ($n = 4$, 25%), Queensland ($n = 2$, 13%), and Western Australia ($n = 1$, 6%). Based on the Australian Bureau of Statistics (ABS) Australian Statistical Geography Standard (ASGS) Edition 3, four participants (25%) worked within inner regional Australia, nine participants (56%) worked within both inner and outer regional Australia, with three participants (19%) working in both remote and very remote Australia (Australian states are very large, with NSW > 800,000 square kilometres, which is larger than the United Kingdom and France combined). Four (25%) had non-work-related carer responsibilities. The average years of work experience as a rehabilitation healthcare worker was 3.21 years (range 0.5–13 years).

2.3. Procedure. The study's protocol was approved by the University of Sydney's Human Research Ethics Committee (Project No: 2018/524). Recruitment involved purposive sampling. Employers of the four organisations emailed an invitation to participate in the study to all of their rehabilitation healthcare workers in rural and remote locations (approximately $n = 100$). The study's participant information sheet and consent form were included in the invitation. Participants were requested to contact the researcher directly if they had any questions or wished to participate. All workers who contacted the researcher expressed interest in participating and were provided with an interview time. All provided written consent to participate and for the interview to be audio-recorded. Participants were interviewed from October 2018 to January 2019, a period preceding any COVID-19 restrictions, in Australia.

Interviews were conducted by the first author, a female Masters' level qualified rehabilitation counsellor with extensive experience working in the rehabilitation healthcare sector, including time working in rural and remote locations. The participant information sheet provided participants with information about the interviewer, which enabled participants to make an informed decision about whether they felt comfortable participating.

The interview guide was first "piloted" using three rehabilitation healthcare workers known to the first author as former colleagues. There was no ongoing working relationship with these participants, nor was there any personal relationship with them. To ensure lines of enquiry remained true to participants' data, the pilot study outcomes were reviewed and discussed by two of the research team. In these first three interviews, the interviewer checked the phrasing of questions and "tested" the number of questions/length of interview. Consent was obtained from these first three interview participants, and their data were included in the main study. The "pilot" did not result in any changes to the interview guide.

Participants knew from the study's participant information sheet that the topic was compassion satisfaction and compassion fatigue. Participants were provided with an introduction to the study and were asked to describe their understanding of compassion satisfaction and compassion fatigue. The request for participants to provide their thoughts prior to the researcher explaining the concepts was to ensure that the participants were able to provide their answers in an informed manner and ensure that contextually relevant information was provided.

2.4. Data Collection. Interviews of 16 participants were conducted over the telephone in a private location of the participants' choice, with no presence of others. Interviews commenced with some demographic questions relating to employment type, locations and length of service in rural and remote rehabilitation, qualifications, living arrangements, and gender. Participants were then asked about their broad understanding of the terms "compassion satisfaction" and "compassion fatigue." If there were any misunderstandings about these concepts, the interviewer explained their meanings to ensure that in the main part of the interview, participants would be describing experiences related to the topic of the study. This clarification was simply around the terminology, and the interviewer did not discuss what might or might not support compassion satisfaction or lead to compassion fatigue. This was followed with a semistructured interview based around broad, open-ended questions from the interview guide (see Table 1). The guide was used flexibly so that participants could elaborate on topics of importance to them, and the interviewer could explore topics raised by participants in more depth.

Interviews ranged from 25 to 40 minutes and were recorded and transcribed verbatim. Other than the three pilot study participants, no prior relationships existed between the interviewer and participants, no participants withdrew from the study, and no repeat interviews were undertaken. After approximately nine interviews, no new concepts were being introduced by participants. By the 16th interview, codes were detailed and well-understood, and it was likely that saturation had occurred, and thus, no further recruitment was required [21].

2.5. Analysis. Braun and Clarke's six-phase framework for thematic analysis [22] with theoretical analysis and open coding was used to analyse interview data. These six steps are (1) data familiarisation and writing familiarisation notes; (2) systematic data coding; (3) generating initial themes from coded and collated data; (4) developing and reviewing themes; (5) refining, defining, and naming themes; and (6) writing the report. Rather than occurring in a linear fashion,

Table 1: Interview guide questions.

Did your professional training prepare you for working in a rural setting? (explore why/why not)
What type of things impact your ability to provide compassionate care when working with clients?
What workplace supports help you to provide compassionate care when working with clients?
Have there been times in your career where your ability to provide compassionate care has fluctuated?
Prompts: Why do you think it fluctuated at that time?
What would have helped you at that time?
Was help provided? What help?
Did you or anyone else make any changes to the way things were?
Did that help? How?
Are there any nonwork stressors or supports that impacts your [ability to provide compassionate care/compassion levels]?
What—can you describe?
You'll be familiar with the term "quality of life"—can you tell me about your work quality of life?
On a scale of 1–10 where 1 is very poor and 10 is very high, how would you rate your work quality of life?
Have you ever thought about leaving your current role or work in this profession?
If yes—can you explain why/provide examples? What has helped you stay in the role?
If no—can you explain why? What supports you in your role?
Do you have any suggestions or recommendations on ways the workplace can help to improve rehabilitation healthcare workers ability to provide compassionate care?

these steps were recursive with data collection and analysis being conducted simultaneously through an iterative process [22]. Importantly, within this study, we adopted a "codebook" version of Thematic Analysis [22]. An initial "codebook" was developed with potential codes drawn from a prior scoping review of relevant literature [9]. This was however a flexible starting point with expectation that codes would be refined and removed and new codes would be developed through inductive data engagement and the analytic process [22].

Authors one and two independently coded the first three transcripts. Inductive and deductive reasoning were simultaneously employed to recognise data segments that aligned with existing codebook codes and data that indicated the need for existing codes to change or new codes to be formed [23]. They then met to discuss and reach coding agreements. All following transcripts were then coded by author one. Throughout the process of analysis, authors one and two engaged in reflexive discussions around the developing codes and themes to ensure that codes faithfully represented the data. Author one took notes immediately after the interviews and during the coding process to aid reflective discussions. As the analysis progressed, conceptually similar codes were drawn together into broader themes. Codes that were similarly aligned were grouped into themes and then further grouped into subthemes, and this was defined in a thematic table (Table 2). All transcripts were deidentified and referred to as participants (P) and allocated a number based on their place in the 16 interviews.

3. Findings

The following section presents the findings of participant perceptions of possible reasons they may experience compassion satisfaction and compassion fatigue. Participant responses were categorised into three overarching themes: quality of work-life, organisational and workplace culture, and organisational management practices. The themes, subthemes, and codes are presented in Table 2.

3.1. Quality of Work Life. Theme one describes the aspects of quality of work life that participants perceived to impact upon their compassion satisfaction and compassion fatigue. It comprises three subthemes: psychosocial stressors, work-life balance, and rurality. Each of these subthemes is presented below. Participants talked about the positive and negative impacts of work, including workplace environment, professional development, company benefits, and workplace culture. They also suggested that the quality of work life was influenced by psychosocial stressors including home life and social environment.

3.1.1. Psychosocial Stressors. Participants reported psychosocial stressors, including personal relationships, family stress, and personal stress which have negatively impacted their quality of work life. Psychosocial stressors are life situations (personal or professional) or events which may lead to poor psychological and physical health outcomes.

(1) Personal Relationships. Personal "relationship problems" (P.14) within the family unit of participants were considered to negatively impact compassion levels "if you have hardship in your personal life, it can have a big impact on your ability to provide compassionate care." (P.8). This resulted in difficulty delivering compassionate care "if things at home were not that good, your capacity to deliver compassionate services is absolutely diminished" (P.10). One participant said, "I am 100% positive if me and my girlfriend had an argument, I was in a bad mood and didn't want to deal with anyone's crap, it would impact my ability to provide compassionate care" (P.13).

Participants reported having a "strong supportive partner to come home to" (P.1) made it easier to be "engaged and focussed with work" (P.10), with one participant advising "If I'm happy with my home life, I'm happy going into work" (P.1). Positive personal relationships appear to influence compassion satisfaction.

(2) Family and Personal Stress. Participants talked about family and personal stress including financial difficulties, parenting responsibilities (including pregnancy), relationship separation, and unemployment of a partner. They also suggested that flexible working arrangements were beneficial when managing burnout and minimising compassion fatigue, as one participant said, "being able to work from home, having flexibility is helpful, I had to find out the limit about how much work I can do before it becomes overwhelming" (P.2). Employer-provided allowances for self-

Table 2: Thematic table for aspects reported as influencing participants' compassion satisfaction and compassion fatigue.

Overarching themes	Subthemes	Codes	Perceived influence on CS and CF	
			CS	CF
Theme 1: quality of work life	(i) Psychosocial stressors	Personal relationships	✓	✓
		Family and personal stress	✓	✓
	(ii) Work-life balance	Personal boundaries	✓	✓
		Performance expectations	✗	✓
	(iii) Rurality	Professional isolation	✓	✓
		Travel	✓	✓
Theme 2: organisational and workplace culture	(i) Health, safety, and wellbeing	Environmental conditions	✗	✓
		Client behaviour	✗	✓
	(ii) Human resources	Workplace relationships	✗	✓
		Staff recruitment and retention	✓	✓
Theme 3: organisational management practices	(i) Stakeholder expectations	Stakeholder management	✗	✓
		Caseload	✓	✓
	(ii) Service delivery model	Provision of care	✓	✓
		Employee support	✓	✓

✓ Indicates a perceived influence on compassion satisfaction/compassion fatigue. ✗ Indicates no perceived influence on compassion satisfaction/compassion fatigue.

care were reported to assist in managing family and personal stressors because "you get to spend money on [your] health and self-care once a month which is good" (P.7).

When faced with heightened personal relationship concerns, family stress, and personal stress "you have days where you can't tolerate other people" (P.11), which "limits compassion" (P.12) and results in a decreased tolerance to case complexities. Participants reported frustration with their inability to compartmentalise stress arising from personal relationships, family stress, and personal stress. Reported impacts included being "really tired" (P.6), a "bad mood" (P.13), "feeling frustrated" (P.5), "exhaustion or being rundown" (P.9), and being "overwhelmed" (P.11). However, one participant reported attending work assists with managing personal stress: "my job keeps me sane because I go to work and that's pulling me out of the trauma so that's good" (P.7).

3.1.2. Work-Life Balance. Participants explained that in rural settings, it is difficult to separate work from personal life and set clear personal boundaries, particularly when managing performance expectations. Participants reported an immersion of home and work life, particularly when there is no regional office and staff work from a home office.

(1) Personal Boundaries. Participants reported difficulties in managing personal boundaries for home and work life regarding work hours. One participant said that they "found out the hard way what impact it might have on your home life if you're working all the time" (P.2). When working from home "it's difficult to make boundaries, you have your laptop in your home office, it's not easy to close that door and walk away" (P.11). When aiming to meet KPIs, "I'd work over the weekend, but that wasn't good for my mental health, and it has an impact on relationships" (P.1). One participant discussed the impact of work encroaching on personal time "My mood was impacted so, in my relationships, I wasn't me. They didn't enjoy spending time with me, I didn't enjoy [it] either." (P.16).

Participants reported that "flexibility to be in charge of work [structure]' (P.3), "working from home" (P. 11), and "flexibility of work hours" (P.6) enabled a better work life balance. This finding suggests that flexible employment options may contribute to compassion satisfaction.

(2) Performance Expectations. There was a perception amongst participants that it is difficult to set boundaries for work hours, particularly KPI expectations. All participants reported working within a schedule of billable hours, rather than standard working hours. The pressures of billable hours resulted in unsafe work practices such as working excessive hours, often extended periods without a break, resulting in fatigue: "I have a target I struggle to hit every month, no matter how much work I'm doing, which was really draining for me" (P.6) and "we work long hours in the day, so those boundaries are challenging" (P.11).

Most participants minimised their experiences with psychologically and physically unsafe work practices when discussing personal boundaries and performance expectations. It was noted as "part of the role" (P.8) and "the nature of work" (P.10) to be successful in meeting their KPI targets.

3.1.3. Rurality. Participants identified issues specific to rural and remote practice (professional isolation and travel) as impactful to their quality of work life. Rurality resulted in perceptions of unrealistic KPIs and limited opportunity for supportive interactions with their leadership cohort.

(1) Professional Isolation. Participants reported feeling isolated from management and colleagues when not based in

the same geographic location. The feelings of isolation appeared linked to perceptions of lack of support from management, due to the regional location. As one participant said, they "definitely feel isolated in terms of support" (P.13).

When management attended the rural and remote offices, participants felt there was disengagement and a lack of substance, with some participants wanting to have their isolation acknowledged and validated. One said, "Having head office or management visit, it's very short, sharp, and quick. If they spent time to get to know the team that would go a long way" (P.12), while another suggested, "Engagement with head office would be excellent. It feels like we're in a bubble, so having them say, we know you're here, we appreciate what you are doing, would help the overall environment and culture" (P.1).

Participants reported that professional isolation led to limited opportunities for face-to-face debriefing and collaboration with colleagues. They were often the only rehabilitation healthcare worker in their location, resulting in limited support following emotional or stressful situations: "you don't have the people around you to debrief" (P.10). This also applied to staff working from home due to no regionally based office space. One participant advised that they "get the sense of feeling isolated when I work from home because there's no one there to chat with or debrief" (P.9). Participants reported that they have access to Employee Assistance Providers (EAP); however, they reported a preference to debrief and deescalate with a colleague or manager. Opportunity to debrief with other rural and remotely based colleagues facing similar service delivery barriers had proven beneficial to some participants: "I have found the informal supports, talking with other consultants regionally, being able to connect with other regional branches, and debrief with them about the challenges is really helpful" (P.2).

Participants reported not only geographic isolation from management and colleagues but also professional isolation regarding workplace supports, such as access to referral services. They advised that "being regional is more challenging than Sydney [state capital of NSW], I struggle to find services" (P.6). Provision of equipment to undertake their roles adequately and safely was another challenge:

> If IT [information technology staff] could visit the remote sites and understand our issues that would be amazing. They tend to travel here for half a day and leave us with a pile of shit to pick up. It's one of the most frustrating things and the lack of resources. We have to wait for someone to come down to bring us something or wait for when one of us travels up to get some new stuff because freight costs money (P.12).

(2) Travel. Most participants reported fatigue, exhaustion, and stress due to the frequency and duration of travel: "there's a fair bit of travel, you start getting tired" (P.10). Participants noted frustrations with work-related travel impacting their personal life: "I struggled with travel quite a bit you might have an appointment late in the afternoon and then you've still got to travel back afterward" (P.1). One participant reported travel negatively impacted on ability to provide adequate support to all cases:

> When the caseloads are high and geographically, you're extended, the pressure is higher. You can bill for travelling, but when you have 30 other people on your caseload it's not equitable allocation of my time when they all need support (P.15).

Meeting KPIs while travelling was a challenge for participants, particularly timeliness of service provision. One participant commented that "travel impacts the service that people get from me. I drive 1500 kilometres a week and that's huge chunks of my time where I'm not available" (P.2). Participants reported a lack of connectivity with Internet and phone reception whilst travelling and time spent driving resulted in being behind on their workload: "on the road, you don't have the accessibility of being able to call or e-mail, you might have someone who needs support, but you can't contact them for a couple of days" (P.11).

It appeared for some participants that travel is likely to be a protective factor in the development and maintenance of compassion satisfaction, with participants reporting "I like the travel. I'm not happy behind a desk" (P.12), "I love being able to explore and the diversity of it" (P.1), and "this [travel] is why, I took the role" (P.12). One participant reported enjoying the autonomy of travel "I like travelling around and being my own boss, it's doing what I love" (P.7).

3.2. Organisational and Workplace Culture. Theme two describes the perceived impacts of organisational and workplace culture reported by participants. It comprises two subthemes: health, safety, and wellbeing; and human resources. Each of these subthemes is presented as follows.

Organisational culture is guided by the values, beliefs, and corporate objectives of the organisation and is modelled by leadership behaviour, which influences workplace culture encompassing employee satisfaction, attitudes, and behaviour. Environmental conditions, client behaviour, workplace relationships, and staff retention and recruitment are elements of organisational and workplace culture that participants in this study reported as influencing the development of compassion satisfaction and compassion fatigue. When questioned about culture, all participants reported that it can negatively or positively impact their quality of work life and it is regularly changing. This was attributed to the high turnover of management and staff and adequacy of work health and safety support and training, particularly when dealing with environmental considerations, personal safety, and unpredictability of clients.

3.2.1. Health, Safety, and Wellbeing. Participants reported workplace health and safety concerns including threats of violence, sexual harassment, aggressive and intimidating behaviour, and verbal abuse. Female participants were more likely to report concerns with health, safety, and wellbeing. Most participants noted some form of company policy or procedure relating to safety in clients' homes but were

unable to explain what the documents covered and whether they felt that the documents were situationally appropriate to rural and remote practice.

(1) Environmental Conditions. Participants reported concerns with undertaking home visits with clients. Risks included lack of phone or Internet reception when travelling and conducting appointments at client homes in isolated locations. For example, one participant said, "I've driven down a dead end and don't know where I am and there's no cell service, it's frightening going to farms by yourself meeting random people it is daunting going into places where safety may not be guaranteed" (P.12). Participants' only means of safety monitoring was reliant on telephone/Internet connectivity, which is unreliable in rural and remote areas. One participant reported that their company safety strategy is reliant on telecommunications: "once you're out of the appointment sending a message [to the receptionist] and say, heading home now. And keeping calendars updated with addresses, so if there are concerns, they know where we've been" (P1).

Participants described an absence of formal safety monitoring and risk assessment and a lack of strategy to manage or report poor client behaviour. Regarding their safety strategy, P7 who works in a remote office, two hours away from other staff reported, "we have a code word that we can text to somebody. But usually I stand up and scream."

(2) Client Behaviour. When questioned about personal safety and security experiences, no participants reported the availability of appropriate safety mechanisms to manage dangerous situations when dealing with clients, particularly in client homes or in a one-on-one setting. One participant noted a self-management strategy of sitting by the door and keeping a key and phone on their person:

> if you go into a house make sure you sit by the door, by an exit, so if you need to get out you can, making sure you're keeping your keys and your phone in your pocket, on your person so if you need to make a quick escape, making sure your car's parked so you can make a quick escape. Being in this regional area, you've got people who are out on properties and there is an element of, am I going to come out of this alive (P.1).

Participants reported frequent exposure to inappropriate client behaviour, including "very angry and very aggressive" (P.9) conduct, threats of physical violence such as "he came in with a knife" (P.12), "stalking" and "being held against our will" (P.14), "verbal threats" (P.13), and sexual harassment: "he had been sexually inappropriate and had potential to be quite aggressive" (P.2).

In most instances, this was reported to management and participants noted often nothing was done, or there was a change of rehabilitation healthcare worker, passing the problem between consultants, for example, one participant said, "people have acted very inappropriately, and we've decided to change consultants to a male. Sometimes, we get cases flagged with us that this [client] is going to be a concern. We're an all-female office" (P.12). Another participant who reported experiencing sexual harassment and violence noted that management was informed but did not reallocate the case as there were no other locally based consultants available:

> It can get very violent. I was imagining my death at one of them, it was real bad. I reported it, he was sexually harassing me, but they were like we'll try and get it closed as quick as possible, make sure you're just meeting in a public place, keep meeting in a public place for a few more times and then we'll close it (P.7).

3.2.2. Human Resources. Participants reported workplace relationships and staff retention and recruitment as ongoing concerns which impacted their quality of work life. Workplace relationships encompassed relationships between staff, colleagues, and management and were identified by participants as being influenced by workplace and organisational culture. They further suggested that staff recruitment and retention directly impacted workload and workplace culture due to the constant turnover of staff.

(1) Workplace Relationships. Participants reported that the organisational culture, and engagement and leadership from management, influenced their ability to successfully develop and maintain workplace relationships. One participant expressed frustration with the lack of engagement from urban based management, as they demonstrated little understanding of the complexities associated with rural and remote practice: "From the head office, it feels like we are forgotten about because we're out here, rural and no one thinks about or understands what it is that goes on" (P.1).

Respondents commented that relationships between colleagues are impactful on "the culture of the office" (P.12). One participant reported "relationships at work impact compassion; the environment and employee support have a real impact on your work, and you lose motivation and ability to develop relationships" (P.8). The small communities within rural locations made it difficult for participants to separate their work and social lives, with participants often knowing clients or colleagues outside of work: "negative attitude has [sic] been hard to cope with; whenever there's work drinks, everyone's getting in each other's hair" (P.1).

(2) Staff Recruitment and Retention. Participants discussed ongoing issues with high rates of staff attrition: "we've had a lot of turnover in regional branches" (P.2). Frequent staff turnover impacts caseload management, resulting in cases consistently being reallocated to colleagues, often resulting in lower recovery rates and increased burden of caseload on remaining staff:

> Being the only OT [occupational therapist] I get swamped with work, I had too many files and was not coping. I was crying every day because I was overwhelmed. Another OT would be nice, but it's hard to get people in this area (P.6).

Despite reporting "such a high turnover" (P.6), participants described poor labour market conditions for career options with alternative employers in their region: "I have looked for other jobs down here, but the labour market's pretty poor" (P.12). Although there is a high demand for rehabilitation healthcare workers in rural and remote areas, the lack of employer options has resulted in participants staying in employment they are not happy with. One participant disclosed that "we had some issues in the office with culture, I was considering moving to a different job" (P.8). When participants have considered changing employers, they have been faced with poorer job prospects due to limited alternative employers "the job prospects are not as good compared to the city. There might not be any other options" (P.5).

Participants reported "job security and [positive] workplace culture" (P.5), "management support" (P.2), and opportunity for "career progression" (P.8) have retained them in rural/remote practice with one participant reporting that they have "thrived and enjoyed the challenges" (P.8). These factors are likely indicators for compassion satisfaction.

3.3. Organisational Management Practices. Theme three describes the perceived impacts of organisational management practices reported by participants and reflects the two subthemes of stakeholder expectations and the service delivery model. Organisational management practices, namely, stakeholder expectations, and service delivery models were reported by participants as influencing their professional quality of life. Stakeholder management, caseload, provision of care, and employee support are governed by organisational management practices through internal policy and procedure and contractual obligations with external clients such as insurers.

3.3.1. Stakeholder Expectations. Stakeholder expectations include managing internal and external stakeholder relationships between colleagues and management, the client (care recipient), the paying customer (workplace or insurer), and treating healthcare practitioners.

Case management is the fundamental element of rehabilitation healthcare work and cases need to be managed within the organisational KPI framework to ensure that stakeholder expectations are met. However, caseload and case complexity were reported as a central feature contributing to participant stress and fatigue:

> It's not necessarily the number of clients that is an issue. If I go over 45, 50 [cases] then it really starts to get quite difficult and there just aren't enough minutes in a day. I have had instances where I have had a lower caseload but because they've been so complex, there's so much additional work and time that needs to go into it (P.9)

Caseload and case complexity "impact your ability to cope and manage stress" (P.3) which was reported as influencing case outcomes and stakeholder expectations. One participant reported "having caseloads that are manageable, so you are able to service clients in the best way possible and maintain a client focus" (P.3) assisted in delivering positive case outcomes and decreased stress associated with managing stakeholder expectations. A participant reported difficulty in managing stakeholder expectations when there is little tolerance from the stakeholders with managing case complexities:

> There's [sic] challenges of trying to do business with somebody trying to find something wrong in everything you do, that's a stressor. They can be the biggest barrier in everything, the attitude that the insurers have. Particularly the more complex it gets and more things that should have happened [with cases] don't happen or, it doesn't go as well as it could [because of administrative errors] (P.10).

(1) Stakeholder Management. Respondents reported that stakeholder expectations were the same regardless of geographical location. Having the same expectations as better resourced urban areas resulted in additional stress. This was due to the lack of available referral and "recommending services" (P.6) and poor "labour market" (P.12) options with "very little jobs available" (P.6) to match transferrable skills and experience of clients. Participants reported that expectations from workers' compensation and life insurers were a significant stressor: "insurers are a barrier, there might be services that you think are appropriate that they don't approve of" (P.13). Participants felt conflicted between providing treatment goals of what is best for the care recipient and that of the insurer because "the insurance company want a certain outcome that might not be best for the client" (P.1). What resulted were feelings of conflict between personal and professional standards of ethical practice and meeting KPIs. Participants' internal service delivery models were largely "client [care recipient] focussed" (P.12) which conflicted with the insurer claims management method reported as

> People [insurers] making decisions with regards to a person [care recipient] who have never seen them, never met them and their [sic] directing you to make some sort of action on the file that you don't necessarily agree with or may not work (P.3).

Participants reported feeling uncomfortable when their case management work was being used by the insurer or workplace to determine and manage ongoing liability of the care recipient: "I feel uncomfortable writing reports when I know the insurance [companies] are going to use it to make a compensation decision" (P.4). One participant explained the conflict between working in a helping profession with a client-focused model of care but being engaged to provide services to an insurer: "you're working with people [insurers] to get a particular outcome. There are structures that can be frustrating and that impact your overall positivity towards a helping profession. It's coming to accept that you're a player within that system" (P.3).

(2) Caseload. Large caseload numbers were reported, with cases continuously allocated regardless of the current capacity: "I need to drop my caseload down, I'm having to take on cases that nobody else is trained to do" (P.1). Large and

increasing caseloads led to increased stress and frustration reported by participants. Case complexity was not considered during case allocation, so "they send through referrals, they only look at the number of files that you have, they don't actually go into how complex those files are" (P.11). Case complexities included trauma, such as "when you get a whole stack of deep traumas [cases] all at once, it can be overwhelming" (P.7); difficult care recipients that were emotionally taxing: "I was crying almost every day because I was overwhelmed I had very difficult clients and I did get compassionate fatigue" (P.6); and recovery motivation, which is where participants reported that "it can be difficult to have compassion when some clients might not be entirely legitimate" (P.4).

Participants reported manageable caseloads and minimised feelings of being "overwhelmed" (P.5) and enabled them to "service clients in the best way possible" (P.3). Proactive management practices with assisting participants to effectively manage their caseloads resulted in one participant reporting "I feel so much better like I'm doing a good job at helping my clients and I'm able to shut off at night and the weekends from thinking about work" (P.6).

3.3.2. Service Delivery Model. A service delivery model is the organisational model of care which is based on values, principles, internal policy, and legislative requirements. Service delivery models are a key organisational function aimed to lead to increased and enhanced service and are measured by KPIs, such as case goal attainment, appropriate and timely services, proactive case management, and provision of care. They outline service and quality standards, procurement, supply, and financials to ensure that a baseline standard is maintained if not exceeded when delivering rehabilitation services. Provision of care and employee support are issues influenced by the service delivery model enforced by the employer.

(1) Provision of Care. Provision of care is the service provided to an injured or ill client by the participant, and employee support is the formal and informal support offered to participants to assist with managing work stressors and personal and work-life balance.

Participants reported that their service delivery model had an ongoing ability to fluctuate the quality of their work life, which was mainly because of the "high turnover of staff" (P.6), the inadequacy of "safety and risk management practices" (P.8), and the lack of appropriateness of "training and services" (P.1).

All respondents advised that their service delivery model was the same as that used in urban locations. Respondents reported difficulties with developing rapport and providing compassionate care when servicing their clients via telehealth. This is because "on the phone, you lose ability to have face-to-face body language and things that can relay compassion" (P.5) and this is central because "from a regional perspective, face-to-face contact is the key to providing compassionate service" (P.13). This difficulty was likely attributed to differences between care provision needs in rural/remote areas as compared to urban locations: "the more regional the office, the more issues there is, particularly with a change in cohort of clients [needs]" (P.9). With one participant reporting a "blanket approach" (P.15) to KPIs "There is not any model around the KPIs that consider cultural and significant events within indigenous communities, if there's an event in this region there'd be no KPIs met that month, it just looks like I have not done my job" (P. 15).

Some participants described elements of compassion satisfaction when discussing provision of care, with P1 reporting that they "Love this work," particularly the satisfaction of the collaborative "multidisciplinary approach." One participant reported that their company recently changed their service delivery model to be "more aligned with the Occupational Therapy values," which has increased their "ability to be compassionate" (P.6). Another participant reported when their work is aligned with their "professional values," and this "increases compassion satisfaction" (P.8).

(2) Employee Support. Participants reported that they were unprepared in their training as a rehabilitation healthcare professional: "There's no focus on compassionate care when you commence training as a rehab consultant" (P.3). All participants confirmed that they had not received any formal or professional development training on managing compassion fatigue and how to deliver a patient-centered model of care while maintaining professional boundaries.

Frustrations arising from a lack of accessibility to management and inadequate employee support services for them to access were noted. Participants perceived that they were not provided with the same level of support and manager compassion as their urban counterparts: "having some manager who's capable of being compassionate would help and a regular official meeting, just to get it all off your chest" (P.7).

Most participants reported access to an EAP. Accessibility concerns were noted with formal and informal debriefing when being remotely managed: "it's not as accessible because it's over phone calls" (P.6) and participants were "not sure where to get support and guidance" (P.2). When managed remotely, participants reported that managers were unwilling or unable to assist due to different geographic locations and referred staff to EAP. One participant said, "we've got an employee assistance programme accessible by staff not getting direct support within their immediate work environment" (P.3) and noted that participants with locally based management reported their supervisors "don't do a formal debrief" (P.3), advising "that it's not her role then she points me to EAP" (P.12). Informal support offered includes "flexibility of work hours" (P.6), general "chat in the office" (P.7), and encouragement to "go for a walk or have a coffee" (P.11). Most participants reported, "monthly file reviews" (P.4) are the primary source of debriefing, with management encouraging debriefing to wait until the reviews: "we have monthly case reviews which is an opportunity to debrief" (P.1).

Due to requirements of the consultants to meet their KPIs, "the end of month stuff you've got your 80 [KPI

billable] hours" (P.11), one participant reported that they are "piloting a dictation service where if I'm on the road I can dictate my notes" (P.8) to alleviate the pressure of having to meet nonnegotiable deadlines for administrative tasks and lost time due to excessive travel. One participant reported that having dedicated administration staff to assist with nonspecialised work enabled them to undertake "more focused work which takes the pressure off" (P.8). Another participant reported that their employer provided supports as inadequate and stressed the importance of having their "own self-care program including faith" as important to "peace and serenity within myself" to maintain their compassion satisfaction and manage burnout (P.14).

4. Discussion

To our knowledge, this qualitative study was the first to explore the compassion satisfaction and compassion fatigue-related experiences of rural and remote Australian rehabilitation healthcare workers. The thematic analysis revealed three overarching themes: quality of work life, organisational and workplace culture, and organisational management practices. These themes have similar elements to those identified in previous studies in other sectors of the rural health workforce. These similarities suggest that there are many common compassion satisfaction and compassion fatigue related experiences for rural and remote healthcare workers irrespective of their professional training or role.

The quality of work life outcomes in Australian rural and remote medical specialists was influenced by psychosocial stressors attributed to the rural or remote location. For those who chose to leave the rural or remote location, their decision was based on stressors including poor work-life balance and excessive work demands which resulted in exhaustion and burnout [24].

Organisational and workplace culture was identified as a common theme for Australian rural and remotely practicing registered nurses and mental health nurses. For Australian rural and remote mental health nurses, workplace culture (including workplace relationships) was both a risk and protective factor for their workplace psychological wellbeing, subsequently influencing recruitment and retention rates [25]. In a study of Australian rural and remotely practicing registered nurses undertaken by Whiteing et al., stress and burnout reported by participants were largely attributed to poor workplace health and safety practices and concerns related to human resources. All participants reported lack of personal safety as a significant stressor which was impactful to their health and wellbeing as they were frequently working in high-risk situations with minimal support, some without critical incident debriefing, and a lack of organisational interest in listening to staff concerns [26].

Organisational management practices influenced by the service delivery model and leading to burnout in Australian rural and remotely practicing registered nurses included excessive workload and working outside of professional areas of expertise, working extended hours, professional isolation, lack of employee support, and organisational processes which are not aligned with the specific needs of rural and remote practice [26]. These findings are similar to a recent scoping review of rural and remote healthcare workers which identified work environment, work-life balance, professional isolation, workload, and job dissatisfaction (see, for example, McGrath et al., 2022) as potential predictors of compassion satisfaction and compassion fatigue.

While our findings identified common experiences that were reflected in the broader literature, it also identified potentially unique or different compassion satisfaction and compassion fatigue experiences faced by rehabilitation healthcare workers within the rural and remote context. The unique experiences all appeared to be linked to the theme of organisational management practices, in particular the service delivery model, and the use of KPIs which is unsuitable for the rural and remote context. KPIs are measurable outcomes specifically related to rehabilitation healthcare and generally include return to work/recovery outcomes, timeliness of service, cost of service, customer service delivery experience, durability of service, and status at case closure [27]. KPIs within the rehabilitation sector are informed by the employer and/or insurer and are based on cost-effective, timely outcomes which are not always in the best interest of the care recipient [28]. Australian rehabilitation healthcare holds a long-term reputation for work dissatisfaction, largely attributed conflicting factors including privatisation of the industry, rehabilitation philosophy, and the profit-driven motivators of employers [18].

The quality of work life is negatively influenced by rurality as all participants reported that the KPIs are uniform across their employers nationally. Many participants reported that KPIs are a significant source of stress as they are largely unattainable due to the complexities of rural and remote practice and were more suited to urban locations. In aiming to meet the rigid and difficult to attain KPIs, staff reported difficulties with maintaining a healthy work-life balance, which negatively impacted personal relationships and caused family and personal stress. Participants perceived that their employers did not consider work-life balance as a priority as they were more focused on profit. This is aligned with previous research on rehabilitation healthcare workers which identified that financially driven KPI outcomes were more of a focus than employee wellbeing [29]. In attempting to reach the KPIs, participants reported having to work in their own time and this was often due to reasons attributed to rurality such as excessive travel to attend to remote clients, and this led to increased psychosocial stress. This is consistent with research that states KPIs for rehabilitation healthcare providers are used as markers of success in the role which results in a constant demand on their time and energy, dehumanising the role and increasing stress [29].

The geography of participants' rurality resulted in excessive travel, with one participant reporting travelling via road approximately 1500 kilometres weekly, and still being required to meet their KPIs regardless of the time taken to undertake the travel and needing to make up their billable hours in their personal time. Concerningly, rather than amending the KPIs to suit rural and remote practice, one employer implemented a dictation service enabling the

participant to dictate their notes whilst driving to assist with meeting their nonnegotiable KPIs. Regardless of the frequency and duration of travel, participants were still expected to meet the same KPIs as their urban colleagues and this resulted in unsafe work practices and negative impacts on the quality of work life and work-life balance. Our participant experiences with travel echoed other Australian rural and remote healthcare workers experiences in that they are faced with unique risks when it comes to rural and remote work-related travel as they are frequently required to drive long distances and alone under tight timeframes, often on remote and unsealed roads in adverse weather conditions at all hours, and with poor communication reception, limiting support in the event of emergency [30].

Participants also experienced professional isolation, which in this context is very different to an urban setting as the managers are often hundreds of kilometres away with little regular engagement, resulting in an inability to provide adequate mentoring, professional development, and pastoral care [31]. It is noted that professional isolation faced by rural and remote healthcare workers increases emotional exhaustion, stress, and anxiety [30]. Participants described management disengagement with rural and remote staff and expressed frustrations that management does not regularly attend the rural and remote locations to adequately understand the complexities and barriers facing participants in attaining their KPIs.

Organisational and workplace culture, in particular health, safety, and wellbeing appeared to be a significant risk for participants. In aiming to meet the rigid and difficult to attain KPIs enforced by their employers, participants perceived that their employers were prioritising profit over staff safety, particularly when it came to management of poor client behaviour. When poor client behaviour was raised to their employer, participants reported that their experiences were minimised, resulting in participants normalising the behaviour as an expected part of the role and no longer reporting incidents. This is consistent with research on Australian rural and remote nurses, were normalisation of workplace violence has occurred and it is seen by the nurses and their employers as a part of the role, resulting in a poor reporting culture [30]. Some participants reported that they were instructed by their employer to continue engagement with inappropriate clients despite their concerns, due to the lack of available staff in their rural and remote location and the need to meet their KPIs. In our study, a participant experiences with how their employers have inadequately managed situations of reported inappropriate client conduct have resulted in a poor Workplace Health and Safety (WHS) reporting culture with underreporting of incidents. Our participant responses appear to be consistent with research on workplace violence and reporting culture in healthcare workers, with 88% of healthcare workers in a clinical setting who disclosed that they were exposed to physical or nonphysical workplace violence not formally reporting the incident [32].

Most female participants reported experiencing inappropriate client conduct (including verbal abuse, physical assault, and sexual harassment). This is consistent with research that female healthcare workers are more likely to be exposed to physical and nonphysical violence from patients, including sexual harassment [33], and that those working remotely, who have reduced ability to access assistance during and following incidents of workplace violence, are reluctant to continue the work given previous inaction by their employer and normalisation of workplace violence [34]. Concerningly, participants were generally unclear what, if any, protective strategies and resources their employers had in place to manage their safety when working alone in rural and remote locations. Exposure to workplace violence and difficult work conditions are high-risk factors for the development of compassion fatigue, especially for those practicing in rural areas [35].

Organisational management practices, specifically the service delivery model engaged by participant employers, was noted by all participants as being uniform across their company nationwide regardless of consideration of rural and remote challenges and based on urban needs. The service delivery model informed the KPIs which participants were required to meet, and this often conflicted with their ability to deliver provision of care in a way which was aligned with their professional values, which significantly increased their stress levels. The professional values developed from training and education often conflicted with the legalistic and economically driven business models of their employers [18]. The findings from this study may help explain the common motivator amongst participants wanting to leave the rehabilitation healthcare sector, a lack of job role alignment with their professional values [36].

Most participants reported heightened stress attributed to working excessive hours and have increased workloads not only due to KPIs but due to the constant turnover of staff and difficulty with recruitment in their locations. Short staffing has been previously noted as a risk factor for the development of compassion fatigue in healthcare workers, as it leads to increased workloads and hours, which overflows into personal lives [37].

Some participants reported feeling as though rehabilitation healthcare is focused on profit and business, rather than being an integral part of the healthcare system. Some participants felt that employer profit gain and expenditure minimisation were prioritised over appropriateness of treatment for their care recipients and were often required to manage cases where they felt the agenda was driven by economic motivators of their employer, rather than delivering best practice healthcare for the care recipient. This may be attributed to the uniqueness of the rehabilitation sector of the Australian healthcare workforce, in that it is a largely profit-driven and privatised industry, as compared to the general Australian healthcare workforce which is often publicly funded, informed by social need, and engaged in a person-centered approach [38].

Research suggests that urban models of healthcare are unsuitable for rural and remote locations as they fail to effectively manage diseconomies of scale with large geographic areas with dispersed populations [39]. Rehabilitation healthcare workers employed in rural and remote locations face unique job role demands and

environmental challenges which are generally not experienced by their urban counterparts. These include limited labour market and higher unemployment rates, lower education and less transferrable skills of care recipients, excessive travel over a large geographic area, dual relationships, and fewer healthcare referral services, all of which impact the service delivery of rehabilitation healthcare [40].

The general tenor of the interviews was participants expressing their frustrations with the role and discussing what would be considered compassion fatigue or their experiences with compassion fatigue influences. Participants commonly reported symptoms including burnout, stress, depression, and anxiety, all of which indicate compassion fatigue. Most participants had little to discuss when it came to positive elements of their roles and what may constitute compassion satisfaction experiences or potential for compassion satisfaction. When they did, the satisfaction they got came from working with their care recipients and generally not from organisational benefits such as reward and recognition or positive workplace conditions.

Findings from this study indicate that, unlike other healthcare sectors, rehabilitation healthcare is commonly influenced by third parties such as insurers which are largely motivated by economically driven business models, which inform employer KPIs. The KPIs are an issue for rural and remotely practicing rehabilitation healthcare workers as they are largely unattainable due to the complexities and barriers associated with rural and remote practice. In an attempt to reach their KPIs, participants were exposed to unsafe work practices and employers were faced with higher rates of staff attrition. The unsafe work practices and problems with staff attrition indicate that rural and remotely practicing rehabilitation healthcare workers are at a risk of developing compassion fatigue and there is little in the way of workplace protections which would facilitate or maintain compassion satisfaction.

4.1. Limitations and Future Research. As is the case with any qualitative inquiry, the relevance or applicability of the findings should be assessed with participant characteristics in mind [41]. Participants all worked within the Australian rural and remote context. Given the vast geographical expanses and extremely low population density within the Australian context for example, further work is needed to explore whether findings from this study hold true for rehabilitation healthcare workers practicing in other countries and under different healthcare systems and organisational structures. This would be of particular value given that many compassion fatigue-related experiences that participants reported stemmed from organisational practices and supports or lack thereof.

Further, despite reaching a sense of data saturation, due to the smaller sample sizes in exploratory studies and the small percentage of eligible participants for this study (relatively small workforce in rural and remote Australia), participants may have been concerned about being identified and therefore may not have provided an accurate recollection of their experiences or may have provided an exaggerated response due to industrial grievances and feelings of compassion fatigue.

The first author who conducted the interviews and led the analyses is themselves a rural and remote working rehabilitation healthcare worker. While this "insider" perspective is not a limitation and in fact recognised as "treasurable" [42] because of insights they add to the line of inquiry and the interpretation of findings, transparency is important. Additionally, frequent reflexive team discussions throughout the analysis process, as well as team review of early "pilot" interviews ensured that lines of inquiry remained open, and codes stayed true to the participants' data.

Future research is needed. A qualitative study with greater numbers would enable a comparison of themes against particular demographic features of participants. For example, it is possible that the experiences of compassion satisfaction and compassion fatigue differ depending upon the population served and the type of professional training received. It was not possible to delve into this with the current sample size. Future work that examines the rates or extent of compassion satisfaction and compassion fatigue experienced within the Australian rural and remote rehabilitation healthcare workforce is also needed.

Despite the limitations and need for future research, findings from this study provide preliminary insights that can assist in the development of targeted strategies to enhance the protective factors of compassion satisfaction and minimise the risk factors of compassion fatigue in rehabilitation healthcare workers who provide services in rural and remote Australia.

5. Conclusion

Findings indicate that there are similarities in experiences of compassion satisfaction and compassion fatigue across various healthcare specialisations working in rural and remote settings, but they also indicate differences. The unique difference for rural and remotely practicing rehabilitation healthcare workers is that they are required to work under a service delivery model which has stringent performance expectations in the form of KPIs, which appear unsuitable for the rural and remote context. The employer-enforced KPIs are uniform across their organisations regardless of geographic location and without consideration to the complexities associated with rural and remote practice for participants. This resulted in increased work-related pressures which may indicate a heightened risk of developing compassion fatigue and reducing opportunities for compassion satisfaction. Further research that provides a better understanding of the rates and risks of compassion fatigue in this group of healthcare workers will provide employers and other key stakeholders with information to make informed decisions about the appropriateness of their models of care in rural and remote locations. This information will assist employers with ensuring that they are meeting their WHS obligations by providing a safe work environment for their employees, whereby the risk of compassion fatigue is minimised.

Data Availability

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research, supporting data are not available.

Disclosure

Kelly McGrath conducted this study as a component of the degree of Doctor of Philosophy (PhD) at the University of Sydney, under the supervision of Honorary Associate Professor Lynda Matthews, Associate Professor Nicola Hancock, and Dr Robert Heard.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

Open access publishing was facilitated by The University of Sydney, as part of the Wiley-The University of Sydney agreement via the Council of Australian University Librarians.

References

[1] S. Ryali, A. Kumar, and P. Bhat, "Study of quality of life among health workers and psychosocial factors influencing it," *Industrial Psychiatry Journal*, vol. 27, no. 1, pp. 96–102, 2018.

[2] I. Portoghese, M. Galletta, R. C. Coppola, G. Finco, and M. Campagna, "Burnout and workload among health care workers: the moderating role of job control," *Safety and Health at Work*, vol. 5, no. 3, pp. 152–157, 2014.

[3] E. Shdaifat, N. Al-Shdayfat, and N. Al-Ansari, "Professional quality of life, work-related stress, and job satisfaction among nurses in Saudi arabia: a structural equation modelling approach," *Journal of Environmental and Public Health*, vol. 2023, Article ID 2063212, 9 pages, 2023.

[4] D. A. El-Shafei, A. E. Abdelsalam, R. A. M. Hammam, and H. Elgohary, "Professional quality of life, wellness education, and coping strategies among emergency physicians," *Environmental Science and Pollution Research*, vol. 25, no. 9, pp. 9040–9050, 2018.

[5] ProQol, "Professional quality of life measure," 2009, https://proqol.org/ProQol_Test.html.

[6] D. Nanjundeswaraswamy and D. R. Swamy, "Review of literature on quality of worklife," *International Journal for Quality Research*, vol. 7, no. 2, pp. 201–214, 2013.

[7] Australian Government Australian Institute of Health and Welfare, "Rural and remote health," 2020, https://www.aihw.gov.au/reports/australias-health/rural-and-remote-health.

[8] A. Tabaj, S. Pastirk, Č. Bitenc, and R. Masten, "Work-related stress, burnout, compassion, and work satisfaction of professional workers in vocational rehabilitation," *Rehabilitation Counseling Bulletin*, vol. 58, no. 2, pp. 113–123, 2015.

[9] K. McGrath, L. R. Matthews, and R. Heard, "Predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations: a scoping review," *Australian Journal of Rural Health*, vol. 30, no. 2, pp. 264–280, 2022.

[10] T. Opie, M. Dollard, S. Lenthall et al., "Levels of occupational stress in the remote area nursing workforce," *Australian Journal of Rural Health*, vol. 18, no. 6, pp. 235–241, 2010.

[11] B. A. Clough, M. J. Ireland, S. Leane, and S. March, "Stressors and protective factors among regional and metropolitan Australian medical doctors: a mixed methods investigation," *Journal of Clinical Psychology*, vol. 76, no. 7, pp. 1362–1389, 2020.

[12] F. Cocker and N. Joss, "Compassion fatigue among healthcare, emergency and community service workers: a systematic review," *International Journal of Environmental Research and Public Health*, vol. 13, no. 6, p. 618, 2016.

[13] Allied Health Professions Australia, "Rehabilitative care," 2020, https://ahpa.com.au/key-areas/rehabilitation/.

[14] National Institutes of Health Medical Rehabilitation Coordinating Committee, "National institutes of health research plan on rehabilitation," *American Journal of Occupational Therapy*, vol. 71, no. 3, 2017.

[15] World Health Organisation, "Rehabilitation," 2023, https://www.who.int/news-room/fact-sheets/detail/rehabilitation.

[16] S. K. Graham and I. D. Cameron, "A survey of rehabilitation services in Australia," *Australian Health Review*, vol. 32, no. 3, pp. 392–399, 2008.

[17] T. S. Jesus, M. D. Landry, G. Dussault, and I. Fronteira, "Human resources for health (and rehabilitation): six Rehab-Workforce Challenges for the century," *Human Resources for Health*, vol. 15, no. 1, p. 8, 2017.

[18] E. Kendall and J. Clapton, "Time for a shift in Australian rehabilitation?" *Disability and Rehabilitation*, vol. 28, no. 17, pp. 1097–1101, 2006.

[19] J. Sutton and Z. Austin, "Qualitative research: data collection, analysis, and management," *Canadian Journal of Hospital Pharmacy*, vol. 68, no. 3, pp. 226–231, 2015.

[20] A. Tong, P. Sainsbury, and J. Craig, "Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups," *International Journal for Quality in Health Care*, vol. 19, no. 6, pp. 349–357, 2007.

[21] B. Saunders, J. Sim, T. Kingstone et al., "Saturation in qualitative research: exploring its conceptualization and operationalization," *Quality and Quantity*, vol. 52, no. 4, pp. 1893–1907, 2018.

[22] V. Braun and V. Clarke, "One size fits all? What counts as quality practice in (reflexive) thematic analysis?" *Qualitative Research in Psychology*, vol. 18, no. 3, pp. 328–352, 2021.

[23] M. R. Armat, A. Assarroudi, M. Rad, H. Sharifi, and A. Heydari, "Inductive and deductive: ambiguous labels in qualitative content analysis," *Qualitative Report*, vol. 23, pp. 219–221, 2018.

[24] P. Allen, J. May, R. Pegram, and L. Shires, "'It's mostly about the job' – putting the lens on specialist rural retention," *Rural and Remote Health*, vol. 20, no. 1, p. 5299, 2020.

[25] A. John Crowther and A. Theresa Ragusa, "Realities of mental health nursing practice in rural Australia," *Issues in Mental Health Nursing*, vol. 32, no. 8, pp. 512–518, 2011.

[26] N. Whiteing, J. Barr, and D. M. Rossi, "The practice of rural and remote nurses in Australia: a case study," *Journal of Clinical Nursing*, vol. 31, no. 11-12, pp. 1502–1518, 2022.

[27] Comcare, "Operating as a rehabilitation provider," 2023, https://www.comcare.gov.au/service-providers/workplace-rehabilitation-providers/operating.

[28] D. C. Roberts-Yates, "Examining the role of rehabilitation in the South Australian workers' compensation system," *The Australian Journal of Rehabilitation Counselling*, vol. 9, no. 2, pp. 82–101, 2003.

[29] L. McAulay, J. Fadyl, and G. Terry, "Effective teams in vocational rehabilitation: an exploration of complexities and practice in aotearoa-New Zealand," *Journal of Occupational Rehabilitation*, vol. 33, no. 3, pp. 518–527, 2023.
[30] L. K. Wright, S. Jatrana, and D. Lindsay, "Workforce safety in the remote health sector of Australia: a scoping review," *British Medical Journal Open*, vol. 11, no. 8, pp. 1–16, 2021.
[31] M. A. Williams, "Rural professional isolation: an integrative review," *Online Journal of Rural Nursing and Health Care*, vol. 12, no. 2, pp. 3–10, 2012.
[32] J. E. Arnetz, L. Hamblin, J. Ager et al., "Underreporting of workplace violence: comparison of self-report and actual documentation of hospital incidents," *Workplace Health and Safety*, vol. 63, no. 5, pp. 200–210, 2015.
[33] B. Miedema, S. Tatemichi, R. Hamilton et al., "Effect of colleague and coworker abuse on family physicians in Canada," *Canadian Family Physician*, vol. 57, no. 12, pp. 1424–1431, 2011.
[34] J. A. Wressell, B. Rasmussen, and A. Driscoll, "Exploring the workplace violence risk profile for remote area nurses and the impact of organisational culture and risk management strategy," *Collegian*, vol. 25, no. 6, pp. 601–606, 2018.
[35] D. K. Thapa, T. Levett-Jones, S. West, and M. Cleary, "Burnout, compassion fatigue, and resilience among healthcare professionals," *Nursing and Health Sciences*, vol. 23, no. 3, pp. 565–569, 2021.
[36] S. M. Bragg and A. Bonner, "Degree of value alignment-a grounded theory of rural nurse resignations," *Rural and Remote Health*, vol. 14, no. 2, pp. 110–120, 2014.
[37] A. G. Nolte, C. Downing, A. Temane, and M. Hastings-Tolsma, "Compassion fatigue in nurses: a metasynthesis," *Journal of Clinical Nursing*, vol. 26, no. 23-24, pp. 4364–4378, 2017.
[38] Australian Government Australian Institute of Health and Welfare, "Health system overview," 2022, https://www.aihw.gov.au/reports/australias-health/health-system-overview.
[39] J. Wakerman, J. S. Humphreys, R. Wells, P. Kuipers, P. Entwistle, and J. Jones, "Primary health care delivery models in rural and remote Australia–a systematic review," *BMC Health Services Research*, vol. 8, no. 1, p. 276, 2008.
[40] T. Landon, A. Connor, M. McKnight-Lizotte, and J. Pena, "Rehabilitation counseling in rural settings: a phenomenological study on barriers and supports," *Journal of Rehabilitation*, vol. 85, pp. 47–57, 2019.
[41] S. Polgar and S. A. Thomas, *Introduction to Research in the Health Sciences: Introduction to Research in the Health Sciences E-Book*, Elsevier Health Sciences, Philadelphia, PA, USA, 6th edition, 2013.
[42] L. Leung, "Validity, reliability, and generalizability in qualitative research," *Journal of Family Medicine and Primary Care*, vol. 4, no. 3, p. 324, 2015.

Chapter 4: Levels Of Compassion Satisfaction, Burnout and Secondary Traumatic Stress in Rehabilitation Healthcare Workers in Rural and Remote Australia and Their Associations with Demographic and Work-related Variables

Chapter Introduction

Chapter 4 presents the third and final published study of this thesis. This mixed-methods study used a cross-sectional design and survey methodology. It was informed by the findings of Studies 1 (Chapter 2) and 2 (Chapter 3), which guided the development of demographic and extended-response questions that offered participants opportunities to provide free-text responses. The study used the ProQOL5 scale to assess participants' compassion satisfaction, burnout, and secondary traumatic stress, and to compare their outcomes with those of reference groups of Australian healthcare workers who had previously completed the ProQOL5 scale.

Findings identified that participants reported moderate levels of compassion satisfaction, burnout, and secondary traumatic stress. However, when reviewed against the reference groups, they experienced significantly lower compassion satisfaction, higher burnout, and worse secondary traumatic stress than most groups. Workplace and organisational factors, such as work-life balance, workplace culture, and work arrangements, were significantly associated with compassion satisfaction and burnout. This chapter also reflects a change in the thesis's terminology. Earlier studies used the broader term compassion fatigue, while Study 3 focused on burnout and secondary traumatic stress as measured by the ProQOL5 scale.

Supporting documents can be found in the following appendices:

- Appendix I: Study 3 Ethics Approval 2022-597
- Appendix J: Study 3 Participant Recruitment Social Media Post

- Appendix K: Study 3 Participant Information Statement
- Appendix L: Study 3 Survey Questions Part 1
- Appendix M: Study 3 Survey Questions Part 2
- Appendix N: Study 3 Survey Questions Part 3
- Appendix O: Study 3 STROBE Checklist.

Chapter Publication Details

McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2025). Levels of Compassion Satisfaction, Burnout and Secondary Traumatic Stress in Rehabilitation Healthcare Workers in Rural and Remote Australia and Their Associations with Demographic and Work-Related Variables. *The Australian Journal of Rural Health*, 33(6), e70128-n/a. https://doi.org/10.1111/ajr.70128

Australian Journal of Rural Health

WILEY

AJRH National Rural Health Alliance

ORIGINAL RESEARCH

Levels of Compassion Satisfaction, Burnout and Secondary Traumatic Stress in Rehabilitation Healthcare Workers in Rural and Remote Australia and Their Associations With Demographic and Work-Related Variables

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Received: 9 April 2025 | **Revised:** 26 November 2025 | **Accepted:** 2 December 2025

Keywords: burnout | organisational culture | ProQOL5 | WHS | workers' compensation | workforce

ABSTRACT

Objective: This exploratory study sought to document compassion satisfaction, burnout and secondary traumatic stress in Australian rural and remote rehabilitation healthcare workers and compare the results with other professionals working in the Australian healthcare system who had previously completed the Professional Quality of Life Scale Version 5 (ProQOL5).

Design: We used a mixed methods approach, comprising a cross-sectional design and survey methodology with participants recruited via homogeneous purposive sampling. Data were collected using a web-based self-administered survey comprising demographic and work-related questions, ProQOL5 and open-response questions.

Setting: Rural and remote Australia where 28% of the population is spread across 99.3% of the country's eight million square kilometre landmass. These locations are sparsely populated, with the lowest number of health professionals relative to population size nationally.

Participants: Australian rural and remote rehabilitation healthcare workers that held membership with their professional body. They provide rehabilitation services to clients in workers' compensation, life insurance, the Australian National Disability Insurance Scheme (NDIS) and other rehabilitation settings in rural and remote Australia. Responses ($n = 29$) were included in the analysis; two were excluded due to non-completion of the survey. Most were female (86.2%), above 35 years old (76%), employed full-time (72.4%) and were rehabilitation counsellors (44.8%). Two-thirds were from Queensland and New South Wales (65.5%).

Main Outcome Measure(s): Compassion satisfaction, burnout, secondary traumatic stress as measured by the ProQOL5. These outcome measures were reviewed in relation to demographic and workplace factors among rehabilitation healthcare professionals working in rural and remote Australia. Open-response questions were included in the survey to provide further context to the ProQOL5 results.

Results: Workplace and organisational factors were connected to compassion satisfaction and burnout outcomes, including work-life balance and workplace culture. When compared to other Australian healthcare worker groups, Australian rural and remote rehabilitation healthcare workers experienced significantly poorer compassion satisfaction, significantly higher burnout and significantly worse secondary traumatic stress.

Conclusion: Australian rural and remote rehabilitation healthcare workers are likely to experience lower levels of compassion satisfaction and higher levels of burnout and secondary traumatic stress than other healthcare specialisations in Australia. This may be explained by the unique complexities of rehabilitation healthcare or practicing in a rural or remote location, as the

reference groups comprised a range of healthcare specialisations across rural, remote and urban Australian locations and were not engaged in rehabilitation.

1 | Introduction

This study examines compassion satisfaction, burnout and secondary traumatic stress in rural and remote rehabilitation healthcare workers. Compassion satisfaction refers to the positive feelings from helping others that foster optimism, workplace satisfaction and strong collegial relationships [1]. In contrast, burnout arises from work-related exhaustion and frustration, with secondary traumatic stress attributed to emotional distress from exposure to workplace trauma [1, 2].

Higher compassion satisfaction enhances job satisfaction and reduces occupational stress [1]. Healthcare workers with higher compassion satisfaction feel more optimistic about work, maintain better workplace relationships, and find more meaning in their contributions [3]. In contrast, burnout and secondary traumatic stress are linked to absenteeism, staff attrition, reduced service quality, poor workplace relationships and increased workers' compensation claims [4].

Supportive organisational cultures can reduce secondary traumatic stress, whereas toxic cultures characterised by bullying, excessive workloads and inadequate management lead to increased burnout and secondary traumatic stress [5]. Organisational factors affecting rural healthcare workers include excessive workloads, professional isolation and limited professional development opportunities. Major stressors include lack of organisational support, inadequate remuneration, critical decision-making and dealing with crises, all contributing to burnout and staff attrition [6].

Australia is a country of approximately eight million square kilometres [7] with a population estimated to be 27 400 000 people [8]. Its healthcare system is a unique blend of federal, state and private entities, some funded by governments and some on a commercial basis [9]. The healthcare system provides a wide range of services, including rehabilitation healthcare. Rehabilitation healthcare comprises occupational rehabilitation, disability management, medical rehabilitation, injury management and prevention [10]. It is a rapidly expanding sector in Australia's healthcare and insurance industries, reflecting trends in other Western nations [11]. Multidisciplinary teams typically deliver services of medical and allied health practitioners. Demand for rehabilitation healthcare is likely to increase in rural and remote Australia due to ageing populations and rising chronic health conditions and disabilities [12], a trend accelerated by the COVID-19 pandemic [13].

Despite sector growth, research on compassion satisfaction, burnout and secondary traumatic stress in rehabilitation workers in rural and remote settings is limited. This group faces unique challenges, including high caseloads, geographic isolation and lack of support [14]. They also contend with extreme weather, understaffing and inadequately equipped healthcare systems [12]. Client sociocultural and socioeconomic factors in rural and remote communities compound these challenges, including lower client education, higher substance abuse rates, increased family violence and more significant needs for culturally appropriate care, particularly for First Nations peoples [15]. Rural and remote populations often experience higher unemployment, lower incomes and reduced household net worth, all of which complicate service delivery to populations already experiencing higher rates of illness, traumatic injury and disability than urban populations [16]. The adversity facing clients in rural and remote locations can lead to a heightened risk of psychological injury, including secondary traumatic stress for healthcare workers as they often experience a sense of failure to assist clients due to factors beyond their control, such as inadequate infrastructure and support services [14].

No baseline data exist on compassion satisfaction, burnout and secondary traumatic stress among Australian rural and remote rehabilitation workers [17]. An international meta-analysis of 71 studies reported average burnout and secondary traumatic stress levels, and average-to-high compassion satisfaction in healthcare workers (nurses, physicians, social workers, genetic counsellors) [18]. Although the burnout levels were average, it produced the highest mean value across all studies, which may indicate that this population experiences ongoing chronic occupational stressors. However, this meta-analysis did not isolate rural and remote workers, nor did it indicate rehabilitation healthcare workers.

We identified only two studies examining rehabilitation professionals. A Slovakian urban study reported moderate burnout risk and high potential for compassion satisfaction [19]. The other, an Australian thematic analysis, explored compassion satisfaction among rural and remote rehabilitation workers who emphasised the contributing role of workload, organisational culture and management practices but did not measure these conditions [20].

The Professional Quality of Life Scale (ProQOL) is commonly used to assess compassion satisfaction, burnout and secondary traumatic stress [21]. ProQOL measures compassion satisfaction, burnout and secondary traumatic stress as three separate 10-item subscales. Although the term “compassion fatigue” is used in the ProQOL measure, there is increasing recognition that terms such as “empathic distress fatigue” or “secondary traumatic stress” may be more appropriate [22, 23]. This study does not use the term “compassion fatigue” and instead reports separately on burnout and secondary traumatic stress, in line with the ProQOL manual.

In Australia, ProQOL data exist in five studies for hospital nurses and community mental health workers [24–28], but not for rural and remote rehabilitation healthcare workers, despite indications of their heightened risk for adverse outcomes [17]. Although these five Australian studies do not assess rehabilitation healthcare workers or comprise solely rural and remote workers, they are used as a reference point to situate our ProQOL findings within the Australian social, political, economic and healthcare context. The reference group data provide relevant national insight that helps interpret our ProQOL results in light of broader healthcare system pressures, and sociocultural and

Summary

- What does this study add?
  - This is the first study to measure the levels of compassion satisfaction, burnout and secondary traumatic stress in Australian rural and remote rehabilitation healthcare workers and compare their outcomes against those of other Australian rural and remote healthcare workers.
  - Australian rural and remote rehabilitation healthcare workers are likely to experience lower levels of compassion satisfaction and higher levels of burnout and secondary traumatic stress than other healthcare specialisations in Australia. This may be explained by the unique complexities of rehabilitation healthcare or practicing in a rural or remote location, as the reference groups comprised a range of healthcare specialisations across rural, remote and urban Australian locations and were not engaged in rehabilitation.
  - This paper highlights that efforts to improve compassion satisfaction, burnout and secondary traumatic stress in this growing sector of the health workforce need to address key workplace and organisational challenges. These include workplace and organisational culture, safe work practices and the influence of billable hours and Key Performance Indicators (KPIs) imposed by employers and insurers.
- What is already known on this subject?
  - In Australian rural and remote rehabilitation healthcare, qualitative findings suggest that demographic and workplace factors, particularly organisational management practices, key performance indicators (KPIs) and organisational and workplace culture, have been reported as potentially influencing compassion satisfaction, burnout and secondary traumatic stress outcomes.
  - KPIs appear to be a particular concern for Australian rural and remote healthcare workers. They have been identified as being uniform across the sector without consideration of the unique complexities associated with healthcare provisioning in rural and remote Australia. This stress results in increased unsafe work practices and high staff turnover.
  - International literature on rural and remote healthcare workers and findings on Australian rural and remote rehabilitation healthcare workers suggest that factors that may influence compassion satisfaction may also be risk factors for burnout.

socioeconomic disadvantage associated with rural and remote locations.

This study aimed to collect baseline data on compassion satisfaction, burnout and secondary traumatic stress in rural and remote Australian rehabilitation healthcare workers and to compare their results with reference groups. It also aimed to identify if demographic and work-related variables reported in previous research affect these outcomes. The following research questions guided the study:

1. What levels of compassion satisfaction, burnout and secondary traumatic stress do Australian rural and remote rehabilitation healthcare workers report?
2. How do their levels compare with reference groups of Australian healthcare workers?
3. What demographic and work-related variables relate to their compassion satisfaction, burnout and secondary traumatic stress outcomes?
4. What stressors impact their work-life quality and compassion satisfaction?

2 | Methods

2.1 | Study Design

This study adopted a cross-sectional design and survey methodology guided by the STROBE checklist [29]. The study protocol was approved by the [Institution's] Human Research Ethics Committee [Project No: 2022/597] and adhered to the National Health and Medical Research Council (NHMRC) National Statement on Ethical Conduct in Human Research (2018) and the NHMRC Australian Code for the Responsible Conduct of Research (2018).

2.2 | Participants and Recruitment

Participants were required to self-identify as healthcare workers providing rehabilitation services in workers' compensation, life insurance, the Australian National Disability Insurance Scheme (NDIS) and other tertiary rehabilitation settings in rural and remote locations of Australia. They were also required to hold membership in their professional body. The first author contacted 10 professional associations representing various rehabilitation healthcare workers. The associations then disseminated participant recruitment materials to eligible participants through internal communication processes, including social media, to reach eligible participants. Associations represented rehabilitation counsellors, occupational therapists, psychologists, social workers, medical practitioners, nurses and exercise physiologists. Recruitment utilised homogenous purposive sampling, and the research team and organisations supporting rural and remote rehabilitation healthcare workers promoted the study on LinkedIn, Instagram and Facebook. We requested re-promotions 3 and 6 months after the initial outreach. We regularly promoted the study through social media and conference presentations to boost the response rate.

2.3 | Instruments and Procedure

Eligible participants received an information sheet detailing the study and nature of involvement, survey anonymity and potential

TABLE 1 | Demographic and work-related data of current study participants.

Demographics	Participant responses ($n = 29$)	
	n	**%**
Gender		
Female	25	86.2
Male	4	13.8
Age (years)		
20–24	1	3.4
25–34	6	20.7
35–44	9	31.0
45–54	7	24.1
55–64	6	20.7
Marital Status		
Single, partnered, divorced	6	20.7
Married or Defacto	23	79.3
Current remuneration		
25001–50000	1	3.4
50001–75000	1	3.4
75001–85000	5	17.2
85001–100000	11	37.9
100001–125000	9	31.0
125001–150000+	2	6.9
Profession		
Clinical Nurse Consultant	1	3.4
Occupational Therapist	4	13.8
Physiotherapist	5	17.2
Psychologist	3	10.3
Rehabilitation Case Manager	1	3.4
Rehabilitation Counsellor	13	44.8
Social Worker	1	3.4
Speech Pathologist	1	3.4
Level of professional qualification		
Bachelor Degree	7	24.1
Graduate Certificate	5	17.2
Graduate Diploma	4	13.8
Masters Degree	12	41.4
Doctorate	1	3.4
Employment location		
Australian Capital Territory	1	3.4
New South Wales	8	27.6
Queensland	11	37.9
Tasmania	2	6.9
Victoria	2	6.9
Western Australia	5	17.2
Current working agreement		
Part time	8	27.6
Full time	21	72.4
Relocated for work		
No	11	37.9
Yes	18	62.1
Received training for complex cases		
No	17	58.6
Yes	10	34.5
Unsure	2	6.9
Satisfied with professional development opportunities		
Dissatisfied	11	37.9
I don't receive any	5	17.2
Satisfied	10	34.5
Very satisfied	2	6.9
Did not respond	1	3.4
Management or supervisory role		
No	11	37.9
Yes	18	62.1

benefits and risks allowing for informed consent. Participants were advised in the participant information statement that by submitting their survey, they are providing consent to participate in the survey. Participants were encouraged to contact the lead researcher with questions. The sheet advised participants to contact their doctor, their employer's Employee Assistance Provider, or Lifeline—an Australian mental health crisis support hotline—if they felt upset or distressed by any questions.

We collected data using a web-based self-administered survey from June 2022 until November 2023. The survey included demographic and work-related questions, the ProQOL5 scale and three open-response questions. Participants were able to exit the survey at any point; however, to progress through the survey, all demographic and ProQOL5 questions were required to be answered, with the open-response questions being optional for

TABLE 2 | Continuous and Likert scale demographic and work-related data of current study participants, $n = 29$.

Work-related variables	Mean (SD)	Median (range)
Years in professional specialty	13.9 (8.6)	14.0 (2–30)
Years practicing in a rural location	8.4 (8.6)	5.0 (0.5–30)
Current caseload	30.7 (24.6)	25.0 (0–100)
% of complex cases in caseload	64.4 (31.2)	70.0 (6–100)
Enjoy working rurally or remotely		4.0 (1–5)
Satisfied with work-life balance		3.0 (1–5)
Positive workplace/ organisational culture		3.0 (1–5)
Safe work practices		4.0 (2–5)
Supported to deliver positive client outcomes		3.0 (1–5)

Note: Table items 5–9 are measured using a 5-point Likert scale, where 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often and 5 = Very Often.

completion. We offered no inducements for participation. Data collection and management utilised the Research Electronic Data Capture (REDCap), a secure platform for data collection and export [30, 31].

2.4 | Demographic and Work-Related Variables

Demographic and work-related data are listed in Table 1, with the continuous and likert scale demographic and work-related data of current study participants presented in Table 2. Items five to nine in Table 2 used a 5-point Likert scale. Quasi-identifiers for age, remuneration and professional experience are provided in Table 1, with years of practising in rural and remote locations detailed in Table 2. The quasi-identifiers were offered as ranges to protect participant anonymity, mainly because rehabilitation workers form a small cohort in the broader Australian healthcare workforce.

2.5 | ProQOL5

We used the English version of the ProQOL version 5 [2], a standardised 30-item self-report scale measuring positive and negative elements of work-related caring. It includes three subscales, with each measuring one of the following factors: compassion satisfaction, burnout and secondary traumatic stress. Each subscale has 10 items rated on a 5-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = very often), with possible subscale scores ranging from 10 to 50. Scores of 22 or less indicate low, 23–41 average and 42 or over high levels [32]. Items 1, 4, 15, 17 and 29 were reverse coded as per the ProQOL5 manual. Higher subscale scores indicated better compassion satisfaction and more impaired functioning for burnout and secondary traumatic stress [32]. The ProQOL5 has been widely used worldwide for over 15 years [1] and reported in over 200 publications [21].

The ProQOL5's reliability is demonstrated by Cronbach's alpha for compassion satisfaction at 0.88, burnout at 0.75, secondary traumatic stress at 0.81, and an overall alpha of 0.88 [32]. This study's reliability was satisfactory, with Cronbach's alpha for compassion satisfaction at 0.93, burnout at 0.81, secondary traumatic stress at 0.81 and an overall alpha of 0.73. Although there have been recent concerns regarding the construct validity of the ProQOL, particularly the burnout and secondary traumatic stress scales, the construct validity of the compassion satisfaction scale is supported [33]. The ProQOL5 is still widely used and the only version that is freely available to the public [32], and to our knowledge all published Australian studies to date have used the ProQOL5. As research question two is to anchor the current studies' findings in the Australian healthcare setting, we used the ProQOL5.

2.6 | Open Response Questions

Open response questions allowed participants to share insights on their experiences with compassion satisfaction, burnout, secondary traumatic stress and stressors. We asked: (1) 'What are the primary stressors that impact the quality of your work life?' (2) 'What could improve or maintain your compassion satisfaction levels?' and (3) 'Do you have any other information you would like to add to help us understand your experiences?'

2.7 | Data Analysis

Survey data were downloaded from REDCap and analysed using IBM-SPSS version 28.0 and Microsoft Excel. All responses were deidentified using a number based on their place in chronological order of survey completion. We analysed the demographic characteristics using descriptive analyses and coded and analysed the results of the ProQOL5 as instructed in the ProQOL5 manual [32].

Demographic question responses categorised as 'unsure' ($n = 2$) for the question asking about training for complex cases, and 'did not receive' option ($n = 6$) for participants' satisfaction with professional development, were removed for correlational analyses. Because of the small sample size, we re-coded marital status into two groups for analysis: those in a legally recognised cohabitation relationship (yes = married, de facto) and other (no = single, partnered, divorced). In Australian law, de facto relationships are similar to marriage.

To compare the current study's ProQOL5 results with the five reference studies [24–28] of Australian healthcare workers, we used a t-test to provide p-values and d-values ([mean1—mean2]/SD pooled) between studies. We adopted Cohen's conventions for interpreting d: 0.2 = a small effect, 0.5 = a medium effect and 0.8 = a large effect. Because many demographic variables presented ranked response options, Spearman's and

non-parametric point biserial rank correlations assessed relationships between ProQOL5 scores and demographic and work-related variables.

Open-response data were analysed by the first and second authors using qualitative content analysis [34]. Meaningful units were identified within the responses, mainly when multiple concepts were covered. These responses were divided into several distinct meaning units. Similar meaning units were grouped and assigned codes. As the analysis continued, codes related to overarching themes were further grouped to create final themes. The coders discussed any coding inconsistencies to reach a consensus. An independent researcher was available to help resolve the discrepancies if agreement was not reached.

3 | Results

3.1 | Participants

Thirty-one participants responded to the survey. We included 29 responses in the analysis after excluding one participant who did not provide any responses and another who exited the study after completing the demographic questions.

3.2 | Demographic and Work-Related Variables

Table 1 shows that most participants were female (86.2%), above 35 years old (76%) and employed full-time (72.4%). Over one-third were rehabilitation counsellors (44.8%), and the most common qualification for participants was a Master's degree (41.4%). Many participants (58.6%) had not received training for managing complex cases. Over half had relocated for work (62.1%), and two-thirds were from Queensland and New South Wales (65.5%), including one from the Australian Capital Territory, which is relevant for service provision in the surrounding rural and remote areas. Participants had considerable experience, with a mean of 13.8 years in their specialities and a mean of 8.4 years of rural work. They typically handled 25 cases at a time, with over 64% being complex cases. Participants generally enjoyed rural work, though work-life balance satisfaction was moderate (see Table 2).

3.3 | ProQOL 5 Subscales

The subscale median and range scores were 28 (20–48) for compassion satisfaction, 23 (18–41) for burnout and 24 (15–39) for secondary traumatic stress. Table 3 shows the mean scores within the average range (23–41). No participants reported high levels (>42) of burnout or secondary traumatic stress. Five (17.2%) reported high compassion satisfaction, and one (3.44%) reported low compassion satisfaction. Three (10.34%) reported low burnout (10.34%), and five (17.24%) reported low secondary traumatic stress.

3.4 | Comparison With Reported Samples of Australian Healthcare Workers

Table 3 shows that compassion satisfaction did not significantly differ from comparative studies 1 and 2 but was significantly lower than in studies 3, 4 and 5. Burnout levels were significantly higher than in all comparative studies, mostly with large effect sizes. Secondary traumatic stress was significantly higher compared to studies 1, 2 and 5, with large effect sizes. Study 4 did not measure secondary traumatic stress.

3.5 | Correlations Between ProQOL Subscales and Demographic and Work-Related Variables

3.5.1 | ProQOL Scales

Results in Table 4 show a significant inverse relationship between compassion satisfaction and burnout and a significant relationship between burnout and secondary traumatic stress. There was no significant relationship between compassion satisfaction and secondary traumatic stress.

3.5.2 | Compassion Satisfaction

Table 4 shows that higher compassion satisfaction correlated with more years in practice, training for complex cases, satisfaction with professional development opportunities, enjoyment of rural and remote work, satisfaction with work-life balance, a positive organisational and workplace culture, feeling safe when working and feeling supported to deliver positive client outcomes. There was a significant negative relationship with the current working agreement, where working part-time was associated with higher compassion satisfaction.

3.5.3 | Burnout

As reported in Table 4, the number of cases managed had a strong positive correlation with burnout. Burnout was negatively correlated with being in a legally recognised relationship, satisfaction with professional development opportunities, satisfaction in work-life balance, a positive organisational and workplace culture and feeling supported in delivering positive client outcomes under current organisational management practices.

3.5.4 | Secondary Traumatic Stress

Although there were some strong trends towards significance, no demographic or workplace variable had a significant association with secondary traumatic stress. We have noted the trends here because the same correlation values with $n = 40$ would all be $p < 0.05$.

3.6 | Open Response Questions

There were 73 responses across the three open-response questions, with 97 and 54 quotes used in the analysis of questions one and two, respectively. All participants contributed to questions one and two, with 2 responses excluded (nothing and unsure). For question three, 28 responses were analysed, but 13 were disregarded as general remarks (e.g., no, N/A, no thanks). Table 5 provides each question's reported themes and subthemes.

TABLE 3 | Analysis of ProQOL 5 subscale outcomes (compassion satisfaction, burnout and secondary traumatic stress) for the current study and the five Australian comparison studies (first author, year).

	Current $n = 29$	Hegney et al., 2014, $n = 132$, Study 1	Jakimowicz et al., 2018, $n = 98$, Study 2	O'Callaghan et al., 2020, $n = 86$, Study 3	Samios, 2018[a], $n = 69$, Study 4	Somoray et al., 2017, $n = 156$, Study 5
Statistics	**Rehabilitation professionals[b]**	**Hospital nurses[c]**	**Hospital critical care nurses**	**Hospital nurses**	**Mental health professionals[b]**	**Mental health professionals**
Female (%)	86.2%	80.0%	71.4%	91.0%	79.7%	79.5%
Age, *M* (SD)	76% > 35 years	36.76 (10.83)	42.3 (11.4)	56% < 30yo	48.78 (13.12)	44.60 (12.42)
Experience, years, *M* (SD)	13.9 (8.6) years	14.1 (10.8)	16.2 (10.7)	10.2 (9.14)	Not reported	5.06 (4.36).
Compassion satisfaction						
M (SD)	33.5 (7.8)	35.7 (7.6)	35.5 (6.0)	38.3 (5.0)	41.0 (5.2)	38.7 (5.8)
t value		−1.41	−1.50	−3.88***	−5.62**	−4.23***
d value		0.29	0.32	0.83	1.24	0.86
Burnout						
M (SD)	29.7 (5.9)	23.7 (5.9)	25.5 (5.3)	26.6 (5.4)	21.1 (4.9)	21.8 (5.0)
t value		4.97***	3.66***	2.60*	7.47**	7.66***
d value		1.02	0.77	0.56	1.65	1.53
Secondary traumatic stress						
M (SD)	26.5 (5.8)	18.6 (5.7)	21.4 (4.6)	24.6 (4.5)	—	20.9 (5.1)
t value		6.68***	4.82***	1.77	—	5.29***
d value		1.37	1.02	0.38	—	1.07

Abbreviations: *d*, size of effect; *M*, mean; SD, standard deviation.
[a]No secondary traumatic stress data collected.
[b]Working in rural and remote locations.
[c]Includes a regional location.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

Participants reported frustrations with the nature of the work, including job demands, case complexity, administrative burdens and pressure to meet billable requirements. The geographic isolation of the role was potentially contributing to the frustrations experienced by participants in managing the inherent role requirements, which in turn were likely to be negatively impacting their work-life balance. Poor organisational culture and management practices resulted in participants receiving inadequate support, feeling undervalued, over worked and perceiving their management to be ineffective. Some participants reported feeling their career in rehabilitation healthcare was unrewarding and offered limited opportunity for career progression. They also discussed frustrations when seeking alternate employment, that they are banned from working for competitors, and there was a limited labour market for rehabilitation healthcare roles in their location.

To enhance compassion satisfaction, participants suggested enhanced staff support and workload management, manageable workloads and input to caseload decisions, and suggested that increased staffing levels may alleviate individual burdens. Participants also highlighted the need for improved recognition and increased respect for their profession, particularly from management and insurers. Finally, participants discussed elements of organisational governance which included clearer organisational understanding of insurance schemes, simplified processes, reduced billing expectations and fair remuneration.

Participants also highlighted new challenges with service delivery and client engagement difficulties in rural and remote areas. They noted the importance of self-care practices to manage their emotional demands.

4 | Discussion

Findings from this inaugural study highlight systemic challenges within the Australian rural and remote rehabilitation

TABLE 4 | Spearman's correlations between the current study's ProQOL subscales and demographic and work-related variables.

Variable	Compassion satisfaction	Burnout	Secondary traumatic stress
Compassion satisfaction	—		
Burnout[1]	−0.681***	—	
Secondary traumatic stress[1]	−0.024	0.494**	—
Age[1]	0.281	−0.298	−0.156
Married or defacto (no, yes)[2]	0.345	−0.474**	−0.077
Years in practice[1]	0.471**	−0.203	0.116
Years working rurally or remotely[1]	0.028	0.220	0.346[a]
Full time working agreement (no, yes)[2]	−0.453*	0.283	−0.190
Remuneration[1]	0.028	0.162	−0.124
Level of professional qualification[1]	−0.184	0.266	0.113
Management-level responsibilities (no, yes)[2]	0.162	−0.004	0.145
Relocated for work (no, yes)[2]	−0.221	0.2144	−0.055
Number of cases[1]	−0.320	0.583***	0.350[b]
Proportion of complex cases[1]	−0.039	−0.028	−0.366[c]
Training for complex cases (no, yes) [2]	0.404*	−0.332	−0.148
Satisfied with PD opportunities[1]	0.517*	−0.652**	−0.407[d]
Enjoy working rurally or remotely[1]	0.543**	−0.289	0.018
Satisfied with work-life balance[1]	0.512**	−0.456*	−0.116
Positive workplace/organisational culture	0.652**	−0.443*	−0.104
Safe work practices	0.419*	−0.276	−0.201
Supported to deliver positive client outcomes	0.560**	−0.395*	−0.282

Note: [1]Spearman's correlation between continuous variables and [2]nonparametric point-biserial correlation with dichotomous variable *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, and [a]$p = 0.066$, [b]$p = 0.063$, [c]$p = 0.051$, [d]$p = 0.054$.
Abbreviations: FT, full-time; PD, professional development; PT, part-time.

healthcare workforce. The findings emphasise the need for systemic reforms to develop a safe, sustainable and healthy workforce.

Participants reported average levels of compassion satisfaction, burnout and secondary traumatic stress as determined using the ProQOL5 categories. However, they experienced significantly lower compassion satisfaction and higher secondary traumatic stress than most reference groups and significantly higher burnout than all reference groups, indicating more significant workplace stress, trauma and emotional strain in their work roles. Caution is needed in applying ProQOL cutoff scores for individuals to group means. For example, a group average of "High" for any subscale would require a substantial proportion of individual scores to be "High", which would indicate an extreme situation. Perhaps the best illustration of the statistically significant difference between the current sample's means and the reference groups' is that 83% of the current sample's compassion satisfaction scores were low-moderate, while only 14% and 21% were low on burnout and secondary traumatic stress, respectively. Although this population may not be experiencing heightened levels of distress, they may be in the early stages of strain and vulnerable to developing burnout or secondary traumatic stress.

Participant ProQOL5 scores may be indicative of workplace stress, trauma and emotional strain associated with isolated geographical locations [35]. Rural and remote healthcare workers contend with limited access to specialist healthcare and non-clinical supports, problems with infrastructure including technology and transportation, and client financial difficulties, all of which are likely to result in significant challenges to delivering positive outcomes [36].

Internationally, burnout in rehabilitation healthcare workers is linked to poor management support and overwhelming workloads with complex caseloads and unrealistic timeframes [37], elements identified by our participants in their extended responses. Participants raised concerns about inadequate workplace support, which may be influenced by their geographic isolation from management and colleagues. Some participants described or implied their rural or remote location impacted the level of support provided by management. This lack of support may reduce positive experiences, as onsite managerial support is known to improve compassion

TABLE 5 | Most frequently occurring themes and subthemes based on quotations from the codes identified in the three open-ended questions.

Questions	Themes (n[a])	Subthemes (n)	Example quotations
What are the primary stressors that impact the quality of your work life?	The nature of the work ($n = 46/34$)	Job role demands ($n = 13/10$) Client complexity ($n = 12/9$) Pressure of billable requirements ($n = 8/5$) Geographic isolation of the role ($n = 7/4$) Administrative and technology-related challenges ($n = 4/4$) No work-life balance ($n = 2/2$)	"Unrealistic expectations with caseload" "Every single patient is complex" "Unrealistic KPIs setting me up for failure" "Unrecognised travel distances to service clients" "There are limited opportunities for support in rural and remote locations" "High demand for non-clinical workload" "Not having a good work/life balance"
	Poor organisational culture and management practices ($n = 42/27$)	Poor professional and clinical support ($n = 14/4$) Professional role and capacity not valued ($n = 12/8$) Organisational issues ($n = 7/7$) Management incapacity ($n = 5/4$) Workforce shortages ($n = 4/4$)	"It's hard to find support for clinical challenges or difficult cases" "I'm not respected by my manager or the insurance company" "NDIS inconsistency in decision making" "Historically poorly managed [rehabilitation] department" "Chronically understaffed"
	Limited rewarding workforce opportunities ($n = 9/5$)	Employment constraints ($n = 9/5$)	"I feel like I have wasted my time doing a degree to end up in rehab. It's a dead-end job" "[There are] no other jobs, and I am banned from working for competitors, so I feel stuck against a wall"
What do you think would improve or maintain your compassion satisfaction levels?	Enhanced staff support and workload management ($n = 23/20$)	Increased staff and team support ($n = 10/9$) Manageable workloads ($n = 8/7$) Input to caseload ($n = 3/2$) Increased staffing ($n = 2/2$)	"Time to de-brief or review cases with other team members and work together to problem solve challenging situations" "More predictability around workload/ able to plan work better" "Ability to decide what cases I take on" "More staff"
	Recognition and respect as valued professionals ($n = 21/17$)	Increased understanding and respect ($n = 9/8$) Valued for professional skills ($n = 7/5$) Expanded options for professional skills ($n = 5/4$)	"Recognition of outcomes achieved" "To do the job I was trained to do without being micromanaged and scrutinised by those who have no training in my field of expertise" "I've lost credibility as a healthcare worker by doing rehab"
	Enhanced organisational governance ($n = 10/8$)	Scheme clarity, simplicity and consistency ($n = 7/6$) Reduced billing expectations ($n = 1/1$) Better remuneration ($n = 1/1$)	"Entire profession needs an overhaul" "Less billing" "Increased pay"
Do you have any other information you would like to add to help us understand your experiences?	Challenges of service delivery in rural/remote locations ($n = 27/19$)	Client engagement ($n = 11/8$) Service delivery ($n = 7/5$) Work conditions ($n = 6/4$) Strategies to unwind ($n = 3/2$)	"We don't get the opportunity/exposure to develop expert clinical skills across all domains, yet we are expected to provide that level of care" "NGO and support agencies in rural and remote locations are not as comprehensive and responsive when compared to capital cities" "Less work options, reduced treatment options, reduced training opportunities, reduced access to technology etc. The travel required is often excessive and support is limited when your team works in the city" "Social life, exercising and hobbies help"

[a]n = number of individual quotes/number of participants who provided quotes included in themes and subthemes.

satisfaction [38]. Participants also reported higher burnout levels attributed to pressures from rural and remote work, including isolation, working autonomously in the community, and the expectation of normalising work-related stressors as a part of the job.

Participants may also be experiencing emotional burden and strain from managing clients who are facing significant stress associated with geographic service-related disadvantage. American rural and remote healthcare workers also report high levels of stress attributed to the disadvantage facing their patients, particularly with regard to lack of healthcare resourcing and socioeconomic problems [39].

The reference groups comprised mainly of nurses from urban-based clinical settings, and the differences in the ProQOL5 scores likely stem from the rural and remote work locations and the complexities of rehabilitation healthcare. Rehabilitation service provision tends to operate under a complex insurance and compensation-based framework focused on quick client outcomes with limited financial expenditure [40]. Working within this complex framework, Australian rehabilitation healthcare workers face a significant risk of work-related stress. They face challenges in balancing their ethos of person-centred care with the pressures to deliver outcomes in a primarily privatised industry heavily influenced by economic considerations [40], particularly among rehabilitation professionals involved in vocational rehabilitation [19].

Participants reported lower compassion satisfaction than the reference groups, possibly reflecting the unique pressures of rehabilitation work. Internationally, rehabilitation healthcare providers face additional stressors when servicing rural and remote areas as compared to urban locations. It is suggested that the rehabilitation healthcare frameworks are unsuitable in rural and remote areas due to the social, cultural, health, and economic disadvantage and inequalities facing rural and remote communities [41].

Years of experience positively correlated with compassion satisfaction, in line with Australian and international findings [17, 24, 25]. Compassion satisfaction may increase with years of experience as individuals early in their careers are more likely to experience burnout, and this may be attributed to resilience developed with ongoing professional experience [25].

A satisfactory work-life balance, positive workplace culture, and a part-time work arrangement correlated with higher compassion satisfaction, possibly due to organisational support, echoing findings on Australian mental health professionals [25]. Conversely, poor work-life balance and negative workplace culture were associated with increased burnout, consistent with Australian and international findings [35]. Being in a legally recognised domestic partnership was also associated with lower burnout. Others have suggested that supportive spousal relationships may help mitigate work-related burnout, possibly due to the emotional support received, which can help negate negative feelings associated with the workplace [42].

Feeling safe at work, encompassing psychological and physical safety [43], was positively correlated with compassion satisfaction. Australian legislation requires that employers provide a psychologically safe workplace. Safe work culture is fostered through professional training and development, a top-down approach to safety, and employers taking employee concerns seriously [44]. Unsurprisingly, satisfaction with professional development and being supported to deliver positive client outcomes correlated positively with compassion satisfaction and negatively with burnout. Appropriate professional development enhances the psychological resilience of healthcare workers and decreases burnout and work-related stress, while a positive workplace and organisational culture support workers to deliver positive client outcomes [45]. The finding of a significant positive correlation between training for complex cases and compassion satisfaction was similar to that regarding satisfaction with professional development opportunities, which may indicate that participants considered training for complex cases to be a form of professional development.

Elements of workplace and organisational culture dominated the relationships reported by our participants in the survey and open responses, and reportedly impacted the professional quality of life in this group of rehabilitation healthcare workers [20]. As noted in existing literature, a positive correlation was found between the number of cases managed and burnout [46]. Participants identified caseloads as a significant stressor, driven by billable hours and key performance indicators (KPIs) set by employers and insurers. Although these KPIs are consistent across contexts, they may be less attainable in rural areas due to the unique challenges of rural practice identified by our participants.

Interestingly, we found no significant relationships between secondary traumatic stress and any of the study variables. We expected an inverse relationship with compassion satisfaction, given its reported role in reducing the effects of burnout and secondary traumatic stress [47]. Instead, compassion satisfaction may have initially protected against stress exposure, lowering negative mood and mitigating secondary traumatic stress later [27].

The average levels of secondary traumatic stress in participants suggested a workforce that is neither markedly resilient nor severely struggling [25]. As our participants regularly work with vulnerable populations experiencing severe psychological or physical trauma, we anticipated correlations with caseload volume, case complexity and lack of workplace support, but this was not the case. Given that our results suggest that variables such as years working remotely, caseload volume, case complexity and satisfaction with professional development may have reached significance with a modest increase in participant numbers, further research with larger cohorts is needed to understand better the risks of secondary traumatic stress in this workforce.

4.1 | Limitations and Future Research

This study used a self-report survey, which may have led participants to overstate their negative experiences, as participants often report higher negative feelings, thoughts and emotions [48]. Consequently, findings may overrepresent burnout and secondary traumatic stress, as those with less negative experiences

and higher compassion satisfaction may not have completed the survey.

The response rate was lower than expected, potentially due to post-COVID-19 survey fatigue among healthcare workers [49], which may have introduced sample bias from participant non-response and impacted the reliability of findings. Survey fatigue could exacerbate the problem described above, as the dissatisfied may be more motivated to vent. We categorised age and years in professional specialty to protect anonymity, so the lower level of data collected by taking this precaution may have attenuated correlations with the variables of interest. The high percentage of female respondents reflects their prevalence in rehabilitation healthcare. It limits gender analysis with compassion satisfaction, burnout and secondary traumatic stress.

Psychometric studies of 1615 Australian hospital nurses by Heritage et al. [33], and 533 urban and rural Romanian social workers by Lazar et al. [50] both suggest the compassion satisfaction scale is psychometrically valid, though Heritage et al. suggest rescaling it to a 10–36 scale whereas Lazar et al. retain the original 10–50 scale. Both studies suggest the burnout and secondary traumatic stress scales are not independent and should be combined into one, which both label "Compassion Fatigue". Heritage et al. add 11 items to this scale; Lazar et al. add 10. Heritage et al. scale it from 11 to 46; Lazar et al. from 10 to 50. More importantly, only eight of the items are common between the two scales. It is apparent there is not yet consensus on revisions of the original ProQOL. These revised scalings were not used in this study because available reference data refer to the original ProQOL5 scales, and the revised compassion fatigue scales are discrepant. A recent publication provided syntax to convert ProQOL5 data to ProQOL21, but the scale itself has not been made available to the public [33]. Although it is possible to identify the relevant items from the ProQOL-20 or ProQOL-21 and typeset a custom version, doing so would require rescaling. This rescaling would result in scores that are not conceptually comparable to the reference data, and the altered response range [10, 11, 13–46] would also prevent direct numerical comparison. Further research in the construct validity of the ProQOL5 for rural and remote rehabilitation healthcare workers is warranted.

With no existing research on Australian rehabilitation healthcare workers using the ProQOL5, there were challenges validating results against the general population, across urban and rural and remote contexts. It may be possible that general dissatisfaction with the workplace issues identified by participants is common to people working within the rehabilitation system in metropolitan as well as rural locations. An American study of urban rehabilitation healthcare workers has reported a similar finding to our participants that corporate culture was a source of moral distress, indicating that this appears to be a consequence of working in the rehabilitation healthcare setting [36].

Future research that uses the ProQOL5 with rehabilitation healthcare workers should validate the measure for this workforce. Further, research that includes larger cohorts, and ideally rural, remote and urban practising rehabilitation healthcare workers, would assist with determining how factors such as rurality impact compassion satisfaction, burnout and secondary traumatic stress outcomes.

Research is also needed to determine how organisational culture influences unsafe work practices, burnout and secondary traumatic stress. Understanding how elements of organisational culture, such as work-life balance and workplace culture, shape compassion satisfaction and fatigue outcomes may assist employers in understanding ways to enhance employee well-being and mitigate the risk of burnout and secondary traumatic stress.

5 | Conclusion

This exploratory study is the first to document compassion satisfaction, burnout and secondary traumatic stress levels in Australian rural and remote rehabilitation healthcare workers. Workers in this growing healthcare cohort are likely experiencing lower levels of compassion satisfaction and higher levels of burnout and secondary traumatic stress than other healthcare specialisations in Australia.

Our findings provide baseline data for future research with rehabilitation healthcare workers in rural and remote locations. Findings may assist employers in supporting their workforce by undertaking safe work practices. Without change, workers will remain at risk of developing burnout and secondary traumatic stress, a concern for those managing psychological risk in the workplace and subsequent liability. Further, a lack of action may mean ongoing difficulties in recruiting and retaining staff willing to work in rural and remote locations.

Author Contributions

Kelly McGrath: conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, validation, visualization, writing – original draft, writing – review and editing. **Lynda R. Matthews:** data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, writing – review and editing. **Rob Heard:** conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, writing – review and editing. **Nicola Hancock:** conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, software, validation, visualization, writing – original draft, writing – review and editing.

Ethics Statement

Ethics approval was obtained from the University of Sydney Human Research Ethics Committee (Project No: 2022/597).

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research, supporting data are not available.

References

1. T. L. Sacco and L. C. Copel, "Compassion Satisfaction: A Concept Analysis in Nursing," *Nursing Forum* 53, no. 1 (2018): 76–83.

2. B. H. Stamm, "Professional Quality of Life Measure," (2009), https://proqol.org/ProQol_Test.html.

3. L. Lisle, K. Speroni, W. Aroom, L. Crouch, and H. Honigsberg, "Differences in Compassion Satisfaction, Compassion Fatigue, and Work Environment Factors by Hospital Registered Nurse Type," *Online Journal of Issues in Nursing* 25, no. 3 (2020).

4. T. Gustafsson and J. Hemberg, "Compassion Fatigue as Bruises in the Soul: A Qualitative Study on Nurses," *Nursing Ethics* 29, no. 1 (2022): 157–170.

5. L. A. Slatten, K. D. Carson, and P. P. Carson, "Compassion Fatigue and Burnout: What Managers Should Know," *Health Care Management* 39, no. 4 (2020): 181–189.

6. L. Kelly, "Burnout, Compassion Fatigue, and Secondary Trauma in Nurses: Recognizing the Occupational Phenomenon and Personal Consequences of Caregiving," *Critical Care Nursing Quarterly* 43, no. 1 (2020): 73–80.

7. Australian Government Geoscience Australia, "Area of Australia – States and Territories 2014," (2025), accessed August 2, 2025, https://www.ga.gov.au/scientific-topics/national-location-information/dimensions/area-of-australia-states-and-territories.

8. Australian Bureau of Statistics, "National, State and Territory Population 2025," (2025), accessed August 2, 2025, https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/dec-2024.

9. Australian Government Australian Institute of Health and Welfare, "Health System Overview 2024," (2025), accessed August 2, 2025, https://www.aihw.gov.au/reports/australias-health/health-system-overview.

10. World Health Organisation, "Rehabilitation," (2023), https://www.who.int/news-room/fact-sheets/detail/rehabilitation.

11. M. Sivan and S. Negrini, "An Expanded Workforce Is Needed to Strengthen Rehabilitation in Health Systems," *BMJ* 384 (2024): q60.

12. Australian Government Australian Institute of Health and Welfare, "Rural and Remote Health 2024," (2025), accessed February 9, 2025, https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health.

13. National Rural Health Alliance, "Post-Pandemic Rehabilitation Needs in Regional, Rural and Remote Australia 2021," (2024), accessed July 13 2024, https://www.ruralhealth.org.au/partyline/article/post-pandemic-rehabilitation-needs-regional-rural-and-remote-australia.

14. S. Jahner, K. Penz, N. J. Stewart, and M. L. P. MacLeod, "Exploring the Distressing Events and Perceptions of Support Experienced by Rural and Remote Nurses: A Thematic Analysis of National Survey Data," *Workplace Health & Safety* 68, no. 10 (2020): 480–490.

15. Australian Institute of Health and Welfare, "Rural and Remote Health 2020," cited Nov 10, 2023, https://www.aihw.gov.au/reports/australias-health/rural-and-remote-health.

16. R. Hussain, M. Maple, S. V. Hunter, V. Mapedzahama, and P. Reddy, "The Fly-In Fly-Out and Drive-In Drive-Out Model of Health Care Service Provision for Rural and Remote Australia: Benefits and Disadvantages," *Rural and Remote Health* 15, no. 3 (2015): 3068.

17. K. McGrath, L. R. Matthews, and R. Heard, "Predictors of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review," *Australian Journal of Rural Health* 30, no. 2 (2022): 264–280.

18. N. Cavanagh, G. Cockett, C. Heinrich, et al., "Compassion Fatigue in Healthcare Providers: A Systematic Review and Meta-Analysis," *Nursing Ethics* 27, no. 3 (2020): 639–665.

19. A. Tabaj, S. Pastirk, Č. Bitenc, and R. Masten, "Work-Related Stress, Burnout, Compassion, and Work Satisfaction of Professional Workers in Vocational Rehabilitation," *Rehabilitation Counseling Bulletin* 58, no. 2 (2015): 113–123.

20. K. McGrath, L. R. Matthews, R. Heard, and N. Hancock, "Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia," *Health & Social Care in the Community* 2024 (2024): 2823441.

21. S. Geoffrion, J. Lamothe, J. Morizot, and C. É. Giguère, "Construct Validity of the Professional Quality of Life (ProQoL) Scale in a Sample of Child Protection Workers," *Journal of Traumatic Stress* 32, no. 4 (2019): 566–576.

22. T. Dowling, "Compassion does not fatigue!," *Canadian Veterinary Journal* 59, no. 7 (2018): 749–750.

23. A. Hofmeyer, K. Kennedy, and R. Taylor, "Contesting the Term 'Compassion Fatigue': Integrating Findings From Social Neuroscience and Self-Care Research," *Collegian* 27, no. 2 (2020): 232–237.

24. D. G. Hegney, M. Craigie, D. Hemsworth, et al., "Compassion Satisfaction, Compassion Fatigue, Anxiety, Depression and Stress in Registered Nurses in Australia: Study 1 Results," *Journal of Nursing Management* 22, no. 4 (2014): 506–518.

25. S. Jakimowicz, L. Perry, and J. Lewis, "Compassion Satisfaction and Fatigue: A Cross-Sectional Survey of Australian Intensive Care Nurses," *Australian Critical Care* 31, no. 6 (2018): 396–405.

26. E. L. O'Callaghan, L. Lam, R. Cant, and C. Moss, "Compassion Satisfaction and Compassion Fatigue in Australian Emergency Nurses: A Descriptive Cross-Sectional Study," *International Emergency Nursing* 48 (2020): 100785.

27. C. Samios, "Burnout and Psychological Adjustment in Mental Health Workers in Rural Australia: The Roles of Mindfulness and Compassion Satisfaction," *Mindfulness* 9, no. 4 (2018): 1088–1099.

28. K. Somoray, J. Shakespeare-finch, and D. Armstrong, "The Impact of Personality and Workplace Belongingness on Mental Health Workers' Professional Quality of Life," *Australian Psychologist* 52, no. 1 (2017): 52–60.

29. A. Knottnerus and P. Tugwell, "STROBE—A Checklist to STrengthen the Reporting of OBservational Studies in Epidemiology," *Journal of Clinical Epidemiology* 61, no. 4 (2008): 323.

30. P. A. Harris, R. Taylor, B. L. Minor, et al., "The REDCap Consortium: Building an International Community of Software Platform Partners," *Journal of Biomedical Informatics* 95 (2019): 103208.

31. P. A. Harris, R. Taylor, R. Thielke, J. Payne, N. Gonzalez, and J. G. Conde, "Research Electronic Data Capture (REDCap)—A Metadata-Driven Methodology and Workflow Process for Providing Translational Research Informatics Support," *Journal of Biomedical Informatics* 42, no. 2 (2009): 377–381.

32. B. H. Stamm, *The Concise ProQOL Manual*, 2nd ed. (ProQOL.org, 2010), https://proqol.org/proqol-manual.

33. B. Heritage, C. S. Rees, and D. G. Hegney, "The ProQOL-21: A Revised Version of the Professional Quality of Life (Proqol) Scale Based on Rasch Analysis," *PLoS One* 13, no. 2 (2018): e0193478.

34. U. H. Graneheim and B. Lundman, "Qualitative Content Analysis in Nursing Research: Concepts, Procedures and Measures to Achieve Trustworthiness," *Nurse Education Today* 24, no. 2 (2004): 105–112.

35. T. Landon, A. Connor, M. McKnight-Lizotte, and J. Pena, "Rehabilitation Counseling in Rural Settings: A Phenomenological Study on Barriers and Supports," *Journal of Rehabilitation* 85 (2019): 47.

36. A. Maganty, M. E. Byrnes, M. Hamm, et al., "Barriers to Rural Health Care From the Provider Perspective," *Rural and Remote Health* 23, no. 2 (2023): 1–11.

37. J. Lu, R. J. Maiden, C.-L. Lo, and N. N. Driver, "Examining Burnout and Its Correlates Among Rehabilitation Counselors: Implications for Research and Practice," *Rehabilitation Counseling Bulletin* 68 (2023): 3435522311765.

38. L. N. Kawar, P. Radovich, R. M. Valdez, S. Zuniga, and J. Rondinelli, "Compassion Fatigue and Compassion Satisfaction Among Multisite Multisystem Nurses," *Nursing Administration Quarterly* 43, no. 4 (2019): 358–369.

39. A. S. Hayashi, E. Selia, and K. McDonnell, "Stress and Provider Retention in Underserved Communities," *Journal of Health Care for the Poor and Underserved* 20, no. 3 (2009): 597–604.

40. E. Kendall and J. Clapton, "Time for a Shift in Australian Rehabilitation?," *Disability and Rehabilitation* 28, no. 17 (2006): 1097–1101.

41. D. C. Lustig, D. R. Strauser, and G. H. Weems, "Rehabilitation Service Patterns: A Rural/Urban Comparison of Success Factors," *Journal of Rehabilitation* 70, no. 3 (2004): 13–19.

42. J. Wang, C. T. C. Okoli, H. He, et al., "Factors Associated With Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Chinese Nurses in Tertiary Hospitals: A Cross-Sectional Study," *International Journal of Nursing Studies* 102 (2020): 103472.

43. R. Green and B. Lonne, "'Great Lifestyle, Pity About the Job Stress': Occupational Stress in Rural Human Service Practice," *Rural Society* 15, no. 3 (2005): 253–267.

44. J. Edwards, J. Davey, and K. Armstrong, "Cultural Factors: Understanding Culture to Design Organisational Structures and Systems to Optimise Safety," *Procedia Manufacturing* 3 (2015): 4991–4998.

45. R. King, B. Taylor, A. Talpur, et al., "Factors That Optimise the Impact of Continuing Professional Development in Nursing: A Rapid Evidence Review," *Nurse Education Today* 98 (2021): 104652.

46. D. O'Sullivan and J. K. Bates, "The Relationship Among Personal and Work Experiences: Implications for Rehabilitation Counselor Well-Being and Service Provision," *Rehabilitation Research, Policy, and Education* 28, no. 1 (2014): 45–60.

47. A. Rayani, J. Hannan, S. Alreshidi, A. Aboshaiqah, A. Alodhailah, and E. Hakamy, "Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Saudi Nurses at Medical City: A Cross-Sectional Study," *Healthcare (Basel)* 12, no. 8 (2024): 847.

48. F. Anvari, E. Efendić, J. Olsen, R. C. Arslan, M. Elson, and I. K. Schneider, "Bias in Self-Reports: An Initial Elevation Phenomenon," *Social Psychological and Personality Science* 14, no. 6 (2023): 727–737.

49. R. De Koning, A. Egiz, J. Kotecha, et al., "Survey Fatigue During the COVID-19 Pandemic: An Analysis of Neurosurgery Survey Response Rates," *Frontiers in Surgery* 8 (2021): 690680.

50. F. Lazăr, D. Gaba, S. Munch, et al., "The ProQol-20, a Restructured Version of the Professional Quality of Life Scale (ProQOL)," *Current Psychology* 42, no. 17 (2023): 14724–14735.

Chapter 5: Discussion and Conclusions

This chapter presents and discusses key findings, drawn from insights and learnings gained across the three studies. Implications for practice and recommendations for future research are addressed for each key finding. Next, an evidence-based conceptual framework that can serve as a baseline for advancing future research is presented. An examination of the strengths and limitations of the thesis follows, and finally, the conclusions are presented.

Key Findings, Implications for Practice, and Future Research

This section discusses the key findings and examines their implications for rehabilitation services delivered through Australian insurance-based schemes, alongside considerations for future research. These key findings are relevant to rehabilitation healthcare workers, their employers, and insurance providers operating across workers' compensation, life insurance, DVA, CTP, and the NDIS. Five findings emerged from the combined results of the studies undertaken in this thesis:

1. Australian rural and remote rehabilitation healthcare workers experience compassion satisfaction and compassion fatigue in the conduct of their work. They report lower compassion satisfaction and higher burnout and secondary traumatic stress than most other Australian healthcare professionals who provided data using the ProQOL5 scale.
2. Work-related factors identified as contributing to compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3) show similarities with newly legislated WHS psychosocial hazards.
3. Rehabilitation job design and KPI demands influence compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3).

4. The ProQOL5 scale may not fully reflect the range and interplay of work-related factors influencing compassion satisfaction, burnout, and secondary traumatic stress within this sector of the workforce.
5. Limited WHS action by employers may increase compassion fatigue (Study 2) and burnout (Study 3) in Australian rural and remote rehabilitation healthcare workers.

These key findings are now discussed in order.

Key Finding 1: Australian rural and remote rehabilitation healthcare workers experience compassion satisfaction, burnout and compassion fatigue in the conduct of their work. They report lower compassion satisfaction and higher burnout and secondary traumatic stress than most other Australian healthcare professionals who provided data using the ProQOL5 scale.

Findings from Study 3 provided initial evidence that Australian rural and remote rehabilitation healthcare workers experience compassion satisfaction, burnout, and secondary traumatic stress in relation to their work. This finding provides new insight into the psychosocial consequences for rehabilitation healthcare workers in rural and remote Australia, an area where no prior research has specifically addressed these impacts. It builds on the broader, emerging literature on psychosocial consequences in rural and remote Australian healthcare workers (Tham et al., 2022) by contributing evidence from the rehabilitation context.

When compared to most of the Australian reference groups, participants in Study 3 reported significantly lower levels of compassion satisfaction and significantly higher levels of burnout and secondary traumatic stress. Although no data were collected from the studies to identify specific variables that may explain these differences, what is known is

that, unlike Study 3, most reference group studies were conducted in urban areas and all collected data prior to the COVID-19 pandemic.

As has been previously reported, Australian workers in rural and remote areas face a range of stressors unique to living outside urban areas, including limited access to support services and training, excessive travel across large geographic regions, reduced access to technology, and managing a broader range of client conditions due to the limited availability of specialist services (Hussain et al., 2015; O'Toole et al., 2010). They are also known to experience a significantly higher prevalence of mental health conditions than their urban counterparts, including a high prevalence of COVID-19 mental health issues (Bailey et al., 2023), specifically moderate to severe PTSD, high depersonalisation, and high emotional exhaustion (Tham et al., 2022).

These two factors, working in Australian rural and remote areas and a higher prevalence of mental health conditions in the Australian rural and remote health workforce, may help explain the differences in levels of compassion satisfaction, burnout, and secondary traumatic stress between Study 3 and the reference group participants. For example, participants from Study 2 identified several rural factors that they considered contributed to their experiences of compassion satisfaction and compassion fatigue. Professional isolation was a recurring theme for increasing compassion fatigue, leaving participants feeling unsupported and disconnected from urban colleagues. Bailey et al. (2023) also reported that a lack of workplace support in American rural healthcare workers was linked to compassion fatigue.

Participants' sense of isolation was compounded by blurred boundaries between work and personal life in small communities, where colleagues and clients often overlap with social networks, making it difficult to disengage from work. They reported excessive

travel requirements further strained work-life balance and contributed to exhaustion, increasing compassion fatigue. Managing a high proportion of complex cases added another layer of stress, which was linked with increased compassion fatigue, particularly when participants felt that employers did not adequately consider case complexity when allocating new referrals, leading to feelings of being overwhelmed and unsupported.

Participants' responses to open-ended questions in Study 3 indicated that they perceived working in rehabilitation healthcare in rural and remote areas as unrewarding and offering limited opportunities for career progression. When they wanted to change employers, they often faced few alternative employment options due to the limited labor market in rural and remote areas. These challenges may be exacerbated by the small size of the rehabilitation sector in rural areas and practices such as non-compete agreements, which are often intended to prevent professionals from taking clients or business information to competing organisations (Ross, 2024).

Unlike many other healthcare fields, rehabilitation is mostly privatised, with few publicly funded services (McAulay et al., 2023), leading to a highly concentrated labor market and limited mobility in rural and remote areas. These mobility conditions can leave rehabilitation healthcare workers in rural and remote areas feeling stuck in roles they find unfulfilling, with little opportunity for advancement or change. For rehabilitation healthcare workers, limited opportunities for promotion, career advancement, and professional recognition have been linked to intentions to remain in or leave roles (Landon et al., 2024). Being locked in a job and subsequently experiencing a career plateau are known to lead to experiences of stress, burnout, emotional exhaustion, and depression (Hu et al., 2022; Stengård et al., 2016).

Healthcare workers in rural and remote areas generally experience higher levels of mental health conditions than their urban counterparts (Tham et al., 2022). It is therefore plausible that the additional stresses associated with rural and remote practice, as identified by participants' open responses in Studies 2 and 3, may have contributed to lower compassion satisfaction and higher levels of burnout and secondary traumatic stress compared with urban peers in other healthcare sectors.

Implications for practice

Employers and other key stakeholders involved in insurance-based models of rehabilitation need to be aware that findings from this research suggest that rural and remote rehabilitation healthcare workers may experience burnout and secondary traumatic stress that is not offset by high levels of compassion satisfaction. In this situation, workers' levels of burnout and secondary traumatic stress may negatively impact work engagement and performance, often impacting client care, workplace relationships, and personal life (Sorenson et al., 2016).

The findings of this thesis highlight areas that may inform future intervention research aimed at supporting compassion satisfaction and mitigating burnout and secondary traumatic stress; however, given the small sample sizes and descriptive nature of the data, further research is required before targeted interventions can be developed or implemented for this workforce. At this stage, the findings are best understood as identifying potential areas of concern and priority rather than providing a basis for specific intervention design.

Recommendations for future research

1. Analyses of survey data in this thesis provided valuable baseline data for an under-researched healthcare worker cohort. Establishing descriptive patterns

and preliminary associations was a necessary first step in understanding this population and informing the design of future studies to examine multivariable relationships. Future research needs to repeat efforts to document levels of compassion satisfaction, burnout, and secondary traumatic stress using larger numbers of rural and remote rehabilitation healthcare workers in surveys designed to accurately assess compassion satisfaction, burnout, and secondary traumatic stress. Larger samples would enable more sophisticated statistical analyses, allowing stronger assertions about the findings.

2. Multiple recruitment strategies were used for Studies 2 and 3, including dissemination through employers and professional associations, conference promotion, and social media, yet the sample size was modest. Future research seeking larger samples is likely to require more active engagement with employers, insurers, and industry stakeholders. Future recruitment may be further enhanced by explicitly communicating how study design and measurement are tailored to the rural and remote rehabilitation workforce, rather than relying on generic workforce wellbeing tools. Framing the research as context-specific and informed by existing rural and qualitative evidence may improve practitioner and employer engagement and reduce perceptions of the study as a standardised, metropolitan-centric survey. Together, these approaches may support voluntary participation by addressing time barriers within KPI-driven environments and enabling broader engagement across geographically dispersed rural and remote practitioners.
3. Since the commencement of this study, shorter versions of the ProQOL5 scale with improved psychometric properties have been developed, and evidence

indicates that shorter surveys are associated with higher participation rates (Booker et al., 2021). Future research should therefore consider using a validated short form ProQOL scale, supplemented with a targeted set of items informed by the findings of this study, to support larger sample sizes and enable multivariable regression analyses. In addition, research should co-design context-specific strategies with the workforce to enhance compassion satisfaction and prevent burnout and secondary traumatic stress, followed by studies that evaluate the implementation and sustainability of these strategies across rural and remote settings. This information may help employers develop targeted support that addresses the unique challenges of rural and remote practice. The goal should be to increase compassion satisfaction by improving the support available to rehabilitation healthcare workers, so they feel valued, supported, and able to maintain a healthy work-life balance.

Key Finding 2: Several work-related factors identified as contributing to compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3) show similarities with newly legislated psychosocial hazards.

Several work-related factors identified by participants, such as level of support provided by management, positive workplace organisational culture, and having a healthy work-life balance, were prominent in Study 2 and significantly associated with compassion satisfaction and burnout in Study 3. For employers, these findings draw attention to specific workplace factors that are directly relevant to managing psychosocial risk and supporting workforce wellbeing. Adverse aspects of these work-related factors are commonly associated with poor WHS culture, contributing to environments where staff wellbeing is compromised, leading to high attrition and recruitment difficulties that further strain an

already under-resourced workforce (Ystaas et al., 2023). These factors align closely with the work-related psychosocial hazards now recognised in Australian WHS legislation, suggesting that staff are exposed to psychologically hazardous and unsafe working conditions (Comcare, 2024; Safe Work Australia, 2024).

To better appreciate the alignment of the psychosocial hazards on findings in Studies 2 and 3, results are synthesised with the Safe Work Australia (2024) psychosocial hazards and presented in Table 9. To date, no literature has synthesised psychosocial hazards among rural and remote rehabilitation healthcare workers, and, in this regard, the findings are new to the literature. Participants in Studies 2 and 3 reported experiencing 82.35% (n=14) of the psychosocial hazards now recognised in legislation, highlighting the prevalence of these risks in rural and remote rehabilitation settings. Exposure to these hazards was associated with compassion fatigue (Study 2) and burnout (Study 3), suggesting that higher compassion fatigue and burnout may serve as indicators of workplace exposure to psychosocial hazards. Retrospective analysis of these findings highlights areas where WHS interventions may be required to address psychosocial risks, minimise psychological harm, and support a healthy, sustainable workforce.

Implications for practice

Ongoing exposure to psychosocial hazards places this population at continued risk of psychological harm and may lead to staff attraction and retention challenges if workplaces are unsafe. In 2024, Australian WHS law introduced an updated Code of Practice addressing psychosocial risks and hazards (Comcare, 2024). All employers are now legally obligated under Australian WHS legislation to provide a safe work environment that effectively manages psychosocial hazards (Safe Work Australia, 2024). Failure to manage psychosocial hazards exposes employers to liability for costly workers' compensation claims, reputational

damage, and potential penalties for legislative non-compliance (Quinlan, 2023; Safe Work Australia, 2025). Because employers are responsible under WHS law for identifying and managing these hazards, staff experiencing compassion fatigue may signal an increased risk of compensable psychological injuries, such as depression, anxiety, post-traumatic stress disorder, and sleep disorders (Safe Work Australia, 2024).

Responses from the qualitative analysis (Study 2) and correlations in Study 3 suggest several strategies to reduce psychosocial hazards and associated risks among rural and remote rehabilitation healthcare workers, including adjusting performance expectations to account for excessive travel time, professional isolation, and limited referral services, and prioritising work redesign. Recent public campaigns (Comcare, 2024; NSW Government, 2025) highlight employers' legal obligations to prevent psychosocial harm, underscoring the need for reforms in work design, while non-significant correlations (e.g., case complexity) may indicate lower-priority issues. Targeted strategies should also focus on building a strong WHS culture that makes staff reporting psychosocial hazards the norm and dismantles the current culture of normalising risk (Quinlan, 2023). This shift must also remove stigma around psychosocial and psychological hazards, risks, and injuries, so staff feel safe and supported to speak up (Bachmann et al., 2026). Managers and staff need to understand their legislative obligations to identify, report, and manage these hazards, supported by training, clear processes, and regular risk assessments. Embedding this culture will help strengthen workforce wellbeing, reduce burnout, and improve retention in rural and remote rehabilitation settings.

To date, there is no published intervention research that examines strategies to reduce compassion fatigue in rural and remote rehabilitation healthcare workers. Evidence from related healthcare and rural workforce contexts suggests that organisational factors,

including psychosocial hazards, work design, supervision, and workplace culture, may influence worker wellbeing (Garnett et al., 2023). However, there is still limited interventional research focused on supporting wellbeing and preventing burnout among rural and remote healthcare workers. While individual strategies, such as mindfulness, have shown promising results, further research is needed not only to replicate these findings but also to develop approaches that respond to the distinct workload and systemic challenges characteristic of rural and remote practice (McKennon et al., 2025).

Recommendations for future research

1. Research in other healthcare and rural workforce contexts suggests that organisational approaches such as access to effective professional supervision, peer support aimed at reducing professional isolation, opportunities for structured debriefing, and workplace mental health training may be relevant to outcomes related to compassion satisfaction and mitigating burnout and secondary traumatic stress issues (Bailey et al., 2023). Future research could examine whether such approaches are appropriate, acceptable, and effective for rural and remote rehabilitation healthcare workers, and how they may need to be adapted to reflect the specific contextual and system-level challenges identified in this study. In addition, further work is needed to understand whether employers are aware of and understand psychosocial hazards within their workplaces, or whether these risks are unrecognised or misunderstood. This could be explored through mixed-methods research, including employer surveys, interviews, or organisational audits, alongside analysis of workplace policies and practices related to psychosocial risk management. Findings would help distinguish between gaps in awareness and gaps in action, and inform strategies to improve workforce safety through education,

training, and operational change. Triangulation with Australian state and federal workers' compensation data, together with findings from this thesis, would also support a more comprehensive understanding of psychosocial risk across the rural and remote rehabilitation workforce.

2. A longitudinal study examining psychosocial hazards, burnout, and secondary traumatic stress would assist policy makers, insurers, and employers in understanding the long-term impacts of psychosocial hazards on their rural and remote rehabilitation workforce. By following workers over time, such a study would allow examination of how psychosocial hazards evolve, including whether increasing or sustained exposure to hazards is associated with changes in burnout and secondary traumatic stress. This approach may help identify patterns of change over time, as well as potential risk and protective factors, providing a stronger evidence base to inform future policy decisions and intervention-focused research.

Table 9. *Identification of significant relationships between work-related psychosocial hazards and compassion fatigue (Study 2) and burnout (Study 3) from the visual conceptual representation (Figure 5).*

Psychosocial hazards	**Study 1.** Scoping review	**Study 2:** Semi-structured interviews	Participant responses (n,%*)	**Study 3:** National survey	Participant responses (n,%)
Job demands	✓	✓	n=57, 29.53%	✓	n=53, 32.92%
Job insecurity	✗	✗		✗	
Low job control	✗	✓	n=47, 22.79%	✓	n=39, 24.22%
Fatigue	✗	✓	n=3, 1.55%	✓	n=2, 1.24%
Poor support	✗	✓	n=21, 10.88%	✓	n=23, 14.29%
Lack of role clarity	✗	✗		✓	n=6, 3.73%
Poor organisational change management	✗	✗		✗	
Inadequate reward and recognition	✗	✗		✓	n=14, 8.70%
Poor organisational justice	✗	✗		✓	n=4, 2.48%
Traumatic events or materials	✗	✓	n=3, 1.55%	✗	
Remote or isolated work	✓	✓	n=23, 11.91%	✓	n=8, 4.97%
Intrusive surveillance (micromanagement)	✗	✗		✓	n=6, 3.73%
Poor physical environment	✗	✓	n=13,6.73%	✗	
Violence and aggression	✗	✓	n=6, 3.10%	✗	
Bullying	✗	✗		✗	
Harassment including sexual harassment	✗	✓	n=5, 2.59%	✗	
Conflict or poor workplace relationships or interactions	✗	✓	n=15, 7.77%	✓	n=6, 3.73%

Note: This table is a conceptual synthesis and does not represent new data collection, data generation, or analytic procedures. It aligns findings already reported in Studies 2 and 3 with the psychosocial hazards introduced in Chapter 1, based on direct participant references or conceptually consistent descriptions of work-related experiences.

Note: ✓ Indicates a connection between the listed hazard and compassion fatigue (Study 2) and burnout (study 3) ✗ Indicates no apparent relationship between the listed hazard and compassion fatigue (study 2) or burnout (study 3) in the available data. The psychosocial hazards are from the Australian Government Work Health and Safety (Managing Psychosocial Hazards at Work) Code of Practice 2024.

***** n, % = number of individual quotes/percentage of total number of participant responses identifying psychosocial hazards. Total of 193 responses from Study 2 participants (n=16) and a total of 161 responses from Study 3 participants (n=29).

Key Finding 3: Rehabilitation job design and KPI demands influence compassion satisfaction, compassion fatigue (Study 2), and burnout (Study 3).

This finding has relevance for insurers and employers, whose decisions about job design and performance requirements shape the day-to-day realities of rehabilitation practice. Job design for rehabilitation healthcare providers is mainly influenced by insurers, whose profit-driven business models set employer performance standards. These standards then become inherent role requirements, influencing how these jobs are designed. Participants in Studies 2 and 3 reported that the uniformity of job design across the sector created unrealistic job demands, leading to compassion fatigue (Study 2) and burnout (Study 3). Participants in Study 2 also mentioned that this design often conflicted with their professional values, especially due to the economic priorities of their employers and insurers.

In Studies 2 and 3, insurer-driven KPIs emerged as a risk factor for compassion fatigue (Study 2) and burnout (Study 3), with the pressure to meet KPIs negatively influencing participants' compassion fatigue and burnout. Participants suggested that KPIs were unattainable in rural and remote locations, as their cases are generally allocated based on their geographic proximity to clients, regardless of their professional specialisation or capacity.

Findings from Studies 2 and 3 reveal that elements of the job design, including the pressure to attain KPIs, may be leading to exposure to WHS hazards. In Study 2, participants highlighted that a positive and supportive organisational culture acts as a protective factor, enhancing compassion satisfaction and mitigating compassion fatigue. Study 3 reported similar patterns, with positive aspects of organisational culture, including adequate support, professional development, and training opportunities, as enhancing compassion satisfaction,

while poor organisational culture left participants feeling unsupported, undervalued, and overworked, increasing their risk of burnout.

KPIs are known to result in significant stress in rehabilitation healthcare workers (McAulay et al., 2023) due to excessive workloads, a high proportion of complex cases, and bureaucratic processes (McDowell et al., 2022). Rehabilitation healthcare workers also face an increased risk of burnout when management prioritises staff attaining KPIs over fostering a positive and supportive work culture (Lu et al., 2024). However, as no literature exists on the impacts of KPIs on Australian rural and remote rehabilitation healthcare workers health and wellbeing, the information uncovered by this thesis has highlighted that attaining KPIs is a key workplace risk, which may result in unsafe and unethical work practices and adverse impacts, including compassion fatigue and burnout.

Implications for practice

For Australian rural and remote rehabilitation healthcare workers, trying to attain set KPIs can contribute to unsafe work practices, arising from exposure to WHS hazards. Achieving KPIs has proven problematic for this population, likely due to the complexities of rural and remote healthcare. It is essential to evaluate whether the KPI-based model of rehabilitation healthcare is suitable for rural and remote locations.

Recommendations for future research

1. Future research should involve collaboration with the rehabilitation healthcare sector and the insurance industry to assess how current KPIs align with legislative requirements. Investigations may identify how KPIs can be better managed in rural and remote settings, aiming to improve the psychological wellbeing of this population and enhance rehabilitation outcomes for their care recipients.

2. Exploring the experiences of urban-based Australian rehabilitation healthcare workers to assess whether their experiences regarding job design and KPIs align with the findings of studies in this thesis would help identify whether the findings are unique to rural and remote contexts. This information may then inform further exploration of whether a rural and remote-specific model of rehabilitation healthcare would be more appropriate for this population.
3. Consideration could also be given to a collaboration with researchers in countries with similar rehabilitation healthcare schemes with insurer involvement, and rural and remote locations (such as Canada) to explore how rehabilitation job design, performance expectations, and insurer-driven KPIs influence compassion satisfaction, burnout and secondary traumatic stress outcomes. Information obtained from such a study may assist with confirming that insurer involvement, rurality, and the nature of rehabilitation work are significant risks for compassion fatigue in this population.
4. Exploration of the study findings through systems-level and organisational psychology frameworks may assist in examining how structural factors such as job design, performance metrics, including KPIs, resource allocation that enables workers to meet KPIs, and workplace culture that supports and recognises the unique demands of rural and remote work, shape compassion satisfaction, compassion fatigue, burnout, and secondary traumatic stress. This exploration may assist with situating individual experiences within broader organisational and service delivery systems.
5. Future research could also examine how COVID-19–related changes to rehabilitation service delivery, including greater use of telehealth, interact with insurer-driven job

design and KPI demands to influence compassion satisfaction and compassion fatigue among rehabilitation healthcare workers. While telehealth may alter how rehabilitation services are delivered, it remains unclear whether this shift mitigates or exacerbates emotional strain for rehabilitation healthcare workers in rural and remote contexts, where well-documented digital infrastructure limitations continue to act as barriers to service delivery.

Key Finding 4: The ProQOL5 scale may not fully reflect the range and interplay of work-related factors influencing compassion satisfaction, burnout, and secondary traumatic stress within this sector of the workforce.

The ProQOL5 scale provided a useful and appropriate means of establishing baseline levels of compassion satisfaction, burnout, and secondary traumatic stress among rural and remote rehabilitation healthcare workers participating in Study 3, and enabled contextual relevance through comparison with established reference populations. However, in its current form, the scale does not incorporate a number of contemporary work-specific factors identified by participants as shaping their experiences of compassion satisfaction and compassion fatigue in rural and remote practice contexts. As a result, the ProQOL5 scale may not fully reflect the range and interplay of work factors influencing compassion satisfaction, burnout, and secondary traumatic stress within this workforce.

In addition, in recent years, some studies have further explored the psychometric properties of the ProQOL5 scale and found limitations in the content validity of the burnout and secondary traumatic stress subscales (Deriglazov et al., 2025; Singh et al., 2024). Findings suggest that the burnout and secondary traumatic stress subscales are not independent, indicating possible conceptual overlaps (Hotchkiss & Wong, 2024).

The absence of contemporary work-related factors relevant to rural and remote rehabilitation healthcare workers, alongside emerging evidence regarding ProQOL5 subscale overlap, suggests that the ProQOL5 scale may not entirely capture the full range of professional quality of life experiences in this population. Importantly, the findings of this thesis provide baseline data that may inform the development of a complementary work- and context-specific survey instrument focused on rural and remote rehabilitation practice and associated psychosocial hazards.

Implications for practice

While the ProQOL5 scale served its purpose in generating baseline data and supporting contextual relevance through comparison with established populations, the modest sample size limits how well levels of compassion satisfaction, burnout, and secondary traumatic stress can be characterised in this cohort. As such, the findings provide important contextual insight rather than a definitive representation of the psychological impacts of the role.

Recommendation for future research

1. While the ProQOL5 scale was appropriate for establishing baseline data and enabling comparison with existing populations, it is not designed to capture workplace conditions or system-level influences on professional quality of life. The findings of this thesis can inform the development of a complementary survey instrument focused on rural and remote rehabilitation practice, including relevant workplace stressors and psychosocial hazards, drawing on an approach similar to that used by Boni et al. (2022), who developed a context-specific measure of compassion fatigue that incorporated workplace risk factors. Using

the ProQOL5 scale to measure practitioners' individual experiences and perceptions of compassion satisfaction, burnout, and secondary traumatic stress alongside a context-specific assessment of work conditions may allow findings about workers' ProQOL to be interpreted more clearly within the realities of rural and remote rehabilitation healthcare work.

Key Finding 5: Limited WHS action by employers may increase compassion fatigue (Study 2) and Burnout (Study 3) in Australian rural and remote rehabilitation healthcare workers.

Participants in Study 2 and Study 3 expressed that their employers prioritised rehabilitation outcomes (including clinically successful rehabilitation and case closure) over staff safety and described aspects of their roles that would typically be considered hazardous. However, their accounts suggested these elements had become normalised due to poor WHS culture (Wright et al., 2024). When participants notified their employer of WHS risks, they described an overall sentiment of inaction and poor support from management. Participants in Study 2 reported that their workplaces had limited or no rural and remote-specific WHS policies and procedures in place, with one participant stating that their safety management strategy was to "stand up and scream" (McGrath et al., 2024, p. 7). Unfortunately, this is not surprising. The rural and remote healthcare sector in Australia has received numerous recommendations for improving WHS outcomes for staff over the years, including education and training, isolated work protocols, cultural safety, and fatigue management (Wright et al., 2024). However, there has been little evidence of their implementation despite the importance of managing WHS risks, particularly concerning occupational violence and geographic isolation (Wright et al., 2021).

Participants in Study 2 and Study 3 described a culture of underreporting of WHS incidents and risks, possibly due to experiencing management inaction or minimisation of

their concerns (Jahner et al., 2020). This finding is concerning, given that participants in Study 2 reported their exposure to significant WHS risks, including dangerous client conduct such as sexual harassment, stalking, violence, and access to weapons. Normalising and underreporting of WHS risks are also well-documented issues among Australian rural and remote healthcare workers, primarily due to employer inaction and a lack of support (Wright et al., 2021). The key finding may indicate that the culture of underreporting and normalisation of WHS risks may be attributed to the nature of rural and remote healthcare, rather than being a role-specific problem associated with rehabilitation healthcare.

Study 3 participants reported unrealistic caseload expectations, including a high proportion of complex cases, poor organisational support, and the added difficulty of working in rural and remote areas, where limited resources and isolation made meeting insurer-driven outcomes even harder. These same conditions contributed to the experiences reported in Study 2, where participants described managing care recipients who displayed aggressive behaviors, including physical and psychological violence and sexual harassment. When these incidents were raised with managers, little action was taken. If no other rehabilitation workers were available, participants were advised to avoid meeting the care recipient alone and continue working toward insurer-driven outcomes before disengaging. Where other workers were available, the problematic care recipient was simply passed between them, and services were never terminated. This indicates an organisational failure to protect staff, exposing workers to ongoing harm in order to meet contractual obligations, an ethically questionable practice that prioritises compliance over employee safety.

Implications for practice

Employers are at risk of failing in their duty of care to workers by prioritising rehabilitation outcomes and business drivers over staff safety in rural and remote rehabilitation settings. This may contribute to a culture where hazardous work is normalised and WHS incidents and hazards are underreported. Ongoing exposure to risks such as occupational violence, isolation, and fatigue may increase staff vulnerability to compassion fatigue, which can reduce wellbeing, reduce performance, and negatively impact staff retention. Employers must embed WHS legislative compliance, particularly psychosocial safety into core organisational priorities, integrating them into everyday operations, as existing practices contravene new legislative requirements. This research suggests that failures by employers to adequately meet their duty of care and workplace safety obligations may expose them to legal risk, including possible breaches of relevant legislation.

Employers and insurers could use the findings from this research as a starting point to review and redesign WHS practices in rural and remote rehabilitation settings. WHS should be positioned as a strategic priority, linked to organisational performance and leadership accountability to reduce risk and support a safe and sustainable workforce. Leadership accountability is critical in championing WHS cultural change, ensuring compliance, and fostering a positive safety culture. Leaders must actively identify, address, and monitor WHS risks and hazards to support workplace wellbeing and meet WHS obligations.

Recommendations for future research

1. While this thesis has concentrated on workforce experiences, future research should explore employer responses to WHS incidents and reporting practices,

especially regarding psychosocial hazards. Understanding how organisations implement accountability and manage risks in rural and remote areas is essential because these responses directly affect safety culture, reporting behaviour, and workforce wellbeing. Investigating how organisations govern WHS and why workers may hesitate to report issues can reveal weaknesses in leadership accountability, reporting pathways, and incident management processes gaps that allow WHS risks to endure and worsen.

2. Previous research shows that workers and managers often hold different views about workplace safety, reflecting differences in exposure to risk and understanding of what occurs in practice (Hon et al., 2023). These differences highlight the value of comparing formal WHS reporting data with workers' accounts of unreported incidents and managers' perceptions. In line with this, future research should compare formal WHS reporting data with workers' accounts of unreported incidents and managers' perceptions of what occurs. This approach may expose differences between what managers believe is happening, what is officially recorded, and what workers experience. Recognising these discrepancies is critical for addressing underreporting, enhancing transparency, and ensuring that leadership decisions are based on reality, not assumptions, ultimately reinforcing organisational accountability for psychosocial safety.

Conceptual framework

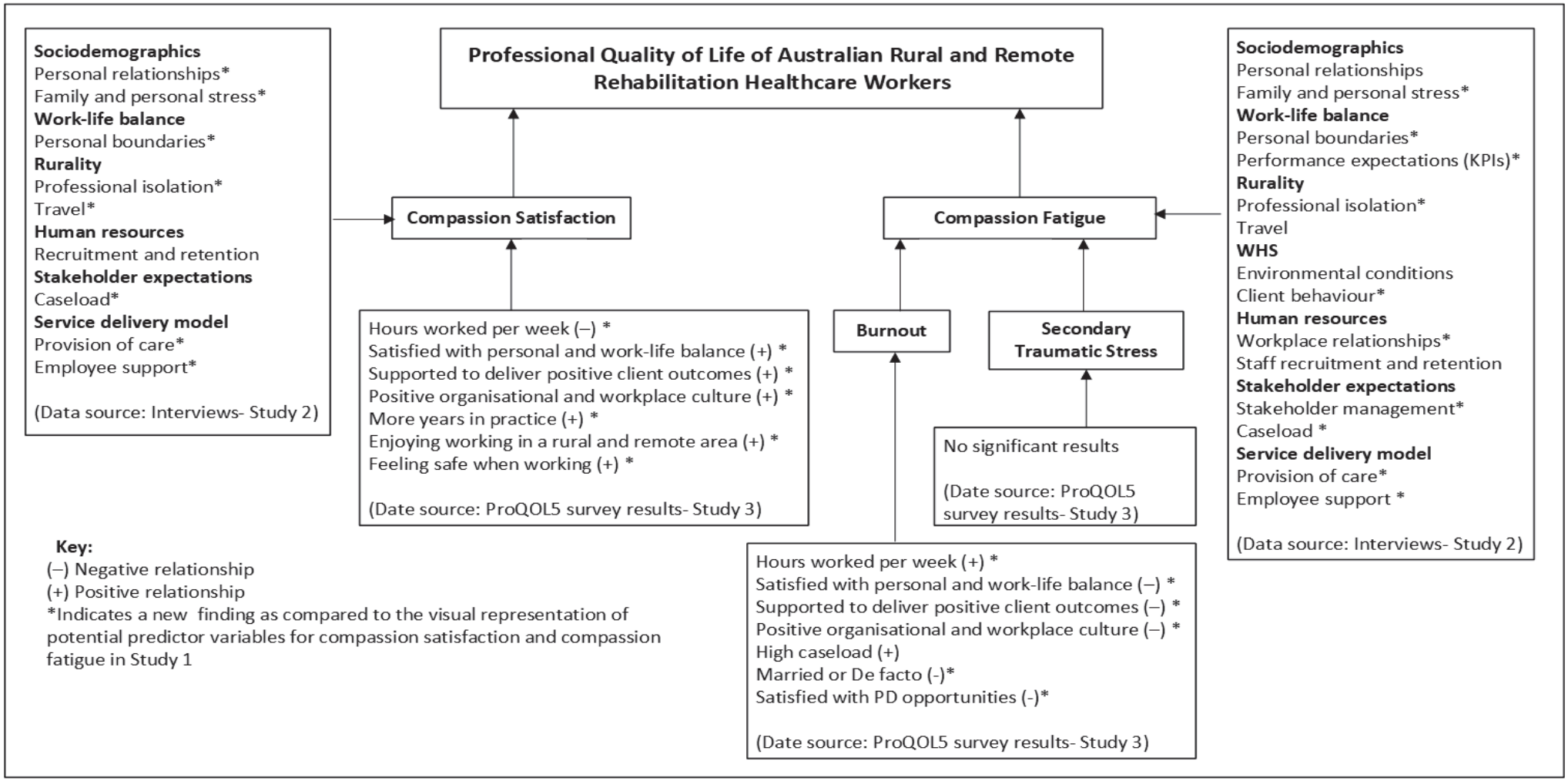
The body of work in this thesis identifies that organisational management practices and WHS hazards are impacting Australian rural and remote rehabilitation healthcare workers, contributing to their low levels of compassion satisfaction and high rates of compassion fatigue, when compared to other Australian healthcare professionals. The

conceptual framework identifies potential risk and protective factors influencing the ProQOL for Australian rural and remote rehabilitation healthcare workers. It connects personal and work-related risk and protective factors to the ProQOL5 model's subscales of compassion satisfaction, compassion fatigue (Study 2), burnout, and secondary traumatic stress (Study 3), as illustrated in Figure 5.

The conceptual framework has extended the visual representation developed from the scoping literature review (Study 1) by including findings from the semi-structured interviews (Study 2) and the cross-sectional survey (Study 3). Similar to the visual representation within Study 1, which was shaped by the ProQOL5 model, our conceptual framework does not identify any predictor variables related to secondary traumatic stress. This finding may reflect the nature of rehabilitation work in rural and remote settings, where workers normalise the trauma and challenges experienced with complex clients (Jahner et al., 2020; National Rural Health Alliance, 2024).

Although the conceptual framework has identified some personal factors as influencing compassion satisfaction, compassion fatigue (Study 2), and Burnout (Study 3), the dominant factors are work-related. Similar findings were also reported by German healthcare workers who noted that compassion fatigue levels increased due to work-related factors, including job demands such as managing complex cases, exposure to traumatic events, and higher caseloads (Ondrejková & Halamová, 2022).

Figure 5. Conceptual framework of potential predictor variables of compassion satisfaction and compassion fatigue using the ProQOL model and data from the semi-structured interviews (Study 2) and the national survey (Study 3).



Strengths and Limitations

The respective chapters and publications have discussed the strengths and limitations of each study. This section highlights the thesis's strengths and limitations in its entirety.

Strengths

Methodologically, this thesis enhances the validity of its findings through triangulation, incorporating data from a scoping review, semi-structured interviews, and a national survey. This methodology provides a more comprehensive understanding of the issues, reinforcing the reliability of the results. The thesis findings highlight the vulnerability of this workforce, which provide insight into areas of vulnerability for rural and remote rehabilitation healthcare workers, and may inform considerations for employers and policymakers in reviewing existing strategies and supports. Another strength is that this research establishes baseline data, which will be valuable for future studies investigating workforce wellbeing in rural and remote rehabilitation settings. The findings also offer actionable insights for practice, particularly at the organisational and policy levels, by identifying key risks and possible opportunities for intervention, including workplace support, job design, and performance expectations (KPIs), and exposure to psychosocial hazards negatively influencing workforce wellbeing. The thesis aligns with the updated 2024 Work Health and Safety (Managing Psychosocial Hazards at Work) Code of Practice, ensuring that the assessment of workplace risks reflects current Australian WHS standards. These findings increase the thesis's relevance and applicability, particularly for employers and policymakers seeking to improve workforce conditions.

The use of the ProQOL scale in this thesis is both a strength and a limitation, with the limitation discussed in the Limitations section below. A key strength of the use of ProQOL5

scale is that it is a well-established measure of compassion satisfaction, burnout, and secondary traumatic stress. While questions remain about its suitability for rural and remote rehabilitation healthcare workers, its inclusion ensures comparability with existing research on compassion satisfaction, burnout, and secondary traumatic stress. Use of the ProQOL5 scale enables comparison with broader healthcare populations and helps position the findings within the existing evidence base while also highlighting differences observed in rural and remote contexts. Additionally, this thesis presents a world-first study examining compassion satisfaction and compassion fatigue (as measured by burnout and secondary traumatic stress), along with associated risk and protective factors, in Australian rural and remote rehabilitation healthcare workers. This is a niche and difficult to access sector of the Australian healthcare workforce, and the findings from the studies in this thesis address a critical gap in the literature by focusing on this under-researched section of the healthcare workforce, particularly by identifying the influence of rural and remote practice conditions and organisational factors on workforce wellbeing outcomes.

Limitations

As noted above, although use of the ProQOL5 scale is a strength, the absence of questions about important contemporary workplace factors relevant to today's workforce is a limitation. As discussed initially in Chapter 1, and more fully in Chapter 4, research emerged that identified concerns with the construct validity of the burnout and secondary traumatic stress subscales (Hemsworth et al., 2018). These issues remain unresolved in the literature, leaving uncertainty about alternative strategies that might better suit this study. Suggested revisions to the ProQOL5 scale in some studies lacked comparison data, making them unsuitable

for this thesis. Despite its limitations, the ProQOL5 scale was regarded as the only tool to use to facilitate the comparisons required in this study.

Examination of alternative conceptual models and measurement tools for compassion satisfaction and compassion fatigue (burnout and secondary traumatic stress) was beyond the scope of this thesis. Other models and measurement tools that address one or more of these constructs may examine how alternative frameworks and assessment instruments conceptualise and measure compassion satisfaction and compassion fatigue among rehabilitation healthcare workers, including the strengths and limitations of different measurement approaches within this population.

The smaller-than-anticipated sample sizes in the semi-structured interviews and the national survey, combined with self-reported data in both studies, may have impacted the overall generalisability of the findings. In addition, sample size constraints limited analyses to descriptive and univariate approaches, meaning that potential interrelationships between variables could not be examined using multivariable models. Conclusions from this study therefore are preliminary steps in an ongoing research process and are not definitive.

The limited number of participants may also have increased response bias, as individuals who are dissatisfied with their employment are more likely to participate in survey research (Hendrix et al., 2024). As self-report responses are based on participant perceptions, participants with specific concerns may have provided more negative responses than those provided by a larger population sample (Hendrix et al., 2024). The relatively small sample sizes across the studies also reflect challenges in identifying and accessing a clearly defined rural and remote rehabilitation workforce. Available Australian Government workforce data classify

health professionals by registration category and geographic location, rather than by rehabilitation service delivery roles, limiting the ability to clearly define the population from which participants could be drawn (Australian Government Department of Health Disability and Ageing, 2025).

The semi-structured interviews and the national survey used a cross-sectional design, which was necessary to establish baseline data and build upon the findings of the scoping review. While this approach provides a valuable snapshot of key factors influencing compassion satisfaction and compassion fatigue among Australian rural and remote rehabilitation healthcare workers, it can only report on possible relationships, not causality, and does not capture changes over time.

Although the scoping review and interviews were conducted prior to the COVID-19 pandemic, the survey was conducted during it. Survey participation from healthcare providers post-COVID-19 is challenging, particularly when they are experiencing post-COVID-19 survey fatigue and they are time poor due to workload demands (De Koning et al., 2021; Shiyab et al., 2023). Survey participants reported high workload demands and low job control, as well as time pressures to meet KPIs, which may explain why participation rates were lower than anticipated.

Without exploring the employer or organisational perspectives in this thesis, the findings reflect the risk and protective factors of compassion satisfaction and compassion fatigue from participants' self-reported data. Without employer or organisational perspectives, a knowledge gap remains in understanding how their perspectives align with this thesis' findings.

In addition, this thesis did not explicitly examine ethical challenges associated with rural and remote rehabilitation practice, which may contribute to compassion satisfaction and compassion fatigue. In small or close-knit communities, rehabilitation healthcare workers may face heightened privacy and confidentiality concerns, blurred professional and personal boundaries, and reduced opportunities to disengage from their professional role outside of work. These ethical tensions may interact with workplace stressors to influence burnout, secondary traumatic stress, and retention; however, they were not explored directly in the current studies. Future research may benefit from examining the ethical dimensions of rural and remote rehabilitation practice as part of broader efforts to support a safe and sustainable workforce.

Conclusions

Study 3 highlighted that this population is vulnerable to experiencing lower levels of compassion satisfaction and higher rates of burnout and secondary traumatic stress than other Australian healthcare workers. The information captured by the studies contributes to the growing literature on occupational wellbeing in Australian rural and remote healthcare workers by providing baseline data specific to this population. It also questions the suitability of the ProQOL5 scale in capturing data relevant to compassion satisfaction, burnout and secondary traumatic stress in this rural healthcare workforce. Further validation studies are needed to ensure the measure provides an accurate assessment for rural and remote rehabilitation healthcare workers and the broader rural and remote healthcare sector.

Employers and policymakers in Australian rural and remote healthcare could benefit by reflecting on these findings and taking proactive steps to meet their legislated WHS obligations.

This is particularly important for addressing organisational factors such as workplace culture, job design, workplace support, and the working environment, all of which are now known to align with the psychosocial hazards under recent legislative updates.

Effective employer management of WHS hazards may minimise employer risks associated with workers' compensation claims attributed to psychological injury. Implementing evidence-based strategies to mitigate WHS hazards, such as improving access to professional supervision, addressing workload concerns, and fostering a workplace culture that supports staff wellbeing, is critical to sustaining the rehabilitation healthcare workforce in rural and remote Australia.

References

Australian Government Department of Health Disability and Ageing. (2025). *Summary Statistics, Allied Health, Remoteness Area*. Retrieved April 27, 2026 from https://hwd.health.gov.au/resources/data/summary-remote.html

Bachmann, A., Vincent, G. E., Thomas, M., Ford, A., & Sprajcer, M. (2026). A Systematic Review of Psychosocial Hazard Management Across the Emergency Services Sector. *Safety Science*, 195, 107060. https://doi.org/https://doi.org/10.1016/j.ssci.2025.107060

Bailey, B. C., Cox, S., Terris, L., van Oppen, D., Howsare, J., Berry, J. H., & Winstanley, E. L. (2023). Rural Health Care Worker Wellness During COVID-19: Compassion Fatigue, Compassion Satisfaction & Utilization of Wellness Resources. *PloS One*, *18*(12), e0295020. https://doi.org/10.1371/journal.pone.0295020

Boni, R. L., Dingley, C., & Reyes, A. (2022). Measuring Professional Quality of Life in Nurses: A Realist Review. *Clinical Journal of Oncology Nursing*, *26*(3), 318-323. https://doi.org/10.1188/22.CJON.318-323

Booker, Q. S., Austin, J. D., & Balasubramanian, B. A. (2021). Survey Strategies to Increase Participant Response Rates in Primary Care Research Studies. *Family Practice*, 38(5), 699-702. https://doi.org/10.1093/fampra/cmab070

Collie, A., & Sheehan, L. (2024). The Burden of Working Time Lost to Compensable Occupational Injury and Disease in Australia, 2012–17: A Retrospective Population-Based Study. *Medical Journal of Australia*, *220*(11), 573-578. https://doi.org/10.5694/mja2.52309

Comcare. (2024). *WHS Laws are Changing*. Retrieved February 8, 2025 from https://www.comcare.gov.au/safe-healthy-work/prevent-harm/changes-to-whs-laws

De Koning, R., Egiz, A., Kotecha, J., Ciuculete, A. C., Ooi, S. Z. Y., Bankole, N. D. A., Erhabor, J., Higginbotham, G., Khan, M., Dalle, D. U., Sichimba, D., Bandyopadhyay, S., & Kanmounye, U. S. (2021). Survey Fatigue During the COVID-19 Pandemic: An Analysis of Neurosurgery Survey Response Rates. *Frontiers in Surgery*, *8*, 690680. https://doi.org/10.3389/fsurg.2021.690680

Deriglazov, D., Halamová, J., & Schroevers, M. (2025). A Comparative Study of the 30-Item ProQOL 5, 12-Item Brief ProQOL-12, and 9-Item Short ProQOL Scales in Slovak Helping Professionals. *Scientific Reports*, *16*(1), 839. https://doi.org/10.1038/s41598-025-30397-4

Garnett, A., Hui, L., Oleynikov, C., & Boamah, S. (2023). Compassion Fatigue in Healthcare Providers: A Scoping Review. *BMC Health Services Research*, 23(1), 1336. https://doi.org/10.1186/s12913-023-10356-3

Hon, C.-Y., Randhawa, J., Lun, N., Fairclough, C., & Rothman, L. (2023). Comparison of management and workers' perception, attitudes and beliefs toward health and safety in the Ontario manufacturing sector. *Journal of Safety Research*, 84, 364-370. https://doi.org/https://doi.org/10.1016/j.jsr.2022.11.011

Hemsworth, D., Baregheh, A., Aoun, S., & Kazanjian, A. (2018). A Critical Enquiry into the Psychometric Properties of the Professional Quality of Life Scale (ProQol-5) Instrument. *Applied Nursing Research*, *39*, 81-88. https://doi.org/10.1016/j.apnr.2017.09.006

Hendrix, N., Maisel, N., Everson, J., Patel, V., Bazemore, A., Rotenstein, L. S., Holmgren, A. J., Krist, A. H., Adler-Milstein, J., & Phillips, R. L. (2024). Impact of Response Bias in Three

Surveys on Primary Care Providers' Experiences with Electronic Health Records. *Journal of the American Medical Informatics Association*, *31*(8), 1754-1762. https://doi.org/10.1093/jamia/ocae148

Hotchkiss, J. T., & Wong, M. Y. C. (2024). Factorial Structure of the ProQOL—Systematic Meta-analysis and Integration of 27 International Factor Analysis Studies. *Trends in Psychology*, *32*(3), 807-838. https://doi.org/10.1007/s43076-022-00184-5

Hu, C., Zhang, S., Chen, Y.-Y., & Griggs, T. L. (2022). A Meta-Analytic Study of Subjective Career Plateaus. *Journal of Vocational Behavior*, *132*, 103649. https://doi.org/10.1016/j.jvb.2021.103649

Hussain, R., Maple, M., Hunter, S. V., Mapedzahama, V., & Reddy, P. (2015). The Fly-in Fly-out and Drive-in Drive-out model of Health Care Service Provision for Rural and Remote Australia: Benefits and Disadvantages. *Rural Remote Health*, *15*(3), 3068. https://doi.org/10.22605/RRH3068

Jahner, S., Penz, K., Stewart, N. J., & MacLeod, M. L. P. (2020). Exploring the Distressing Events and Perceptions of Support Experienced by Rural and Remote Nurses: A Thematic Analysis of National Survey Data. *Workplace Health & Safety*, *68*(10), 480-490. https://doi.org/10.1177/2165079920924685

Landon, T. J., Phillips, B. N., McKnight, M., Sabella, S. A., & Kline, K. M. (2024). The Impact of Organizational Factors and Professional Identity on Turn Over Intent in State Vocational Rehabilitation Agencies. *Rehabilitation Counseling Bulletin*, 67(4), 269-282. https://doi.org/10.1177/00343552231155215

Lu, J., Lund, E. M., & Granger, T. A. (2024). A Path Analysis of Burnout of Vocational Rehabilitation Counselors. *Rehabilitation Counseling Bulletin*. https://doi.org/10.1177/00343552241265314

McAulay, L., Fadyl, J., & Terry, G. (2023). Effective Teams in Vocational Rehabilitation: An Exploration of Complexities and Practice in Aotearoa-New Zealand. *Journal of Occupational Rehabilitation*, *33*(3), 518-527. https://doi.org/10.1007/s10926-022-10089-w

McDowell, C., Fossey, E., & Harvey, C. (2022). Moving Clients Forward: A Grounded Theory of Disability Employment Specialists' Views and Practices. *Disability and Rehabilitation*, *44*(19), 5504-5512. https://doi.org/10.1080/09638288.2021.1937341

McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2024). Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia. *Health & Social Care in The Community*, *2024*, 2823441. https://doi.org/10.1155/2024/2823441

McKennon, S., Fricke, S., & DeWitt, D. (2025). Well-Being Interventions for Rural Health Professionals: A Scoping Review. *The Journal of Rural Health*, 41(1), e12909. https://doi.org/https://doi.org/10.1111/jrh.12909

National Rural Health Alliance. (2024). *The Benefits of Supporting Yourself and Others After a Traumatic Event*. Retrieved November 28, 2025 from https://www.ruralhealth.org.au/partyline/article/benefits-supporting-yourself-and-others-after-traumatic-event.html

NSW Government. (2025). *Irreplaceable: New SafeWork campaign and $127.7m Budget injection to further protect workers.* Retrieved April 27, 2026 from

https://www.nsw.gov.au/ministerial-releases/irreplaceable-new-safework-campaign-and-1277m-budget-injection-to-further-protect-workers

O'Toole, K., Schoo, A., & Hernan, A. (2010). Why Did They Leave and What Can They Tell Us?: Allied Health Professionals Leaving Rural Settings. *Australian Health Review*, *34*(1), 66-72. https://doi.org/10.1071/AH09711

Ondrejková, N., & Halamová, J. (2022). Prevalence of Compassion Fatigue Among Helping Professions and Relationship to Compassion for Others, Self-Compassion and Self-Criticism. *Health & Social Care in the Community*, *30*(5), 1680-1694. https://doi.org/10.1111/hsc.13741

Quinlan, M. G. (2023). Psychosocial Hazards: An Overview and Industrial Relations Perspective. *Journal of Industrial Relations*. https://doi.org/10.1177/00221856231212221

Ross, I. (2024). Non-Compete Clauses in Employment Contracts: The Case For Regulatory Response. *The Economic and Labour Relations Review*, *35*(4), 806-830. https://doi.org/10.1017/elr.2024.40

Safe Work Australia. (2025). *Maximum Monetary Penalties Comparison Table*. Retrieved May 3, 2026 from https://www.safeworkaustralia.gov.au/doc/maximum-monetary-penalties-comparison-table

Safe Work Australia. (2024). *Psychosocial Hazards*. Retrieved February 8, 2025 from https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/mental-health/psychosocial-hazards

Shiyab, W. e., Ferguson, C., Rolls, K., & Halcomb, E. (2023). Solutions to Address Low Response Rates in Online Surveys. *European Journal of Cardiovascular Nursing*, *22*(4), 441-444. https://doi.org/10.1093/eurjcn/zvad030

Singh, J., Karanika-Murray, M., Baguley, T., & Hudson, J. (2024). A Psychometric Evaluation of Professional Quality of Life Scale Version 5 (ProQOL 5) in a UK-Based Sample of Allied Mental Health Professionals. *Current Psychology*, *43*(25), 21615-21629. https://doi.org/10.1007/s12144-024-05966-x

Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding Compassion Fatigue in Healthcare Providers: A Review of Current Literature. *Journal of Nursing Scholarship*, *48*(5), 456-465. https://doi.org/https://doi.org/10.1111/jnu.12229

Stengård, J., Bernhard-Oettel, C., Berntson, E., Leineweber, C., & Aronsson, G. (2016). Stuck in a Job: Being "Locked-In" or at Risk of Becoming Locked-In at the Workplace and Well-Being Over Time. *Work and Stress*, *30*(2), 152-172. https://doi.org/10.1080/02678373.2016.1163804

Tham, R., Pascoe, A., Willis, K., Kay, M., & Smallwood, N. (2022). Differences in Psychosocial Distress Among Rural and Metropolitan Health Care Workers During the COVID-19 Pandemic. *Australian Journal of Rural Health*, *30*(5), 683-696. https://doi.org/10.1111/ajr.12873

Wright, L. K., Jatrana, S., & Lindsay, D. (2021). Workforce Safety in the Remote Health Sector of Australia: A Scoping Review. *BMJ Open*, *11*(8), e051345-e051345. https://doi.org/10.1136/bmjopen-2021-051345

Wright, L. K., Jatrana, S., & Lindsay, D. (2024). Examining Workplace Safety for Remote Area Nurses in Australia: A Cross-Sectional Descriptive Study. *Rural and Remote Health*, *24*(3), 1-12. https://doi.org/10.22605/RRH8465

Ystaas, L. M. K., Nikitara, M., Ghobrial, S., Latzourakis, E., Polychronis, G., & Constantinou, C. S. (2023). The Impact of Transformational Leadership in the Nursing Work Environment and Patients' Outcomes: A Systematic Review. *Nursing Reports*, *13*(3), 1271-1290. https://www.mdpi.com/2039-4403/13/3/108

Thesis References

Adarkwah, C. C., Schwaffertz, A., Labenz, J., Becker, A., & Hirsch, O. (2018). Burnout and Work Satisfaction in General Practitioners Practicing in Rural Areas: Results from The HaMEdSi Study. *Psychology Research and Behavior Management*, *11*, 483-494. https://doi.org/10.2147/PRBM.S179503

Allen, P., May, J., Pegram, R., & Shires, L. (2020). 'It's Mostly About the Job' – Putting the Lens on Specialist Rural Retention. *Rural and Remote Health*, *20*(1), 5299. https://doi.org/https://doi.org/10.22605/RRH5299

Allied Health Professions Australia. (2020). *Rehabilitative care*. Retrieved November 10 from https://ahpa.com.au/key-areas/rehabilitation/

Anvari, F., Efendić, E., Olsen, J., Arslan, R. C., Elson, M., & Schneider, I. K. (2023). Bias in Self-Reports: An Initial Elevation Phenomenon. *Social Psychological and Personality Science*, *14*(6), 727-737. https://doi.org/10.1177/19485506221129160

Arksey, H., & O'Malley, L. (2005). Scoping Studies: Towards a Methodological Framework. *International Journal of Social Research Methodology*, *8*(1), 19-32. https://doi.org/10.1080/1364557032000119616

Armat, M. R., Assarroudi, A., Rad, M., Sharifi, H., & Heydari, A. (2018). Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis. *The Qualitative Report*, *23*, 219-221. https://link.gale.com/apps/doc/A528960568/AONE?u=usyd&sid=bookmark-AONE&xid=e373e6f0

Arnetz, J. E., Hamblin, L., Ager, J., Luborsky, M., Upfal, M. J., Russell, J., & Essenmacher, L. (2015). Underreporting of Workplace Violence: Comparison of Self-Report and Actual Documentation of Hospital Incidents. *Workplace Health & Safety*, *63*(5), 200-210. https://doi.org/10.1177/2165079915574684

Aronsson, G., Theorell, T., Grape, T., Hammarström, A., Hogstedt, C., Marteinsdottir, I., Skoog, I., Träskman-Bendz, L., & Hall, C. (2017). A Systematic Review Including Meta-Analysis of Work Environment and Burnout Symptoms. *BMC Public Health*, *17*(1), 264-264. https://doi.org/10.1186/s12889-017-4153-7

Australian Bureau of Statistics. (2005). *Geography and Climate, 2005.* Retrieved November 22, 2025 from https://www.abs.gov.au/ausstats/abs%40.nsf/94713ad445ff1425ca25682000192af2/5B10622703A022B0CA256F7200833007?opendocument=&utm

Australian Bureau of Statistics. (2025). *National, State and Territory Population*. Retrieved August 2, 2025 from https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/dec-2024

Australian Financial Complaints Authority. (2025). *Income Protection Benefits in Superannuation*. Retrieved November 22, 2025 from https://www.afca.org.au/about-afca/publications/income-protection-benefits-in-superannuation

Australian Institute of Health and Welfare. (2022). *Health System Overview*. Retrieved Oct 31 from https://www.aihw.gov.au/reports/australias-health/health-system-overview

Australian Institute of Health and Welfare. (2024). *Health System Overview*. Retrieved August 2, 2025 from https://www.aihw.gov.au/reports/australias-health/health-system-overview

Australian Government Australian Institute of Health and Welfare. (2024b). *Social Determinants*

of Health. Retrieved May 14, 2026 from https://www.aihw.gov.au/reports/australias-health/social-determinants-of-health

Australian Government Department of Health Disability and Ageing. (2025). *Summary Statistics, Allied Health, Remoteness Area*. Retrieved April 27, 2026 from https://hwd.health.gov.au/resources/data/summary-remote.html

Australian Government Australian Institute of Health and Welfare. (2024). *Rural and Remote Health*. Retrieved February 9, 2025 from https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health

Australian Government Geoscience Australia. (2014). *Area of Australia - States and Territories*. Retrieved August 2, 2025 from https://www.ga.gov.au/scientific-topics/national-location-information/dimensions/area-of-australia-states-and-territories

Australian Institute of Health and Welfare. (2020). *Rural and Remote Health*. Retrieved April 2 2022 from https://www.aihw.gov.au/reports/australias-health/rural-and-remote-health

Australian Law Reform Commission. (2012). *Insurance in Australia*. Retrieved April 25, 2026 from https://www.alrc.gov.au/publication/grey-areas-age-barriers-to-work-in-commonwealth-laws-dp-78/4-insurance/insurance-in-australia/

Ayed, A., Abu Ejheisheh, M., Aqtam, I., Batran, A., & Farajallah, M. (2024). The Relationship Between Professional Quality of Life and Work Environment Among Nurses in Intensive Care Units. *Inquiry*, *61*, 469580241297974. https://doi.org/10.1177/00469580241297974

Bachmann, A., Vincent, G. E., Thomas, M., Ford, A., & Sprajcer, M. (2026). A Systematic Review of Psychosocial Hazard Management Across the Emergency Services Sector. *Safety Science,* 195, 107060. https://doi.org/https://doi.org/10.1016/j.ssci.2025.107060

Bae, J., Jennings, P. F., Hardeman, C. P., Kim, E., Lee, M., Littleton, T., & Saasa, S. (2020). Compassion Satisfaction Among Social Work Practitioners: The Role of Work-Life Balance. *Journal of Social Service Research*, *46*(3), 320-330. https://doi.org/10.1080/01488376.2019.1566195

Bailey, B. C., Cox, S., Terris, L., van Oppen, D., Howsare, J., Berry, J. H., & Winstanley, E. L. (2023). Rural Health Care Worker Wellness During COVID-19: Compassion fatigue, Compassion Satisfaction & Utilization of Wellness Resources. *PloS One*, *18*(12), e0295020. https://doi.org/10.1371/journal.pone.0295020

Beck, C. T. (2011). Secondary Traumatic Stress in Nurses: A Systematic Review. *Archives of Psychiatric Nursing,* 25(1), 1-10. https://doi.org/https://doi.org/10.1016/j.apnu.2010.05.005

Benson, M. A., Peterson, T., Salazar, L., Morris, W., Hall, R., Howlett, B., & Phelps, P. (2016). Burnout in Rural Physician Assistants: An Initial Study. *The Journal of Physician Assistant Education*, *27*(2), 81-83. https://doi.org/10.1097/JPA.0000000000000069

Bethea, A., Samanta, D., Kali, M., Lucente, F. C., & Richmond, B. K. (2020). The Impact of Burnout Syndrome on Practitioners Working Within Rural Healthcare Systems. *The American Journal of Emergency Medicine*, *38*(3), 582-588. https://doi.org/10.1016/j.ajem.2019.07.009

Bhugra, D., & Ventriglio, A. (2024). Compassion Fatigue and Healthcare Professionals: Challenges. *International Journal of Social Psychiatry*, *70*(6), 1009-1010. https://doi.org/10.1177/00207640241283097

Bidlan, J., & Sihag, A. (2014). Occupational Stress, Burnout, Coping and Emotional Intelligence: Exploring Gender Differences Among Different Occupational Groups of Healthcare Professionals. *Indian Journal of Health & Wellbeing*, *5*(3).

Boni, R. L., Dingley, C., & Reyes, A. (2022). Measuring Professional Quality of Life in Nurses: A Realist Review. *Clinical Journal of Oncology Nursing*, *26*(3), 318-323. https://doi.org/10.1188/22.CJON.318-323

Booker, Q. S., Austin, J. D., & Balasubramanian, B. A. (2021). Survey Strategies to Increase Participant Response Rates in Primary Care Research Studies. *Family Practice*, 38(5), 699-702. https://doi.org/10.1093/fampra/cmab070

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2012). Understanding Rural and Remote Health: A Framework for Analysis in Australia. *Health Place*, *18*(3), 496-503. https://doi.org/10.1016/j.healthplace.2012.02.009

Bourke, L., Taylor, J., Humphreys, J. S., & Wakerman, J. (2013). "Rural Health is Subjective, Everyone Sees it Differently": Understandings of Rural Health Among Australian Stakeholders. *Health Place*, *24*, 65-72. https://doi.org/10.1016/j.healthplace.2013.08.005

Bragg, S. M., & Bonner, A. (2014). Degree of Value Alignment - A Grounded Theory of Rural Nurse Resignations. *Rural and Remote Health*, *14*(2), 110-120. https://doi.org/10.22605/RRH2648

Bragge, P., Wright, B., Grundy, E., Goodwin, D., Gozt, A., Clynes, L., Calabritto, M., & Fitzgerald, M. (2023). What Happens Next? Traumatic Brain Injury in the Community. *The Journal of Head Trauma Rehabilitation*, *38*(3), 279-282. https://doi.org/10.1097/htr.0000000000000824

Braun, V., & Clarke, V. (2021). One Size Fits All? What Counts as Quality Practice in (Reflexive) Thematic Analysis? *Qualitative Research in Psychology*, *18*(3), 328-352. https://doi.org/10.1080/14780887.2020.1769238

Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and Validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*, 14(1), 27-35. https://doi.org/10.1177/1049731503254106

Bridgeman, P. J., Bridgeman, M. B., & Barone, J. (2018). Burnout Syndrome Among Healthcare Professionals. *American Journal of Health-System Pharmacy*, *75*(3), 147-152. https://doi.org/10.2146/ajhp170460

Brown, A. R., Walters, J., Jones, A., & Akinsola, O. (2017). Rural Social Work: Recruitment, Job Satisfaction, Burnout, and Turnover. *Contemporary Rural Social Work*, *9*(1). https://doi.org/10.61611/2165-4611.1148

Buys, N., & Kendall, E. (1998). Stress and Burnout Among Rehabilitation Counsellors Within the Context of Insurance-Based Rehabilitation: An Institutional-Level Analysis. *The Australian Journal of Rehabilitation Counselling*, *4*(1), 1-12. https://doi.org/10.1017/S1323892200001344

Çakmak, B., Çilingir, D., & Candas Altinbas, B. (2025). Determination of Compassion Satisfaction and Compassion Fatigue Among Surgical Nurses. *Journal of Perianesthesia Nursing*, *40*(3), 658-663. https://doi.org/https://doi.org/10.1016/j.jopan.2024.08.007

Caringi, J. C., Hardiman, E. R., Weldon, P., Fletcher, S., Devlin, M., & Stanick, C. (2017). Secondary Traumatic Stress and Licensed Clinical Social Workers. *Traumatology*, *23*(2),

186-195. https://doi.org/10.1037/trm0000061

Cavanagh, N., Cockett, G., Heinrich, C., Doig, L., Fiest, K., Guichon, J. R., Page, S., Mitchell, I., & Doig, C. J. (2020). Compassion Fatigue in Healthcare Providers: A Systematic Review and Meta-Analysis. *Nursing Ethics*, *27*(3), 639-665. https://doi.org/10.1177/0969733019889400

Choppa, A. J., Shafer, K., Reid, K. M., & Siefker, J. M. (1996). Vocational Rehabilitation Counselors as Case Managers. *The Case Manager*, *7*(5), 45-50. https://doi.org/10.1016/S1061-9259(96)80108-1

Chun, J., Levine, A., Hartley, M. T., & Richard, C. (2025). Navigating the Path Forward: Early Career Perspectives on the Evolution and Future of Rehabilitation Counseling. *Rehabilitation Counseling Bulletin*. https://doi.org/10.1177/00343552251320947

Clough, B. A., Ireland, M. J., Leane, S., & March, S. (2020). Stressors and Protective Factors Among Regional and Metropolitan Australian Medical Doctors: A Mixed Methods Investigation. *Journal of Clinical Psychology*, *76*(7), 1362-1389. https://doi.org/https://doi.org/10.1002/jclp.22940

Cocker, F., & Joss, N. (2016). Compassion Fatigue among Healthcare, Emergency and Community Service Workers: A Systematic Review. *International Journal of Environmental Research and Public Health*, *13*(6), 618. https://doi.org/10.3390/ijerph13060618

Coetzee, S. K., & Laschinger, H. K. S. (2018). Toward a Comprehensive, Theoretical Model of Compassion Fatigue: An Integrative Literature Review. *Nursing & Health Sciences*, *20*(1), 4-15. https://doi.org/https://doi.org/10.1111/nhs.12387

Collie, A., & Sheehan, L. (2024). The Burden of Working Time Lost to Compensable Occupational Injury and Disease in Australia, 2012–17: A Retrospective Population-Based Study. *Medical Journal of Australia*, *220*(11), 573-578. https://doi.org/10.5694/mja2.52309

Comcare. (2021). *Workplace Rehabilitation Provider Performance Monitoring Framework*. Retrieved February 24, 2025 from https://www.comcare.gov.au/about/forms-pubs/docs/pubs/rehabilitation/wrp-performance-monitoring-framework.pdf

Comcare. (2023). *Operating as a Rehabilitation Provider*. Retrieved October 31, 2023 from https://www.comcare.gov.au/service-providers/workplace-rehabilitation-providers/operating

Comcare. (2024). *WHS Laws are Changing*. Retrieved February 8, 2025 from https://www.comcare.gov.au/safe-healthy-work/prevent-harm/changes-to-whs-laws

Comcare. (2026). *About Psychosocial Hazards*. Retrieved April 25, 2026 from https://www.comcare.gov.au/safe-healthy-work/prevent-harm/psychosocial-hazards/about-psych-hazards

Comcare. (2026b). *Roles in the Claims Process*. Retrieved April 27, 2026 from https://www.comcare.gov.au/claims/roles-in-claims-process

Conrad, D., & Kellar-Guenther, Y. (2006). Compassion Fatigue, Burnout, and Compassion Satisfaction Among Colorado Child Protection Workers. *Child Abuse and Neglect*, *30*(10), 1071-1080. https://doi.org/10.1016/j.chiabu.2006.03.009

Cosgrave, C. (2020). The Whole-of-Person Retention Improvement Framework: a Guide for Addressing Health Workforce Challenges in the Rural Context. *International Journal of Environmental Research and Public Health*, *17*(8), 2698.

https://doi.org/10.3390/ijerph17082698
Crowther, J. A., & Ragusa, T. A. (2011). Realities of Mental Health Nursing Practice in Rural Australia. *Issues in Mental Health Nursing*, *32*(8), 512-518. https://doi.org/10.3109/01612840.2011.569633
Currie, M., & Dafny, H. A. (2025). Burnout in Physiotherapists and Occupational Therapists Working in the Australian Community Disability Sector Under the National Disability Insurance Scheme: A Qualitative Study. *Disability and Rehabilitation*, 1. https://doi.org/10.1080/09638288.2025.2476022
De Koning, R., Egiz, A., Kotecha, J., Ciuculete, A. C., Ooi, S. Z. Y., Bankole, N. D. A., Erhabor, J., Higginbotham, G., Khan, M., Dalle, D. U., Sichimba, D., Bandyopadhyay, S., & Kanmounye, U. S. (2021). Survey Fatigue During the COVID-19 Pandemic: An Analysis of Neurosurgery Survey Response Rates. *Frontiers in Surgery*, *8*, 690680. https://doi.org/10.3389/fsurg.2021.690680
De Silva Etges, A. P. B., Liu, H. H., Jones, P., & Polanczyk, C. A. (2023). Value-Based Reimbursement as a Mechanism to Achieve Social and Financial Impact in the Healthcare System. *Journal of Health Economics and Outcomes Research*, *10*(2), 100-103. https://doi.org/10.36469/001c.89151
Dee, J., Dhuhaibawi, N., & Hayden, J. C. (2023). A Systematic Review and Pooled Prevalence of Burnout in Pharmacists. *International Journal of Clinical Pharmacy*, *45*(5), 1027-1036.
Dekeseredy, P., Landy, C. M. K., & Sedney, C. L. (2019). An Exploration of Work Related Stressors Experienced by Rural Emergency Nurses. *Online Journal of Rural Nursing and Health Care*, *19*(2), 2-24. https://doi.org/10.14574/ojrnhc.v19i2.550
Dellemain, J., & Warburton, J. (2013). Case Management in Rural Australia: Arguments for Improved Practice Understandings. *Australian Social Work*, *66*(2), 297-310. https://doi.org/10.1080/0312407X.2012.675345
Department of Veterans' Affairs. (2025). *Australia's Veteran Support System at a Glance*. Retrieved November 22, 2025 from https://www.dva.gov.au/about-us/what-we-do/australias-veteran-support-system-at-a-glance
Department of Veterans' Affairs. (2025). *Stats at a Glance September 2025*. Retrieved April 25, 2026 from https://www.dva.gov.au/sites/default/files/2025-11/saag_sep2025.pdf
Deriglazov, D., Halamová, J., & Schroevers, M. (2025). A Comparative Study of the 30-Item ProQOL 5, 12-Item Brief ProQOL-12, and 9-Item Short ProQOL Scales in Slovak Helping Professionals. *Scientific Reports*, *16*(1), 839. https://doi.org/10.1038/s41598-025-30397-4
Dewi, S. P., Kasim, R., Sutarsa, I. N., & Dykgraaf, S. H. (2024). A Scoping Review of the Impact of Extreme Weather Events on Health Outcomes and Healthcare Utilization in Rural and Remote Areas. *BMC Health Services Research*, *24*(1), 1333-1316. https://doi.org/10.1186/s12913-024-11695-5
Di Tecco, C., Persechino, B., & Iavicoli, S. (2023). Psychosocial Risks in the Changing World of Work: Moving from the Risk Assessment Culture to the Management of Opportunities. *La Medicina del Lavoro*, *114*(2), e2023013. https://doi.org/10.23749/mdl.v114i2.14362
Dintino, R., Wakely, L., Wolfgang, R., Wakely, K. M., & Little, A. (2019). Powerless Facing the Wave of Change: The Lived Experience of Providing Services in Rural Areas Under The National Disability Insurance Scheme. *Rural Remote Health*, *19*(3), 5337.

https://doi.org/10.22605/rrh5337
Dowling, T. (2018). Compassion Does Not Fatigue. *Canadian Veterinary Journal*, *59*(7), 749-750. https://pmc.ncbi.nlm.nih.gov/articles/PMC6005077/
Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A Review of Theory and Measurement. *International Journal of Environmental Research and Public Health*, *19*(3), 1780. https://www.mdpi.com/1660-4601/19/3/1780
Edwards, J., Davey, J., & Armstrong, K. (2015). Cultural Factors: Understanding Culture to Design Organisational Structures and Systems to Optimise Safety. *Procedia Manufacturing*, *3*, 4991-4998. https://doi.org/10.1016/j.promfg.2015.07.650
Edwards, K., & Goussios, A. (2021). Who is Responsible for Compassion Satisfaction? Shifting Ethical Responsibility for Compassion Fatigue from the Individual to the Ecological. *Ethics and Social Welfare*, *15*(3), 246-262. https://doi.org/10.1080/17496535.2021.1888141
El-Shafei, D. A., Abdelsalam, A. E., Hammam, R. A. M., & Elgohary, H. (2018). Professional Quality of Life, Wellness Education, and Coping Strategies Among Emergency Physicians. *Environmental Science and Pollution Research*, *25*(9), 9040-9050. https://doi.org/10.1007/s11356-018-1240-y
Endalamaw, A., Khatri, R. B., Erku, D., Zewdie, A., Wolka, E., Nigatu, F., & Assefa, Y. (2024). Barriers and Strategies for Primary Health Care Workforce Development: Synthesis of Evidence. *BMC Family Practice*, *25*(1), 99-11. https://doi.org/10.1186/s12875-024-02336-1
Fair Work Ombudsman. (2025). *Workers Compensation*. Retrieved November 21, 2025 from https://www.fairwork.gov.au/employment-conditions/workers-compensation
Farmahini Farahani, M., Jaberi, K., Purfarzad, Z., & Ramos-Pichardo, J. D. (2023). Workplace Spirituality, Compassion Satisfaction, Burnout, and Secondary Traumatic Stress: A Cross-Sectional Study in Iranian Nurses. *Perspectives in Psychiatric Care*, *2023*(1). https://doi.org/10.1155/2023/7685791
Figley, C. R. (1995). Compassion fatigue: Toward a New Understanding of the Costs of Caring. In B. H. Stamm (Ed.), *Secondary Traumatic Stress: Self-Care Issues for Clinicians, Researchers, and Educators.* (pp. 3-28). The Sidran Press. https://www.researchgate.net/publication/232604330_Compassion_fatigue_Toward_a_new_understanding_of_the_costs_of_caring
Flavel, J., Kedzior, S. G. E., Isaac, V., Cameron, D., & Baum, F. (2024). Regional Health Inequalities in Australia and Social Determinants of Health: Analysis of Trends and Distribution by Remoteness [Journal Article]. *Rural and Remote Health*, *24*(1), 1-11. https://doi.org/10.22605/RRH7726
Forrest, L., Abdurrahman, M., & Ritsma, A. (2020). Recognizing Compassion Fatigue, Vicarious Trauma, and Burnout. In A. Hategan, K. Saperson, S. Harms, & H. Waters (Eds.), *Humanism and Resilience in Residency Training: A Guide to Physician Wellness* (pp. 297-330). Springer International Publishing. https://doi.org/10.1007/978-3-030-45627-6_10
Franklin, P., & Gkiouleka, A. (2021). A Scoping Review of Psychosocial Risks to Health Workers During the Covid-19 Pandemic. *International Journal of Environmental Research and Public Health*, *18*(5), 120. https://doi.org/10.3390/ijerph18052453
French, M. A., Roemmich, R. T., Daley, K., Beier, M., Penttinen, S., Raghavan, P., Searson, P.,

Wegener, S., & Celnik, P. (2022). Precision Rehabilitation: Optimizing Function, Adding Value to Health Care. *Archives of Physical Medicine and Rehabilitation*, *103*(6), 1233-1239. https://doi.org/https://doi.org/10.1016/j.apmr.2022.01.154

Galiana, L., Oliver, A., Arena, F., De Simone, G., Tomás, J. M., Vidal-Blanco, G., Muñoz-Martínez, I., & Sansó, N. (2020). Development and Validation of The Short Professional Quality of Life Scale Based on Versions IV and V of the Professional Quality of Life Scale. *Health and Quality of Life Outcomes*, *18*(1), 364. https://doi.org/10.1186/s12955-020-01618-3

Garnett, A., Hui, L., Oleynikov, C., & Boamah, S. (2023). Compassion Fatigue in Healthcare Providers: A Scoping Review. *BMC Health Services Research*, *23*(1), 1336. https://doi.org/10.1186/s12913-023-10356-3

Gartner, J. B., & Lemaire, C. (2022). Dimensions of Performance and Related Key Performance Indicators Addressed in Healthcare Organisations: A Literature Review. *The International Journal of Health Planning and Management*, *37*(4), 1941-1952. https://doi.org/10.1002/hpm.3452

Giardino, A. P., & De Jesus, O. (2026). Case Management. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK562214/

Geoffrion, S., Lamothe, J., Morizot, J., & Giguère, C. É. (2019). Construct Validity of the Professional Quality of Life (ProQoL) Scale in a Sample of Child Protection Workers. *Journal of Traumatic Stress*, *32*(4), 566-576. https://doi.org/10.1002/jts.22410

Glover-Stief, M., Jannen, S., & Cohn, T. (2020). An Exploratory Descriptive Study of Compassion Fatigue and Compassion Satisfaction: Examining Potential Risk and Protective Factors in Advanced Nurse Practitioners. *Journal of the American Association of Nurse Practitioners*, *33*(2), 143-149. https://doi.org/10.1097/JXX.0000000000000357

Goehring, C., Gallacchi, M. B., Kunzi, B., & Bovier, P. (2005). Psychosocial and Professional Characteristics of Burnout in Swiss Primary Care Practitioners: A Cross-Sectional Survey [Review]. *Swiss Medical Weekly*, *135*(7-8), 101-108. https://doi.org/10.4414/smw.2005.10841

Gómez-Urquiza, J. L., Vargas, C., De la Fuente, E. I., Fernández-Castillo, R., & Cañadas-De la Fuente, G. A. (2017). Age as a Risk Factor for Burnout Syndrome in Nursing Professionals: A Meta-Analytic Study. *Research in Nursing and Health*, *40*(2), 99-110. https://doi.org/10.1002/nur.21774

Graham, S. K., & Cameron, I. D. (2008). A Survey of Rehabilitation Services in Australia. *Australian Health Review*, *32*, 392-399. https://link.gale.com/apps/doc/A182815467/AONE?u=usyd&sid=bookmark-AONE&xid=9e9b2853

Graneheim, U. H., & Lundman, B. (2004). Qualitative Content Analysis in Nursing Research: Concepts, Procedures and Measures to Achieve Trustworthiness. *Nurse Education Today*, *24*(2), 105-112. https://doi.org/10.1016/j.nedt.2003.10.001

Green, R., & Lonne, B. (2005). 'Great Lifestyle, Pity About the Job Stress': Occupational Stress in Rural Human Service Practice. *Rural Society*, *15*(3), 253-267. https://doi.org/10.5172/rsj.351.15.3.253

Gustafsson, T., & Hemberg, J. (2022). Compassion Fatigue as Bruises in The Soul: A Qualitative Study on Nurses. *Nursing Ethics*, *29*(1), 157-170. https://doi.org/10.1177/09697330211003215

Halamová, J., Kanovský, M., Krizova, K., Šoková, B., Baránková, M., & Figley, C. (2024). The Development of the Compassion Satisfaction and Compassion Fatigue Scale. *Frontiers in Public Health*, *12*, 1406467. https://doi.org/10.3389/fpubh.2024.1406467

Hansen, N., Jensen, K., MacNiven, I., Pollock, N., D'Hont, T., & Chatwood, S. (2021). Exploring the Impact of Rural Health System Factors on Physician Burnout: A Mixed-Methods Study in Northern Canada. *BMC Health Services Research*, *21*(1), 1-869. https://doi.org/10.1186/s12913-021-06899-y

Harris, P. A., Taylor, R., Minor, B. L., Elliott, V., Fernandez, M., O'Neal, L., McLeod, L., Delacqua, G., Delacqua, F., Kirby, J., & Duda, S. N. (2019). The REDCap Consortium: Building an International Community of Software Platform Partners. *Journal of Biomedical Informatics*, *95*, 103208. https://doi.org/10.1016/j.jbi.2019.103208

Harris, P. A., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. G. (2009). Research Electronic Data Capture (REDCap)—A Metadata-Driven Methodology and Workflow Process for Providing Translational Research Informatics Support. *Journal of Biomedical Informatics*, *42*(2), 377-381. https://doi.org/10.1016/j.jbi.2008.08.010

Hayashi, A. S., Selia, E., & McDonnell, K. (2009). Stress and Provider Retention in Underserved Communities. *Journal of Health Care for the Poor and Underserved*, *20*(3), 597-604. https://doi.org/10.1353/hpu.0.0163

Hegney, D. G., Craigie, M., Hemsworth, D., Osseiran-Moisson, R., Aoun, S., Francis, K., & Drury, V. (2014). Compassion Satisfaction, Compassion Fatigue, Anxiety, Depression and Stress in Registered Nurses in Australia: Study 1 Results. *Journal of Nursing Management 22*(4), 506-518. https://doi.org/10.1111/jonm.12160

Hemsworth, D., Baregheh, A., Aoun, S., & Kazanjian, A. (2018). A Critical Enquiry into the Psychometric Properties of the Professional Quality of Life Scale (ProQol-5) Instrument. *Applied Nursing Research*, *39*, 81-88. https://doi.org/10.1016/j.apnr.2017.09.006

Hendrix, N., Maisel, N., Everson, J., Patel, V., Bazemore, A., Rotenstein, L. S., Holmgren, A. J., Krist, A. H., Adler-Milstein, J., & Phillips, R. L. (2024). Impact of Response Bias in Three Surveys on Primary Care Providers' Experiences with Electronic Health Records. *Journal of the American Medical Informatics Association*, *31*(8), 1754-1762. https://doi.org/10.1093/jamia/ocae148

Henson, J. S. (2020). Burnout or Compassion Fatigue: A Comparison of Concepts. *Medsurg Nursing*, *29*(2), 77-95.

Heritage, B., Rees, C. S., & Hegney, D. G. (2018). The ProQOL-21: A Revised Version of The Professional Quality of Life (ProQOL) Scale Based on Rasch Analysis. *PloS One*, *13*(2), e0193478-e0193478. https://doi.org/10.1371/journal.pone.0193478

Hill, J. E., Harris, C., Danielle L, C., Boland, P., Doherty, Alison J., Benedetto, V., Gita, B. E., & Clegg, A. J. (2022). The Prevalence of Mental Health Conditions in Healthcare Workers During and After a Pandemic: Systematic Review and Meta-Analysis. *Journal of Advanced Nursing*, *78*(6), 1551-1573. https://doi.org/10.1111/jan.15175

Hofmeyer, A., Kennedy, K., & Taylor, R. (2020). Contesting the Term 'Compassion Fatigue': Integrating Findings From Social Neuroscience and Self-Care Research. *Collegian*, *27*(2), 232-237. https://doi.org/10.1016/j.colegn.2019.07.001

Holland, C., Malatzky, C., & Pardosi, J. (2024). What do Nurses Practising in Rural, Remote and Isolated Locations Consider Important for Attraction and Retention?: A Scoping Review.

Rural Remote Health, *24*, 1-13. https://doi.org/10.22605/RRH8696

Hon, C.-Y., Randhawa, J., Lun, N., Fairclough, C., & Rothman, L. (2023). Comparison of management and workers' perception, attitudes and beliefs toward health and safety in the Ontario manufacturing sector. *Journal of Safety Research*, 84, 364-370. https://doi.org/https://doi.org/10.1016/j.jsr.2022.11.011

Hotchkiss, J. T., & Wong, C. M. Y. (2025). Truth on ProQOL and Burnout Assessment—Development and Intercultural Validation of The Brief ProQOL-12 From the Professional Quality of Life, Version 5. *American Journal of Hospice & Palliative Medicine*, *42*(4), 334-354. https://doi.org/10.1177/10499091241260284

Hotchkiss, J. T., & Wong, M. Y. C. (2024). Factorial Structure of the ProQOL—Systematic Meta-analysis and Integration of 27 International Factor Analysis Studies. *Trends in Psychology*, *32*(3), 807-838. https://doi.org/10.1007/s43076-022-00184-5

HRSA Health Workforce. (2018). *The U.S. Health Workforce Chartbook – In Brief*. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/hrsa-us-health-workforce-chartbook-in-brief.pdf

Hu, C., Zhang, S., Chen, Y.-Y., & Griggs, T. L. (2022). A Meta-Analytic Study of Subjective Career Plateaus. *Journal of Vocational Behavior*, *132*, 103649. https://doi.org/10.1016/j.jvb.2021.103649

Hunsaker, S., Chen, H. C., Maughan, D., & Heaston, S. (2015). Factors that Influence the Development of Compassion Fatigue, Burnout, and Compassion Satisfaction in Emergency Department Nurses. *Journal of Nursing Scholarship*, *47*(2), 186-194. https://doi.org/10.1111/jnu.12122

Hunt, M. R., & Ells, C. (2013). A Patient-Centered Care Ethics Analysis Model for Rehabilitation. *American Journal of Physical Medicine and Rehabilitation*, *92*(9), 818-827. https://doi.org/10.1097/PHM.0b013e318292309b

Hussain, R., Maple, M., Hunter, S. V., Mapedzahama, V., & Reddy, P. (2015). The Fly-in Fly-out and Drive-in Drive-out model of Health Care Service Provision for Rural and Remote Australia: Benefits and Disadvantages. *Rural Remote Health*, *15*(3), 3068. https://doi.org/10.22605/RRH3068

icare. (2026). *NSW Workers Compensation Reform*. Retrieved April 25, 2026 from https://www.icare.nsw.gov.au/employers/employer-obligations/workers-compensation-reform-faqs

International Labour Organisation. (2026). *840,000 Deaths a Year Linked to Psychosocial Risks at Work*. Retrieved April 25, 2026 from https://www.ilo.org/resource/news/840000-deaths-year-linked-psychosocial-risks-work

Jahner, S., Penz, K., & Stewart, N. J. (2019). Psychological Impact of Traumatic Events in Rural Nursing Practice: An Integrative Review. *Online Journal of Rural Nursing and Health Care*, *19*(1), 105-135. https://doi.org/10.14574/ojrnhc.v19i1.523

Jahner, S., Penz, K., Stewart, N. J., & MacLeod, M. L. P. (2020). Exploring the Distressing Events and Perceptions of Support Experienced by Rural and Remote Nurses: A Thematic Analysis of National Survey Data. *Workplace Health & Safety*, *68*(10), 480-490. https://doi.org/10.1177/2165079920924685

Jakimowicz, S., Perry, L., & Lewis, J. (2018). Compassion Satisfaction and Fatigue: A Cross-Sectional Survey of Australian Intensive Care Nurses. *Australian Critical Care*, *31*(6), 396-

405. https://doi.org/10.1016/j.aucc.2017.10.003
Jesus, T. S., Landry, M. D., Dussault, G., & Fronteira, I. (2017). Human Resources for Health (and Rehabilitation): Six Rehab-Workforce Challenges for the Century. *Human Resources for Health*, *15*(1), 8. https://doi.org/10.1186/s12960-017-0182-7
Jones, S. K., & Griep, Y. (2018). "I Can Only Work So Hard Before I Burn Out." A Time Sensitive Conceptual Integration of Ideological Psychological Contract Breach, Work Effort, and Burnout. *Frontiers in Psychology*, *9*, 131-131. https://doi.org/10.3389/fpsyg.2018.00131
Kartsonaki, M. G., Georgopoulos, D., Kondili, E., Nieri, A. S., Alevizaki, A., Nyktari, V., & Papaioannou, A. (2023). Prevalence and Factors Associated with Compassion Fatigue, Compassion Satisfaction, Burnout in Health Professionals. *Nursing in Critical Care*, *28*(2), 225-235. https://doi.org/https://doi.org/10.1111/nicc.12769
Kawar, L. N., Radovich, P., Valdez, R. M., Zuniga, S., & Rondinelli, J. (2019). Compassion Fatigue and Compassion Satisfaction Among Multisite Multisystem Nurses. *Nursing Administration Quarterly 43*(4), 358-369. https://doi.org/10.1097/NAQ.0000000000000370
Kelly, L. (2020). Burnout, Compassion Fatigue, and Secondary Trauma in Nurses: Recognizing the Occupational Phenomenon and Personal Consequences of Caregiving. *Critical Care Nursing Quarterly*, *43*(1), 73-80. https://doi.org/10.1097/CNQ.0000000000000293
Kendall, E., & Clapton, J. (2006). Time for a Shift in Australian Rehabilitation? *Disability and Rehabilitation*, *28*(17), 1097-1101. https://doi.org/10.1080/09638280500531784
Keshavarz, Z., Gorji, M., Houshyar, Z., Tamajani, Z., & Martin, J. (2019). The Professional Quality of Life Among Health-Care Providers and its Related Factors. *Social Health and Behavior*, *2*(1), 32-38. https://doi.org/10.4103/SHB.SHB_43_18
Khammissa, R. A. G., Nemutandani, S., Feller, G., Lemmer, J., & Feller, L. (2022). Burnout Phenomenon: Neurophysiological Factors, Clinical Features, and Aspects of Management. *Journal of International Medical Research*, *50*(9), 3000605221106428. https://doi.org/10.1177/03000605221106428
Kilgour, E., Kosny, A., McKenzie, D., & Collie, A. (2015). Healing or Harming? Healthcare Provider Interactions with Injured Workers and Insurers in Workers' Compensation Systems. *Journal of Occupational Rehabilitation*, *25*(1), 220-239. https://doi.org/10.1007/s10926-014-9521-x
King, R., Taylor, B., Talpur, A., Jackson, C., Manley, K., Ashby, N., Tod, A., Ryan, T., Wood, E., Senek, M., & Robertson, S. (2021). Factors That Optimise the Impact of Continuing Professional Development In Nursing: A Rapid Evidence Review. *Nurse Education Today*, *98*, 104652. https://doi.org/10.1016/j.nedt.2020.104652
Klimecki, O., & Singer, T. (2011). Empathic Distress Fatigue Rather Than Compassion Fatigue? Integrating Findings from Empathy Research in Psychology and Social Neuroscience. In *Pathological Altruism*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199738571.003.0253
Knottnerus, A., & Tugwell, P. (2008). STROBE—A checklist to STrengthen the Reporting of OBservational studies in Epidemiology. *Journal of Clinical Epidemiology*, *61*(4), 323-323. https://doi.org/10.1016/j.jclinepi.2007.11.006
Korhonen, M., & Komulainen, K. (2023). Individualizing the Burnout Problem: Health Professionals' Discourses of Burnout and Recovery in the Context of Rehabilitation.

Health, *27*(5), 789-809. https://doi.org/10.1177/13634593211063053

Krever, R., & Teoh, J. (2017). GST and Insurance: Australia. In R. F. van Brederode & R. Krever (Eds.), *VAT and Financial Services: Comparative Law and Economic Perspectives* (pp. 319-335). Springer. https://doi.org/10.1007/978-981-10-3465-7_17

Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A New Tool for the Assessment of Burnout. *Work and Stress*, 19(3), 192-207. https://doi.org/10.1080/02678370500297720

Krug, E., & Cieza, A. (2017). Strengthening Health Systems to Provide Rehabilitation Services. *Canadian Journal of Occupational Therapy*, *84*(2), 72-73. https://doi.org/10.1177/0008417417705853

Kumar, A., Bhat, P. S., & Ryali, S. (2018). Study of Quality of Life Among Health Workers and Psychosocial Factors Influencing it. *Industrial Psychiatry Journal*, *27*(1), 96-102. https://doi.org/10.4103/ipj.ipj_41_18

Landon, T., Connor, A., McKnight-Lizotte, M., & Pena, J. (2019). Rehabilitation Counseling in Rural Settings: A Phenomenological Study on Barriers and Supports. *The Journal of Rehabilitation*, *85*, 47-57. https://link.gale.com/apps/doc/A593027160/AONE?u=usyd&sid=bookmark-AONE&xid=e078ebf3

Landon, T. J., Phillips, B. N., McKnight, M., Sabella, S. A., & Kline, K. M. (2024). The Impact of Organizational Factors and Professional Identity on Turn Over Intent in State Vocational Rehabilitation Agencies. *Rehabilitation Counseling Bulletin*, 67(4), 269-282. https://doi.org/10.1177/00343552231155215

Landon, T. J., Sabella, S. A., McKnight-Lizotte, M., & Bernacchio, C. (2021). Rehabilitation Counselor Supervisors' Perceptions of Counselor Professional Dispositions For Rural Service Delivery. *Rehabilitation Counseling Bulletin*, 64(3), 145-157.

Langstaff, M. A. (2011). Case Managers Take "Whole Person" Approach to Workers' Compensation Cases. *Professional Case Management*, *16*(5), 267-269. https://doi.org/10.1097/NCM.0b013e318225d47e

Lazăr, F., Gaba, D., Munch, S., Luca, A., Mihai, A., Rentea, G. C., & Popa, M. (2023). The ProQOL-20, A Restructured Version of the Professional Quality Of Life Scale (ProQOL). *Current Psychology*, *42*(17), 14724-14735. https://doi.org/10.1007/s12144-022-02755-2

Leary, S. M., & Stevenson, V. L. (2025). What is Rehabilitation? *Practical Neurology*, *25*(1), 4-5. https://doi.org/10.1136/pn-2024-004384

Lee, E., Daugherty, J., Eskierka, K., & Hamelin, K. (2019). Compassion Fatigue and Burnout, One Institution's Interventions. *Journal of Perianesthesia Nursing*, *34*(4), 767-773. https://doi.org/10.1016/j.jopan.2018.11.003

Lemstra, M., & Olszynski, W. P. (2003). The Effectiveness of Standard Care, Early Intervention, and Occupational Management in Worker's Compensation Claims. *Spine*, *28*(3), 299-304. https://doi.org/10.1097/01.BRS.0000042249.21349.22

Lespérance, S., Anaraki, N. R., Ashgari, S., & Churchill, A. (2022). Systemic Challenges and Resiliency in Rural Family Practice. *Canadian Journal of Rural Medicine*, *27*(3), 91-98. https://doi.org/10.4103/cjrm.cjrm_39_21

Leung, L. (2015). Validity, Reliability, and Generalizability in Qualitative Research. *Journal of Family Medicine and Primary Care*, *4*(3), 324. https://doi.org/10.4103/2249-

4863.161306

Liebenberg, A. R., Coetzee Jnr, J. F., Conradie, H. H., & Coetzee, J. F. (2018). Burnout Among Rural Hospital Doctors in the Western Cape: Comparison with Previous South African Studies. *African Journal of Primary Health Care & Family Medicine*, *10*(1), e1-e7. https://doi.org/http://dx.doi.org/10.4102/phcfm.v10i1.1568

Linzer, M., McLoughlin, C., Poplau, S., Goelz, E., Brown, R., & Sinsky, C. (2022). The Mini Z Worklife and Burnout Reduction Instrument: Psychometrics and Clinical Implications. *Journal of General Internal Medicine*, 37(11), 2876-2878. https://doi.org/10.1007/s11606-021-07278-3

Lisle, L., Speroni, K., Aroom, W., Crouch, L., & Honigsberg, H. (2020). Differences in Compassion Satisfaction, Compassion Fatigue, and Work Environment Factors by Hospital Registered Nurse Type. *The Online Journal of Issues in Nursing*, *25*(3). https://doi.org/10.3912/OJIN.Vol25No03PPT44

Liu, D., Xie, S., Jing, J., Niyomsilp, E., Xie, L., Nie, X., & Liang, Y. (2024). The Effect of Perceived Organizational Support and Ego-Resilience on the Relationship Between Occupational Stressors and Compassion Fatigue in Covid-19 Frontline Nurses: A Cross-Sectional Study in Sichuan, China. *BMC Nursing*, *23*(1), 817-812. https://doi.org/10.1186/s12912-024-02473-z

LoboPrabhu, S., Rouse, H., &, & Molinari, V. (2019). Understanding Burnout and Its Potential Effects on Clinical Care. In S. LoboPrabhu, R. F. Summers, & S. H. Moffic (Eds.), *Combating Physician Burnout: A Guide for Psychiatrists* (pp. 65-83). American Psychiatric Association Publishing.

Lowe, J., & Griffiths, S. (2025). Residue and Resilience: Understanding and Addressing Post-Traumatic Stress Disorder, Compassion Fatigue, Moral Injury, and Burnout in Emergency Medicine. *The Journal of Emergency Medicine*, *77*, 14-20. https://doi.org/https://doi.org/10.1016/j.jemermed.2025.07.017

Lu, J., Lund, E. M., & Granger, T. A. (2024). A Path Analysis of Burnout of Vocational Rehabilitation Counselors. *Rehabilitation Counseling Bulletin*. https://doi.org/10.1177/00343552241265314

Lu, J., Maiden, R. J., Lo, C.-L., & Driver, N. N. (2023). Examining Burnout and Its Correlates Among Rehabilitation Counselors: Implications for Research and Practice. *Rehabilitation Counseling Bulletin*, 3435522311765. https://doi.org/10.1177/00343552231176529

Lustig, D. C., Strauser, D. R., & Weems, G. H. (2004). Rehabilitation Service Patterns: A Rural/Urban Comparison of Success Factors. *Journal of Rehabilitation*, *70*(3), 13-19. https://link.gale.com/apps/doc/A122769209/AONE?u=usyd&sid=bookmark-AONE&xid=40a18fcd

Lykins, A. B., Seroka, N. W., Mayor, M., Seng, S., Higgins, J. T., & Okoli, C. T. C. (2024). Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Nursing Staff at an Academic Medical Center: A Cross-Sectional Analysis. *Journal of the American Psychiatric Nurses Association*, *30*(1), 63-73. https://doi.org/10.1177/10783903211066125

MacKay, S. C., Smith, A., Kyle, R. G., & Beattie, M. (2021). What Influences Nurses' Decisions to Work in Rural and Remote Settings?: A Systematic Review and Meta-Synthesis of Qualitative Research. *Rural and Remote Health*, *21*(1), 1-26.

https://doi.org/10.22605/RRH6335
Maganty, A., Byrnes, M. E., Hamm, M., Wasilko, R., Sabik, L. M., Davies, B. J., & Jacobs, B. L. (2023). Barriers to Rural Health Care From the Provider Perspective. *Rural and Remote Health*, *23*(2), 1-11. https://doi.org/10.22605/RRH7769
Maillet, S., & Read, E. A. (2024). Areas of Work-Life, Psychological Capital and Emotional Intelligence on Compassion Fatigue and Compassion Satisfaction Among Nurses: A Cross-Sectional Study. *Nursing Open*, *11*(2), e2098. https://doi.org/https://doi.org/10.1002/nop2.2098
Makic, M. B. F. (2015). Taking Care of the Caregiver: Compassion Satisfaction and Compassion Fatigue. *Journal of Perianesthesia Nursing*, *30*(6), 546-547. https://doi.org/10.1016/j.jopan.2015.09.006
Malatzky, C., & Bourke, L. (2016). Re-Producing Rural Health: Challenging Dominant Discourses and the Manifestation of Power. *Journal of Rural Studies*, *45*, 157-164. https://doi.org/10.1016/j.jrurstud.2016.03.005
Malik, M., Penalosa, M., Busch, I. M., Burhanullah, H., Weston, C., Weeks, K., Connors, C., Michtalik, H. J., Everly, G., Wu, A. W., Shepardson, R. L., Polaha, J., Macchi, C. R., & Kessler, R. (2024). Rural Healthcare Workers' Well-Being: A Systematic Review of Support Interventions. *Families Systems & Health*, *42*(3), 355-374. https://doi.org/10.1037/fsh0000921
Mangoulia, P., Koukia, E., Alevizopoulos, G., Fildissis, G., & Katostaras, T. (2015). Prevalence of Secondary Traumatic Stress Among Psychiatric Nurses in Greece. *Archives of Psychiatric Nursing*, *29*(5), 333-338. https://doi.org/10.1016/j.apnu.2015.06.001
Martin, K. J. (1995). Workers' Compensation: Case Management Strategies. *Workplace Health & Safety Journal*, *43*(5), 245-250. https://doi.org/10.1177/216507999504300503
Maslach, C., & Jackson, S. E. (1981). The Measurement of Experienced Burnout. *Journal of Organizational Behavior*, *2*(2), 99-113. https://doi.org/https://doi.org/10.1002/job.4030020205
Maslach, C., & Leiter, M. P. (2016). Understanding The Burnout Experience: Recent Research and Its Implications for Psychiatry. *World Psychiatry*, *15*(2), 103-111. https://doi.org/10.1002/wps.20311
Mbemba, G., Gagnon, M.-P., Paré, G., & Côté, J. (2013). Interventions For Supporting Nurse Retention in Rural and Remote Areas: An Umbrella Review. *Human Resources for Health*, *11*(1), 44-44. https://doi.org/10.1186/1478-4491-11-44
McAulay, L., Fadyl, J., & Terry, G. (2023). Effective Teams in Vocational Rehabilitation: An Exploration of Complexities and Practice in Aotearoa-New Zealand. *Journal of Occupational Rehabilitation*, *33*(3), 518-527. https://doi.org/10.1007/s10926-022-10089-w
McCullough, K., Whitehead, L., Bayes, S., Williams, A., & Cope, V. (2020). The Delivery of Primary Health Care in Remote Communities: A Grounded Theory Study of the Perspective of Nurses. *International Journal of Nursing Studies*, *102*, 103474. https://doi.org/10.1016/j.ijnurstu.2019.103474
McDowell, C., Fossey, E., & Harvey, C. (2022). Moving Clients Forward: A Grounded Theory of Disability Employment Specialists' Views and Practices. *Disability and Rehabilitation*, *44*(19), 5504-5512. https://doi.org/10.1080/09638288.2021.1937341

McEvoy, M., Caccaviello, G., Crombie, A., Skinner, T., Begg, S. J., Faulkner, P., McEvoy, A., Masman, K., Bamforth, L., Parker, C., Stanyer, E., Collings, A., & Li, X. (2024). Health and Wellbeing of Regional and Rural Australian Healthcare Workers During the COVID-19 Pandemic: Baseline Cross-Sectional Findings from the Loddon Mallee Healthcare Worker COVID-19 Study—A Prospective Cohort Study. *International Journal of Environmental Research and Public Health*, *21*(5), 649. https://www.mdpi.com/1660-4601/21/5/649

McGrail, M. R., & Humphreys, J. S. (2015). Spatial Access Disparities to Primary Health Care in Rural and Remote Australia. *Geospatial Health*, *10*(2), 358. https://doi.org/10.4081/gh.2015.358

McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors of Compassion Satisfaction and Compassion Fatigue in Health Care Workers Providing Health and Rehabilitation Services in Rural and Remote Locations: A Scoping Review. *Australian Journal of Rural Health*, *30*(2), 264-280. https://doi.org/https://doi.org/10.1111/ajr.12857

McGrath, K., Matthews, L. R., Heard, R., & Hancock, N. (2024). Compassion Satisfaction and Compassion Fatigue: Experiences of Rehabilitation Healthcare Workers in Rural and Remote Locations in Australia. *Health & Social Care in The Community*, *2024*, 2823441. https://doi.org/10.1155/2024/2823441

McKennon, S., Fricke, S., & DeWitt, D. (2025). Well-Being Interventions for Rural Health Professionals: A Scoping Review. *The Journal of Rural Health*, 41(1), e12909. https://doi.org/https://doi.org/10.1111/jrh.12909

McKenzie, C. (2019). Burnout North of 60. *Critical Social Work*, *17*(2). https://doi.org/10.22329/csw.v17i2.5900

McLennan, V., & Ludvik, D. (2021). Early Vocational Rehabilitation After Serious Injury or Illness: A Systematic Review. *Rehabilitation Counseling Bulletin*, *64*(4), 235-243. https://doi.org/10.1177/0034355220962218

McLennan, V., Ryan, K., & Randall, C. (2018). Ethical Dilemmas Experienced by Australian Rehabilitation Counsellors. *Online Journal of Health Ethics*, *14*(1). https://doi.org/10.18785/ojhe.1401.07

Miedema, B., Tatemichi, S., Hamilton, R., Lambert-Lanning, A., Lemire, F., Manca, D. P., & Ramsden, V. R. (2011). Effect of Colleague and Coworker Abuse on Family Physicians in Canada. *Canadian Family Physician*, *57*(12), 1424-1431.

Mills, J.-A., Marks, E., Reynolds, T., & Cieza, A. (2017). Rehabilitation: Essential Along the Continuum of Care. In D. T. Jamison (Ed.), *Disease Control Priorities: Improving Health and Reducing Poverty* (Third edition ed., pp. 357-371). World Bank Group. https://www.ncbi.nlm.nih.gov/books/NBK525298/

Milutinović, D., Marcinowicz, L., Jovanović, N. B., & Dragnić, N. (2023). Impact of Compassion Satisfaction and Compassion Fatigue on Satisfaction with Life in Serbian and Polish nurses: A Cross-Sectional Study. *International Nursing Review*, *70*(2), 194-203. https://doi.org/https://doi.org/10.1111/inr.12793

Mirutse, A., Mengistu, Z., & Bizuwork, K. (2023). Prevalence of Compassion Fatigue, Burnout, Compassion Satisfaction, and Associated Factors Among Nurses Working in Cancer Treatment Centers in Ethiopia, 2020. *BMC Nursing*, *22*(1), 1-373. https://doi.org/10.1186/s12912-023-01383-w

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2009). Preferred Reporting Items

for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Montgomery, A., Todorova, I., Baban, A., & Panagopoulou, E. (2013). Improving Quality and Safety in the Hospital: The Link Between Organizational Culture, Burnout, and Quality of Care. *British Journal of Health Psychology*, 18(3), 656-662. https://doi.org/10.1111/bjhp.12045

Morgan, D., Innes, A., & Kosteniuk, J. (2011). Dementia Care in Rural and Remote Settings: A Systematic Review of Formal or Paid Care. *Maturitas*, *68*(1), 17-33. https://doi.org/10.1016/j.maturitas.2010.09.008

Motor Accident Insurance Commission. (2024). *About CTP Insurance*. Retrieved April 25, 2026 from https://maic.qld.gov.au/for-drivers/about-ctp-insurance/

Mueller, V., & Morley, C. (2020). Blaming Individuals for Burnout: Developing Critical Practice Responses to Workplace Stress. *Social Alternatives*, *39*(3), 20-28.

Mullan, L., Armstrong, K., & Job, J. (2023). Barriers and Enablers to Structured Care Delivery in Australian Rural Primary Care. *The Australian Journal of Rural Health*, *31*(3), 361-384. https://doi.org/10.1111/ajr.12963

Murray, D. D., & Chiotu, L. B. (2024). How Mental Health Nurses Report Their Compassion Fatigue and Compassion Satisfaction: A Cross-Sectional Study and the Implications for Healthcare Leaders. *Issues in Mental Health Nursing*, *45*(5), 1-519. https://doi.org/10.1080/01612840.2024.2322045

Nadarajan, S. S., Chui, P. L., Lee, W. L., & Zaini, N. H. (2025). Factors Influencing Compassion Satisfaction and Compassion Fatigue Among Nurses: A Study in a Tertiary Hospital. *BMC Nursing*, *24*(1), 93. https://doi.org/10.1186/s12912-025-02736-3

Nanjundeswaraswamy, D., & Swamy, D. R. (2013). Review of Literature on Quality of Worklife. *International Journal for Quality Research*, *7*, 201-214.

National Institutes of Health Medical Rehabilitation Coordinating Committee. (2017). National Institutes of Health Research Plan on Rehabilitation. *American Journal of Occupational Therapy*, *71*(3), 404-407. https://doi.org/10.5014/ajot.2017.713004

National Rural Health Alliance. (2021). *Post-Pandemic Rehabilitation Needs in Regional, Rural and Remote Australia*. Retrieved July 13 2024 from https://www.ruralhealth.org.au/partyline/article/post-pandemic-rehabilitation-needs-regional-rural-and-remote-australia

National Rural Health Alliance. (2024). *The Benefits of Supporting Yourself and Others After a Traumatic Event*. Retrieved November 28, 2025 from https://www.ruralhealth.org.au/partyline/article/benefits-supporting-yourself-and-others-after-traumatic-event.html

NDIS. (2024). *Understanding Your Plan*. Retrieved November 22, 2025 from https://www.ndis.gov.au/participants/using-your-plan/understanding-your-plan

NDIS. (2026). *Summary of Statistics Reporting Month March 2026*. Retrieved April 25, 2026 from https://dataresearch.ndis.gov.au/reports-and-analyses/ndis-focus

Nimmo, A., & Huggard, P. (2013). A Systematic Review of the Measurement of Compassion Fatigue, Vicarious Trauma, and Secondary Traumatic Stress in Physicians. *Australasian Journal of Disaster and Trauma Studies*, *2013-1*, 37-44. http://trauma.massey.ac.nz/issues/2013-1/AJDTS_2013-1_Nimmo.pdf

Nolte, A. G. W., Downing, C., Temane, A., & Hastings-Tolsma, M. (2017). Compassion Fatigue in Nurses: A Metasynthesis. *Journal of Clinical Nursing*, *26*(23-24), 4364-4378. https://doi.org/10.1111/jocn.13766

NSW Government. (2025). *Irreplaceable: New SafeWork campaign and $127.7m Budget injection to further protect workers*. Retrieved April 27, 2026 from https://www.nsw.gov.au/ministerial-releases/irreplaceable-new-safework-campaign-and-1277m-budget-injection-to-further-protect-workers

NSW Government. (2025). *Life Insurance*. Retrieved November 22, 2025 from https://www.nsw.gov.au/health/serious-illness-and-injury/if-you-have-a-serious-injury/getting-help-costs/life-insurance

O'Toole, K., Schoo, A., & Hernan, A. (2010). Why Did They Leave and What Can They Tell Us?: Allied Health Professionals Leaving Rural Settings. *Australian Health Review*, *34*(1), 66-72. https://doi.org/10.1071/AH09711

O'Callaghan, E. L., Lam, L., Cant, R., & Moss, C. (2020). Compassion Satisfaction and Compassion Fatigue in Australian Emergency Nurses: A Descriptive Cross-Sectional Study. *International Emergency Nursing*, *48*, 100785. https://doi.org/10.1016/j.ienj.2019.06.008

Ogińska-Bulik, N., Gurowiec, P. J., Michalska, P., & Kędra, E. (2021). Prevalence and Predictors of Secondary Traumatic Stress Symptoms in Health Care Professionals Working with Trauma Victims: A Cross-Sectional Study. *PloS One*, *16*(2), e0247596. https://doi.org/10.1371/journal.pone.0247596

Okoli, C. T. C., Seng, S., Otachi, J. K., Higgins, J. T., Lawrence, J., Lykins, A., & Bryant, E. (2020). A Cross-Sectional Examination of Factors Associated with Compassion Satisfaction and Compassion Fatigue Across Healthcare Workers in an Academic Medical Centre. *International Journal of Mental Health Nursing*, *29*(3), 476-487. https://doi.org/10.1111/inm.12682

Ondrejková, N., & Halamová, J. (2022). Prevalence of Compassion Fatigue Among Helping Professions and Relationship to Compassion for Others, Self-Compassion and Self-Criticism. *Health & Social Care in the Community*, *30*(5), 1680-1694. https://doi.org/10.1111/hsc.13741

Opie, T., Dollard, M., Lenthall, S., Wakerman, J., Dunn, S., Knight, S., & MacLeod, M. (2010). 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

Orrù, G., Marzetti, F., Conversano, C., Vagheggini, G., Miccoli, M., Ciacchini, R., Panait, E., & Gemignani, A. (2021). Secondary Traumatic Stress and Burnout in Healthcare Workers During Covid-19 Outbreak. *International Journal of Environmental Research and Public Health*, *18*(1), 1-13. https://doi.org/10.3390/ijerph18010337

Oser, C. B., Biebel, E. P., Pullen, E., & Harp, K. L. H. (2013). Causes, Consequences, and Prevention of Burnout Among Substance Abuse Treatment Counselors: A Rural Versus Urban Comparison. *Journal of Psychoactive Drugs*, *45*(1), 17-27. https://doi.org/10.1080/02791072.2013.763558

O'Sullivan, D., & Bates, J. K. (2014). The Relationship Among Personal and Work Experiences: Implications for Rehabilitation Counselor Well-Being and Service Provision.

Rehabilitation Research, Policy, and Education, *28*(1), 45-60. https://doi.org/10.1891/2168-6653.28.1.45

Paliadelis, P. S., Parmenter, G., Parker, V., Giles, M., & Higgins, I. (2012). The Challenges Confronting Clinicians in Rural Acute Care Settings: A Participatory Research Project. *Rural and Remote Health*, *12*, 2017-2017. https://doi.org/10.22605/RRH2017

Pasanen, J. (2021). The Nature of Positive Encounters Between Disabled Workers and Insurers in the Return to Work Process. *Work: A Journal of Prevention, Assessment & Rehabilitation*, *70*(1), 287-300. https://doi.org/10.3233/WOR-213573

Polgar, S., & Thomas, S. A. (2013). *Introduction to Research in the Health Sciences: Introduction to Research in the Health Sciences E-Book* (6 ed.). Elsevier Health Sciences.

Portoghese, I., Galletta, M., Coppola, R. C., Finco, G., & Campagna, M. (2014). Burnout and Workload Among Health Care Workers: The Moderating Role of Job Control. *Safety and Health at Work*, *5*(3), 152-157. https://doi.org/10.1016/j.shaw.2014.05.004

Preston, G., Rampes, S., Bayly, J., Rice, H. T., Angelova, R., Richardson, H., & Maddocks, M. (2023). Using Volunteers to Improve Access to Community Rehabilitation in Palliative Care: The St Christopher's Living Well at Home Team. *Frontiers in Rehabilitation Sciences*, *4*, 1229442. https://doi.org/10.3389/fresc.2023.1229442

Queensland Government. (2024). *Workers' Compensation and Rehabilitation and Other Legislation Amendment Act 2024*. Retrieved April 25, 2026 from https://www.worksafe.qld.gov.au/laws-and-compliance/workers-compensation-and-rehabilitation-and-other-legislation-amendment-act-2024

Quinlan, M. G. (2023). Psychosocial Hazards: An Overview and Industrial Relations Perspective. *Journal of Industrial Relations*. https://doi.org/10.1177/00221856231212221

Rauvola, R. S., Vega, D. M., & Lavigne, K. N. (2019). Compassion Fatigue, Secondary Traumatic Stress, and Vicarious Traumatization: a Qualitative Review and Research Agenda. *Occupational Health Science*, *3*(3), 297-336. https://doi.org/10.1007/s41542-019-00045-1

Rayani, A., Hannan, J., Alreshidi, S., Aboshaiqah, A., Alodhailah, A., & Hakamy, E. (2024). Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Saudi Nurses at Medical City: A Cross-Sectional Study. *Healthcare (Basel)*, *12*(8). https://doi.org/10.3390/healthcare12080847

Roberts, R. (2021). A Rural Health Governance Model That is Fit for Purpose—It's Not Them and Us: It's 'We'. *The Australian Journal of Rural Health*, *29*(6), 816-820. https://doi.org/10.1111/ajr.12830

Roberts-Yates, D. C. (2003). Examining the Role of Rehabilitation in the South Australian Workers' Compensation System. *The Australian Journal of Rehabilitation Counselling*, *9*(2), 82-101. https://doi.org/10.1017/S1323892200000399

Robichaud, M.-M., Truchon, M., St-Arnaud, L., & Nastasia, I. (2019). Insurers' Rerspective on Barriers and Facilitators for Return to Work After Occupational Injuries. *Work*, *63*(1), 81-97. https://doi.org/10.3233/WOR-192910

Roots, R. K., Brown, H., Bainbridge, L., & Li, L. C. (2014). Rural Rehabilitation Practice: Perspectives of Occupational Therapists and Physical Therapists in British Columbia, Canada. *Rural and Remote Health*, *14*, 2506-2506. https://doi.org/10.22605/RRH2506

Ross, I. (2024). Non-Compete Clauses in Employment Contracts: The Case For Regulatory

Response. *The Economic and Labour Relations Review*, *35*(4), 806-830. https://doi.org/10.1017/elr.2024.40

Ruiz-Fernández, M. D., Pérez-García, E., & Ortega-Galán, Á. M. (2020). Quality of Life in Nursing Professionals: Burnout, Fatigue, and Compassion Satisfaction. *International Journal of Environmental Research and Public Health*, *17*(4), 1253. https://doi.org/10.3390/ijerph17041253

Russo, D., & Innes, E. (2002). An Organizational Case Study of the Case Manager's Role in a Client's Return-To-Work Programme in Australia. *Occupational Therapy International*, *9*(1), 57-75. https://doi.org/10.1002/oti.156

Ryu, I. S., & Shim, J. L. (2022). The Relationship Between Compassion Satisfaction and Fatigue with Shift Nurses' Patient Safety-Related Activities. *Iranian Journal of Public Health*, *51*(12), 2724-2732. https://doi.org/10.18502/ijph.v51i12.11463

Sacco, T. L., Ciurzynski, S. M., Harvey, M. E., & Ingersoll, G. L. (2015). Compassion Satisfaction and Compassion Fatigue Among Critical Care Nurses. *Critical Care Nurse*, *35*(4), 32-42. https://doi.org/10.4037/ccn2015392

Sacco, T. L., & Copel, L. C. (2018). Compassion Satisfaction: A Concept Analysis in Nursing. *Nursing Forum*, *53*(1), 76-83. https://doi.org/10.1111/nuf.12213

Saeidzadeh, S., Wang, A., Duan, Y., Hipel, I., Norton, P. G., & Estabrooks, C. A. (2025). Examining Factorial Validity and Internal Consistency of Professional Quality of Life (ProQoL-9) Among Care Aides Working in Long-term Care (LTC). *BMC Health Services Research*, *25*(1), 4. https://doi.org/10.1186/s12913-024-12143-0

Safe Work Australia. (2020). *National Return to Work Strategy 2020-2023 Methodology for the Measurement Framework.* https://www.safeworkaustralia.gov.au/sites/default/files/2020-06/NRTWS_Methodology%20for%20the%20Measurement%20Framework_June2020.pdf

Safe Work Australia. (2023). *Comparison of Workers' Compensation Arrangements in Australia and New Zealand 2023*. Safe Work Australia. https://www.safeworkaustralia.gov.au/book/comparison-wc-arrangements-29ed

Safe Work Australia. (2023). *Premiums*. Retrieved November 22, 2025 from https://www.safeworkaustralia.gov.au/book/comparison-wc-arrangements-29ed/chapter-8/premiums

Safe Work Australia. (2024). *Psychosocial Hazards*. Retrieved February 8, 2025 from https://www.safeworkaustralia.gov.au/safety-topic/managing-health-and-safety/mental-health/psychosocial-hazards

Safe Work Australia. (2025). *Key Work Health and Safety Statistics Australia 2025.* Retrieved April 25, 2026 from https://data.safeworkaustralia.gov.au/sites/default/files/2025-10/Key_Work_Health_and_Safety_Statistics_Australia_2025.pdf

Safe Work Australia. (2025). *Maximum Monetary Penalties Comparison Table.* Retrieved May 3, 2026 from https://www.safeworkaustralia.gov.au/doc/maximum-monetary-penalties-comparison-table

Saliya, S. A., Ashine, T. M., Heliso, A. Z., Babore, G. O., Birhanu, B., & Hailu, A. G. (2024). Professional Quality of Life and Job Satisfaction Among Nurses Working at Tertiary Hospitals in Central Ethiopia. *BMC Nursing*, *23*(1), 417-412.

https://doi.org/10.1186/s12912-024-02101-w
Salloum, A., Kondrat, D. C., Johnco, C., & Olson, K. R. (2015). The Role of Self-Care on Compassion Satisfaction, Burnout and Secondary Trauma Among Child Welfare Workers. *Children and Youth Services Review*, *49*, 54-61. https://doi.org/10.1016/j.childyouth.2014.12.023
Samios, C. (2018). Burnout and Psychological Adjustment in Mental Health Workers in Rural Australia: The Roles of Mindfulness and Compassion Satisfaction. *Mindfulness*, *9*(4), 1088-1099. https://doi.org/10.1007/s12671-017-0844-5
Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in Qualitative Research: Exploring its Conceptualization and Operationalization. *Quality and Quantity*, *52*(4), 1893-1907. https://doi.org/10.1007/s11135-017-0574-8
Sawatzky, J. A. V., & Enns, C. L. (2012). Exploring the Key Predictors of Retention in Emergency Nurses. *Journal of Nursing Management*, *20*(5), 696-707. https://doi.org/10.1111/j.1365-2834.2012.01355.x
Schroeder, S., Kelly, D., & Leighton, K. (2023). Influence of Years of Experience and Age on Hospital Workforce Compassion Satisfaction, Anxiety, Depression, Stress, and Burnout During Pandemic: Implications for Retention. *Psychology, Health & Medicine*, *28*(7), 1741-1754. https://doi.org/10.1080/13548506.2022.2159988
Selviaridis, K., & Wynstra, F. (2015). Performance-Based Contracting: A Literature Review and Future Research Directions. *International Journal of Production Research*, *53*. https://doi.org/10.1080/00207543.2014.978031
Shdaifat, E., Al-Shdayfat, N., & Al-Ansari, N. (2023). Professional Quality of Life, Work-Related Stress, and Job Satisfaction among Nurses in Saudi Arabia: A Structural Equation Modelling Approach. *Journal of Environmental and Public Health*, *2023*, 2063212. https://doi.org/10.1155/2023/2063212
Shiyab, W. e., Ferguson, C., Rolls, K., & Halcomb, E. (2023). Solutions to Address Low Response Rates in Online Surveys. *European Journal of Cardiovascular Nursing*, *22*(4), 441-444. https://doi.org/10.1093/eurjcn/zvad030
Shoman, Y., Marca, S. C., Bianchi, R., Godderis, L., van der Molen, H. F., & Guseva Canu, I. (2021). Psychometric Properties of Burnout Measures: a Systematic Review. *Epidemiology and Psychiatric Sciences*, 30, e8. https://doi.org/10.1017/S2045796020001134
Sibuea, Z. M., Sulastiana, M., & Fitriana, E. (2024). Factor Affecting the Quality of Work Life Among Nurses: A Systematic Review. *Journal of Multidisciplinary Healthcare*, *17*, 491-503. https://doi.org/10.2147/JMDH.S446459
Sinclair, S., Norris, J. M., McConnell, S. J., Chochinov, H. M., Hack, T. F., Hagen, N. A., McClement, S., & Bouchal, S. R. (2016). Compassion: A Scoping Review of the Healthcare Literature. *BMC Palliative Care*, 15, 6. https://doi.org/10.1186/s12904-016-0080-0
Sinclair, S., Raffin-Bouchal, S., Venturato, L., Mijovic-Kondejewski, J., & Smith-MacDonald, L. (2017). Compassion Fatigue: A Meta-Narrative Review of the Healthcare Literature. *International Journal of Nursing Studies*, 69, 9-24. https://doi.org/10.1016/j.ijnurstu.2017.01.003
Singh, C., Cross, W., & Jackson, D. (2015). Staff Burnout- A Comparative Study of Metropolitan

and Rural Mental Health Nurses Within Australia. *Issues in Mental Health Nursing*, *36*(7), 528-537. https://doi.org/10.3109/01612840.2014.996838

Singh, J., Karanika-Murray, M., Baguley, T., & Hudson, J. (2020). A Systematic Review of Job Demands and Resources Associated with Compassion Fatigue in Mental Health Professionals. *International Journal of Environmental Research and Public Health*, *17*(19), 6987. https://doi.org/10.3390/ijerph17196987

Singh, J., Karanika-Murray, M., Baguley, T., & Hudson, J. (2024). A Psychometric Evaluation of Professional Quality of Life Scale Version 5 (ProQOL 5) in a UK-Based Sample of Allied Mental Health Professionals. *Current Psychology (New Brunswick, N.J.)*, *43*(25), 21615-21629. https://doi.org/10.1007/s12144-024-05966-x

Sivan, M., & Negrini, S. (2024). An Expanded Workforce is Needed to Strengthen Rehabilitation in Health Systems. *BMJ*, *384*, q60. https://doi.org/10.1136/bmj.q60

Slatten, L. A., Carson, K. D., & Carson, P. P. (2011). Compassion Fatigue and Burnout: What Managers Should Know. *The Health Care Manager*, *30*(4), 325-333. https://doi.org/10.1097/HCM.0b013e31823511f7

Smart, D., English, A., James, J., Wilson, M., Daratha, K. B., Childers, B., & Magera, C. (2014). Compassion Fatigue and Satisfaction: A Cross-Sectional Survey Among US Healthcare Workers. *Nursing and Health Sciences*, *16*(1), 3-10. https://doi.org/10.1111/nhs.12068

Somoray, K., Shakespeare-finch, J., & Armstrong, D. (2017). The Impact of Personality and Workplace Belongingness on Mental Health Workers' Professional Quality of Life. *Australian Psychologist*, *52*(1), 52-60. https://doi.org/10.1111/ap.12182

Sorenson, C., Bolick, B., Wright, K., & Hamilton, R. (2016). Understanding Compassion Fatigue in Healthcare Providers: A Review of Current Literature. *Journal of Nursing Scholarship*, *48*(5), 456-465. https://doi.org/https://doi.org/10.1111/jnu.12229

Sprang, G., Clark, J. J., & Whitt-Woosley, A. (2007). Compassion Fatigue, Compassion Satisfaction, and Burnout: Factors Impacting a Professional's Quality of Life. *Journal of Loss and Trauma*, *12*(3), 259-280. https://doi.org/10.1080/15325020701238093

Sprang, G., Craig, C., & Clark, J. (2011). Secondary Traumatic Stress and Burnout in Child Welfare Workers: A Comparative Analysis of Occupational Distress Across Professional Groups. *Child Welfare*, *90*(6), 149-168. https://www.jstor.org/stable/48625374

Sprang, G., Ford, J., Kerig, P., & Bride, B. (2019). Defining Secondary Traumatic Stress and Developing Targeted Assessments and Interventions: Lessons Learned From Research and Leading Experts. *Traumatology*, *25*(2), 72-81. https://doi.org/10.1037/trm0000180

Stamm, B., Lambert, D., Piland, N. F., & Speck, N. C. (2007). A Rural Perspective on Health Care for the Whole Person. *Professional Psychology: Research and Practice*, *38*(3), 298-304. https://doi.org/10.1037/0735-7028.38.3.298

Stamm, B. H. (2009). *Professional Quality of Life Measure*. Retrieved February 8 2023 from https://proqol.org/ProQol_Test.html

Stamm, B. H. (2010). *The Concise ProQOL Manual, 2nd ed.* Retrieved February 8 2023 from https://proqol.org/proqol-manual

Stanley, S., & Sebastine, A. J. (2024). Predictors of Compassion Fatigue and Compassion Satisfaction in Social Workers (A Quantitative Study from India). *Human Service Organizations, Management, Leadership & Governance*, *48*(5), 540-554. https://doi.org/10.1080/23303131.2024.2319210

State Insurance Regulatory Authority. (2025). *Workers Compensation Guide for Allied Health Practitioners*. Retrieved April 26, 2026 from https://www.sira.nsw.gov.au/resources-library/workers-compensation-resources/publications/health-professionals-for-workers-compensation/workers-compensation-guide-for-allied-health-practitioners

Stearns, S., & Benight, C. C. (2017). Organizational Factors in Burnout and Secondary Traumatic Stress. In C. C. Benight (Ed.), *Secondary Trauma and Burnout in Military Behavioral Health Providers* (pp. 85-113). Palgrave Macmillan. https://doi.org/10.1057/978-1-349-95103-1_5

Stebnicki, M. A. (2000). Stress and Grief Reactions Among Rehabilitation Professionals: Dealing Effectively with Empathy Fatigue. *Journal of Rehabilitation*, *66*(1), 23-29. https://www.proquest.com/docview/1310697175?pq-origsite=gscholar&fromopenview=true&sourcetype=Scholarly%20Journals&imgSeq=2

Stengård, J., Bernhard-Oettel, C., Berntson, E., Leineweber, C., & Aronsson, G. (2016). Stuck in a Job: Being "Locked-In" or at Risk of Becoming Locked-In at the Workplace and Well-Being Over Time. *Work and Stress*, *30*(2), 152-172. https://doi.org/10.1080/02678373.2016.1163804

Sutton, J., & Austin, Z. (2015). Qualitative Research: Data Collection, Analysis, and Management. *Canadian Journal of Hospital Pharmacy*, *68*(3), 226-231. https://doi.org/10.4212/cjhp.v68i3.1456

Swan, M., & Hobbs, B. (2021). Lack of Anonymity and Secondary Traumatic Stress in Rural Nurses. *Online Journal of Rural Nursing and Health Care*, *21*(1), 183-201. https://doi.org/10.14574/ojrnhc.v21i1.651

Szumer, R. T. O., & Arnold, M. (2023). The Ethics of Overlapping Relationships in Rural and Remote Healthcare. A Narrative Review. *Journal of Bioethical Inquiry*, *20*(2), 181-190. https://doi.org/10.1007/s11673-023-10243-w

Tabaj, A., Pastirk, S., Bitenc, Č., & Masten, R. (2015). Work-Related Stress, Burnout, Compassion, and Work Satisfaction of Professional Workers in Vocational Rehabilitation. *Rehabilitation Counseling Bulletin*, *58*(2), 113-123. https://doi.org/10.1177/0034355214537383

Tang, L., Wang, F., & Tang, T. (2024). Exploring the Relationship Between Family Care, Organizational Support, and Resilience on the Professional Quality of Life Among Emergency Nurses: A Cross-Sectional Study. *International Emergency Nursing*, *72*, 101399. https://doi.org/10.1016/j.ienj.2023.101399

Terry, D., Lê, Q., Nguyen, U., & Hoang, H. (2015). Workplace Health and Safety Issues Among Community Nurses: A Study Regarding the Impact on Providing Care to Rural Consumers. *BMJ Open*, *5*(8), e008306. https://doi.org/10.1136/bmjopen-2015-008306

Tham, R., Pascoe, A., Willis, K., Kay, M., & Smallwood, N. (2022). Differences in Psychosocial Distress Among Rural and Metropolitan Health Care Workers During the COVID-19 Pandemic. *Australian Journal of Rural Health*, *30*(5), 683-696. https://doi.org/10.1111/ajr.12873

Thapa, D. K., Levett-Jones, T., West, S., & Cleary, M. (2021). Burnout, Compassion Fatigue, and Resilience Among Healthcare Professionals. *Nursing & Health Sciences*, *23*(3), 565-569. https://doi.org/https://doi.org/10.1111/nhs.12843

Thommasen, H. V., Lavanchy, M., Connelly, I., Berkowitz, J., & Grzybowski, S. (2001). Mental

Health, Job Satisfaction, and Intention to Relocate. Opinions of Physicians in Rural British Columbia. *Canadian Family Physician*, *47*, 737-744.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated Criteria for Reporting Qualitative Research (COREQ): A 32-Item Checklist for Interviews and Focus Groups. *International Journal for Quality in Health Care*, *19*(6), 349-357. https://doi.org/10.1093/intqhc/mzm042

Transparency Portal. (2024). *Department of Veterans' Affairs Annual Report 2023-24*. Retrieved April 25, 2026 from https://www.transparency.gov.au/publications/veterans-affairs/department-of-veterans-affairs/dva-annual-report-2023-24/07-appendices/appendix-a---veteran-and-claim-statistics

Tujague, N., & Ryan, K. (2023). The Cost of Caring: Vicarious Trauma and Compassion Fatigue. In N. Tujague & K. Ryan (Eds.), *Cultural Safety in Trauma-Informed Practice from a First Nations Perspective: Billabongs of Knowledge* (pp. 221-242). Springer International Publishing. https://doi.org/10.1007/978-3-031-13138-7_8

Unertl, K. M., Fair, A. M., Favours, J. S., Dolor, R. J., Smoot, D., & Wilkins, C. H. (2018). Clinicians' Perspectives on and Interest in Participating in a Clinical Data Research Network Across the Southeastern United States. *BMC Health Services Research*, *18*(1), 568-568. https://doi.org/10.1186/s12913-018-3399-9

Unjai, S., Forster, E. M., Mitchell, A. E., & Creedy, D. K. (2022). Compassion Satisfaction, Resilience and Passion for Work Among Nurses and Physicians Working in Intensive Care Units: A Mixed Method Systematic Review. *Intensive and Critical Care Nursing*, *71*, 103248. https://doi.org/https://doi.org/10.1016/j.iccn.2022.103248

Vracevic, M., Pavlovic, V., Todorovic, N., Milic, N. M., Matejic, B., Brkic, P., Milic, N. V., Savic, M., Masic, S., Pavlovic, A., Stanisic, V., Tasic, A., Spaic, D., Matovic, S., Tiosavljevic, D., & Stanisavljevic, D. (2025). Compassion Fatigue and Satisfaction Among Frontline Staff in Long Term Care Facilities: Psychometric Properties of the Serbian Version of the Professional Quality of Life Scale. *Frontiers in Psychiatry*, *16*, 1479190. https://doi.org/10.3389/fpsyt.2025.1479190

Vu, F., & Bodenmann, P. (2017). Preventing, Managing and Treating Compassion Fatigue. *Schweizer Archiv für Neurologie und Psychiatrie*, *168*, 224-231.

Wakerman, J., Humphreys, J. S., Wells, R., Kuipers, P., Entwistle, P., & Jones, J. (2008). Primary Health Care Delivery Models in Rural and Remote Australia – A Systematic Review. *BMC Health Services Research*, *8*(1), 276. https://doi.org/10.1186/1472-6963-8-276

Wang, J., Okoli, C. T. C., He, H., Feng, F., Li, J., Zhuang, L., & Lin, M. (2020). Factors Associated with Compassion Satisfaction, Burnout, and Secondary Traumatic Stress Among Chinese Nurses in Tertiary Hospitals: A Cross-Sectional Study. *International Journal of Nursing Studies*, *102*, 103472. https://doi.org/10.1016/j.ijnurstu.2019.103472

Weinhold, I., & Gurtner, S. (2018). Rural - Urban Differences in Determinants of Patient Satisfaction with Primary Care. *Social Science and Medicine*, *212*, 76-85. https://doi.org/10.1016/j.socscimed.2018.06.019

Whiteing, N., Barr, J., & Rossi, D. M. (2022). The Practice of Rural and Remote Nurses in Australia: A Case Study. *Journal of Clinical Nursing*, *31*(11-12), 1502-1518. https://doi.org/10.1111/jocn.16002

Williams, M. A. (2012). Rural Professional Isolation: An Integrative Review. *Online Journal of*

Rural Nursing and Health Care, *12*(2), 3-10. https://doi.org/10.14574/ojrnhc.v12i2.51

World Health Organisation. (2020). *Rehabilitation*. Retrieved November 8, 2020 from https://www.who.int/news-room/fact-sheets/detail/rehabilitation

World Health Organisation. (2023). *Rehabilitation*. Retrieved February 8, 2023 from https://www.who.int/news-room/fact-sheets/detail/rehabilitation

World Health Organisation. (2024). *Rehabilitation*. Retrieved February 9, 2025 from https://www.who.int/news-room/fact-sheets/detail/rehabilitation

World Health Organisation. (2024). *Mental Health at Work*. Retrieved April 25, 2026 from https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work

World Health Organization. (2011). *World Report on Disability*. Retrieved April 25, 2026 from https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability

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*(8), e051345-e051345. https://doi.org/10.1136/bmjopen-2021-051345

Wright, L. K., Jatrana, S., & Lindsay, D. (2024). Examining Workplace Safety for Remote Area Nurses in Australia: A Cross-Sectional Descriptive Study. *Rural and Remote Health*, *24*(3), 1-12. https://doi.org/10.22605/RRH8465

Wu, T., & Lu, C. R. (2025). Understanding Compassion Fatigue Among Social Workers: A Scoping Review. *Frontiers in Psychology*, *16*, 1500305. https://doi.org/10.3389/fpsyg.2025.1500305

Xu, Z., Zhao, B., Zhang, Z., Wang, X., Jiang, Y., Zhang, M., & Li, P. (2024). Prevalence and Associated Factors of Secondary Traumatic Stress in Emergency Nurses: A Systematic Review and Meta-Analysis. *European Journal of Psychotraumatology*, *15*(1), 2321761. https://doi.org/10.1080/20008066.2024.2321761

Yee, A., & Kauric-Klein, Z. (2025). Managing Compassion Fatigue in Intensive Care Unit Nurses: A Systematic Review. *Dimensions of Critical Care Nursing*, *44*(3), 145-158. https://doi.org/10.1097/DCC.0000000000000692

Yoder, E. A. (2010). Compassion Fatigue in Nurses. *Applied Nursing Research*, *23*(4), 191-197. https://doi.org/10.1016/j.apnr.2008.09.003

Ystaas, L. M. K., Nikitara, M., Ghobrial, S., Latzourakis, E., Polychronis, G., & Constantinou, C. S. (2023). The Impact of Transformational Leadership in the Nursing Work Environment and Patients' Outcomes: A Systematic Review. *Nursing Reports*, *13*(3), 1271-1290. https://www.mdpi.com/2039-4403/13/3/108

Yu, H., Qiao, A., & Gui, L. (2021). Predictors of Compassion Fatigue, Burnout, and Compassion Satisfaction Among Emergency Nurses: A Cross-Sectional Survey. *International Emergency Nursing*, *55*, 100961. https://doi.org/10.1016/j.ienj.2020.100961

Yuguero, O., Marsal, J. R., Buti, M., Esquerda, M., & Soler-Gonzalez, J. (2017). Descriptive Study of Association Between Quality of Care and Empathy and Burnout in Primary Care. *BMC Medical Ethics*, *18*(1), 54. https://doi.org/10.1186/s12910-017-0214-9

Yuguero, O., Ramon Marsal, J., Esquerda, M., Vivanco, L., & Soler-Gonzalez, J. (2017). Association Between Low Empathy and High Burnout Among Primary Care Physicians and Nurses in Lleida, Spain. *European Journal of General Practice*, *23*(1), 4-10. https://doi.org/10.1080/13814788.2016.1233173

Zhang, Y. Y., Zhang, C., Han, X. R., Li, W., & Wang, Y. L. (2018). Determinants of Compassion Satisfaction, Compassion Fatigue and Burn Out in Nursing a Correlative Meta-Analysis [Review]. *Medicine*, *97*(26), 7, e11086. https://doi.org/10.1097/md.0000000000011086

What are the impacts, influences and rates of Compassion Satisfaction and Compassion Fatigue in rehabilitation healthcare workers in rural and remote locations.

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Introduction

There is increasing need for rehabilitation healthcare in rural and remote areas. Rehabilitation healthcare is primarily focused on injury/illness and disability management. However, little is known about the impacts, influences and rates of Compassion Satisfaction (CS) and Compassion Fatigue (CF) on rehabilitation healthcare workers in rural and remote locations.

This cohort are significantly under-researched and potentially vulnerable to burnout and CF. This world first study seeks to identify the impacts, influences and rates of CF and CS and to provide an indication of the scope of the problem. This will enable workplace interventions to be tailored to minimise the harm of working in this setting.

Materials and methods

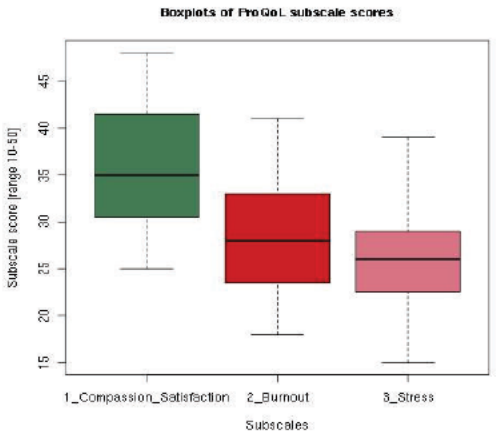
This study uses a survey methodology to obtain information about the impacts, influences and rates of CS and CF.

Quality of work life is measured using the Professional-Quality-of-Life 5 (ProQOL) scale, with demographic information also collected.

Recruitment involves homogenous purposive sampling.

Preliminary results

Participants	Frequency (n)	Percent (%)
Reported gender	n=20	100%
*The large majority reported Female		
Age	**Frequency (n)**	**Percent (%)**
20-24 years	n=0	0%
25-34 years	n=3	15%
35-44 years	n=7	35%
45-54 years	n=5	25%
55-64 years	n=5	25%
65-74 years	n=0	0%
75 years +	n=0	0%
Location	**Frequency (n)**	**Percent (%)**
QLD	n=9	45%
NSW	n=6	30%
VIC	n=2	10%
TAS	n=4	20%
WA	n=0	0%
SA	n=0	0%
Withheld	n=1	5%
Specialisation	**Frequency (n)**	**Percent (%)**
Rehabilitation Counsellor	n=11	55%
Occupational Therapist	n=3	15%
Psychologist	n=2	10%
Other Allied Health	n=4	20%



"I wish I could just do my job and not feel so 'burned out' !"

"More incentives and supports need to be provided for rural healthcare workers."

"There are limited opportunities and support in rural and remote locations. We are forgotten about, yet we have so much to offer. It's quite lonely."

"There is little psychosocial risk management by the employer, there's an increase in workers comp mental health claims and increased staff turnover, management don't listen and quash any discussion of concerns"

"It's disappointing for us and the patient to know that where they live determines the quality of healthcare or quality of life they can have"

Measure	Mean (M)	Standard Deviation (SD)
Duration in specialisation	M-15 years	SD= 8.42
Duration of rural and remote practice	M= 7.85 years	SD= 7.61

Discussion

Our sample is similar to, or exceeding, samples from two professions widely regarded as at risk of adverse psychological outcomes, with 75% of our sample in the "moderate" range for burnout and secondary traumatic stress (which are the ProQOL measures for CF).

Our results present similar findings for CS and burnout to a study which administered the ProQOL to Australian Psychologists (Hegarty & Buchanan, 2021). However, our participants reported higher levels of secondary traumatic stress ($t263 = 2.79$, $p = 0.006$).

Our preliminary results are similar to a study of Australian emergency nurses (O'Callaghan, Lam, Cant, & Moss, 2020) on all three ProQOL scales. The findings from the O'Callaghan et. al. study regarding factors which may relate to CS and CF are aligned with the findings in our previous scoping literature review (McGrath, Matthews, & Heard, 2022). Both studies have identified positive and negative relationships with similar variables which may impact ProQOL outcomes. These include: personal, professional, care delivery and human resources factors.

Conclusions

To confirm the findings in our previous scoping literature review (McGrath, Matthews, & Heard, 2022), that Australian rural and remote healthcare workers are at a significant risk for developing CF, we need further participants from a wide range of rehabilitation healthcare specialisations to complete this study.

Literature cited

Hegarty, D., Buchanan, B. (2021). Psychologist Norms for the Professional Quality of Life Scale (ProQOL). *NovoPsych.*

McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations: A scoping review. *Australian Journal of Rural Health.*

O'Callaghan, E. L., Lam, L., Cant, R., & Moss, C. (2020). Compassion satisfaction and compassion fatigue in Australian emergency nurses: A descriptive cross-sectional study. *International Emergency Nursing*

Participation

Participants can be delivering rehabilitation services to clients in workers' compensation, life insurance, NDIS, or any other tertiary rehabilitation setting.

If you are in this target group, please consider participating in this research.

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Health, safety and wellbeing influences on compassion satisfaction and compassion fatigue outcomes for rural and remote rehabilitation healthcare workers

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Abstract

This world-first study developed an understanding of the health, safety and wellbeing influences on Compassion Satisfaction (CS) and Compassion Fatigue (CF) of rural and remotely practicing rehabilitation healthcare workers. Rehabilitation healthcare workers are health professionals representing a growing Australian workforce engaged in disability management, psychological and medical rehabilitation, occupational rehabilitation, and injury management/prevention. Results suggest these workers face elevated risk of CF due in part to systemic issues. Information presented may assist employers in identifying changes needed to models of care in rural/remote locations, to help meet Work Health and Safety (WHS) obligations to provide a safe work environment by reducing the risk of CF.

Introduction

There is increasing need for rehabilitation healthcare in rural and remote areas. Rehabilitation healthcare is primarily focused on injury/illness and disability management. However, little is known about the impacts, influences and rates of Compassion Satisfaction (CS) and Compassion Fatigue (CF) on rehabilitation healthcare workers in rural and remote locations (McGrath, Matthews, & Heard, 2022) .

This cohort are significantly under-researched and potentially vulnerable to burnout and CF. This world first study seeks to identify the impacts, influences and rates of CF and CS and to provide an indication of the scope of the problem. This will enable workplace interventions to be tailored to minimise the harm of working in this setting.

Materials and methods

Sixteen rehabilitation healthcare workers providing rehabilitation services within Australian rural and remote communities participated in semi-structured interviews in 2018-2019.

Braun and Clarke's six-phase framework guided the thematic analysis, and the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist guided our reporting of the study methods.

Discussion

Key Performance Indicators (KPIs) and client conduct were identified as stressors which significantly increase WHS risk by influencing the development of CF. Participants perceived employer profit (meeting KPIs) is prioritised over staff safety, with most female participants experiencing inappropriate client conduct including verbal abuse, physical assault, stalking, and sexual harassment. When participants reported WHS concerns to their employer, they felt their experiences were minimised, resulting in normalisation of this as an expected part of the role. This finding is concerning because all Australian employers are required to provide a safe workplace for their workers. Failure to do so may be a serious breach of WHS legislation which is not only a reputational and organisational risk, but the employer may also be liable for any harm caused to the employee attributed to their employment.

Sources of CS for some were sources of CF for others, however most participants described elements of poor organisational governance of WHS, and this was identified as a significant risk for the development of CF.

Although there are similarities in CS and CF experiences with other remote healthcare professionals, for rehabilitation professionals KPIs were a unique concern. This is likely attributed to the uniformity of KPIs regardless of location, without consideration to the complexities of rural/remote practice. Urbanised models of care were used across all geographic locations which resulted in increased workload with unrealistic and unattainable KPIs. This resulted in participants reporting symptoms linked to CF including anxiety, depression, and burnout.

Results

Participants	Frequency (n)	Percent (%)
Female	n=12	75%
Male	n=4	25%
Location	**Frequency (n)**	**Percent (%)**
NSW	n=9	56%
VIC	n=4	25%
QLD	n=2	13%
WA	n=1	6%
Specialisation	**Frequency (n)**	**Percent (%)**
Occupational Therapist	n=6	37%
Rehabilitation Counsellor	n=3	19%
Exercise physiologist	n=2	13%
Psychologist	n=2	13%
Social Worker	n=2	13%
Vocational Consultant	n=1	6%

Overarching Themes	Sub-themes	Codes	Influence on CS and CF	
			CS	CF
Theme 1: Quality of work life	Psychosocial stressors	Personal relationships	✓	✓
		Family and personal stress	✓	✓
	Work-life balance	Personal boundaries	✓	✓
		Performance expectations	x	✓
	Rurality	Professional isolation	✓	✓
		Travel	✓	✓
Theme 2: Organisational and workplace culture	Health, safety, and wellbeing	Environmental conditions	x	✓
		Client behaviour	x	✓
	Human resources	Workplace relationships	x	✓
		Staff recruitment and retention	✓	✓
Theme 3: Organisational management practices	Stakeholder expectations	Stakeholder management	x	✓
		Caseload	✓	✓
	Service delivery model	Provision of care	✓	✓
		Employee support	✓	✓

Theme 1. Quality of work-life

"we don't get as much attention as the cities, we are forgotten about because we're rural"

"definitely feel isolated in terms of support"

"travel impacts the service that people get from me. I drive 1500 kilometres a week and that's huge chunks of my time where I'm not available"

"I have a target (KPI) I struggle to hit every month, no matter how much work I'm doing, which was really draining for me"

Theme 2. Organisational and workplace culture

"we have a code word that we can text somebody. But usually I stand up and scream".

"the job prospects aren't as good compared to the city. There might not be any other options"

"it's frightening going to farms by yourself meeting random people it is daunting going into places where safety may not be guaranteed"

"From the head office, it feels like we are forgotten about because we're out here and no one understands what goes on"

Theme 3. Organisational management practices

"they send through referrals, they only look at the number of files that you have, they don't actually go into how complex those files are"

"I was crying almost every day because I was overwhelmed I had very difficult clients and I did get compassion fatigue"

"I'm having to take on cases that nobody else is trained to do"

"insurers are a barrier, there might be services that you think are appropriate that they don't approve of"

Conclusions

Results indicate similarities in experiences of CS and CF in various healthcare specialisations in rural and remote locations. The difference for rehabilitation healthcare workers are the employer enforced KPIs which are uniform across organisations regardless of geographic location, without consideration to the complexities associated with rural and remote practice. This resulted in increased work-related pressures which may indicate a heightened risk of developing CF. Further research that provides a better understanding of the rates and risks of CF will enable employers to make informed decisions about the appropriateness of their models of care in rural and remote locations. This information will assist employers with meeting their WHS obligations by providing a safe work environment for their employees, minimising risk of CF.

Key learnings

1. Experiences of rural and remote rehabilitation healthcare workers suggests that the use of urban models of care in rural and remote locations may impact compassion satisfaction and compassion fatigue.
2. Sources of compassion satisfaction may also be a source of risk for the development of compassion fatigue in rural and remote rehabilitation workers.
3. The pressures of meeting Key Performance Indicator targets may contribute to the development of compassion fatigue in rehabilitation workers in rural and remote locations.

How can you help with the next phase of the research?

We are currently recruiting participants to complete a short and anonymous online survey which assesses the impacts, influences and rates of Compassion Satisfaction and Compassion Fatigue in rehabilitation healthcare workers in rural and remote locations.

Healthcare workers (nurses, allied health practitioners and doctors are all welcome!) who work in any form of physical or psychological rehabilitative services. This can include clinical rehabilitation, psychological rehabilitation, NDIS providers and occupational rehabilitation to name a few. Participants need to be healthcare workers who hold full professional membership with their professional body. If you are in this target group, please consider participating in this research, by using the QR code below.

Literature cited.

McGrath, K., Matthews, L. R., & Heard, R. (2022). Predictors of compassion satisfaction and compassion fatigue in health care workers providing health and rehabilitation services in rural and remote locations: A scoping review. *Australian Journal of Rural Health*.

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Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	P.1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	P. 2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	P. 6
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	P. 6
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	P.6 Methods
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	P. 7 Inclusion and exclusion criteria
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	P. 6 & 7 Search strategy and Inclusion and exclusion criteria
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	P. 6 & 7 Search strategy and Inclusion and exclusion criteria

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	P. 7 Inclusion and exclusion criteria
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	P. 7 & 8 Data extraction and synthesis
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	P.6 & 7 Search strategy
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	**N/A**
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	P. 7 & 8 Data extraction and synthesis
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Figure 1 (PRISMA diagram)- reference to this on P.8
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	P. 8
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	**N/A**
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table 1 (Evidence table)- reference to this on P.8
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	P. 8- 14 Figure 2 Visual representation - reference to this on P. 13
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives,	P. 13-17

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
		and consider the relevance to key groups.	
Limitations	20	Discuss the limitations of the scoping review process.	P. 17
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	P. 17
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Reported on the title page: *Disclosure statement: I certify that no external parties have a direct interest in the results of the research supporting this article and no financial assistance was received by any of the authors to fund the study.*

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.
* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.
† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMAScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473. doi: 10.7326/M18-0850.

THE UNIVERSITY OF SYDNEY

Research Integrity & Ethics Administration
Human Research Ethics Committee

Monday, 13 August 2018

Assoc Prof Lynda Matthews
Ageing Work and Health Unit; Faculty of Health Sciences
Email: lynda.matthews@sydney.edu.au

Dear Lynda

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

After consideration of your response to the comments raised your project has been approved.

Approval is granted for a period of four years from **13 August 2018** to **13 August 2022**

Project title: **Rural and remote rehabilitation case managers' perspectives on compassion satisfaction and compassion fatigue influences on quality of work life**

Project no.: **2018/524**

First Annual Report due: **13 August 2019**

Authorised Personnel: **Matthews Lynda; Heard Robert; McGrath Kelly;**

Documents Approved:

Date Uploaded	Version number	Document Name
06/08/2018	Version 2	PIS Final V3
06/08/2018	Version 2	PCF Final V3
03/06/2018	Version 1	Invitation to participate
26/05/2018	Version 1	Interview questions
26/05/2018	Version 1	Client confidentiality agreement- transcription service
26/05/2018	Version 1	ORAMS infographic
26/05/2018	Version 1	ORAMS governance charter
26/05/2018	Version 1	ORAMS background
26/05/2018	Version 1	IPAR participant approval
26/05/2018	Version 1	ORAMS Deed
26/05/2018	Version 1	Acumen Health participation approval

Condition/s of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:

- Serious or unexpected adverse events (which should be reported within 72 hours).
- Unforeseen events that might affect continued ethical acceptability of the project.

- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).

- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.

- Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.

- Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.

- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.

- The Ethics Office may conduct audits on approved projects.

- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely

Associate Professor Stephen Assinder
Chair
Human Research Ethics Committee (HREC 1)

The University of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007) and the NHMRC's Australian Code for the Responsible Conduct of Research (2007).

Organisation Letterhead

Dear

I am writing on behalf of Ms Kelly Yorke to invite you to participate in a research project that is exploring Compassion satisfaction and compassion fatigue in rural/ remote rehabilitation consultants. Kelly is conducting the research as a Masters by Research candidate at the University of Sydney. Information about the study is attached.

You are being invited to participate in the study because you are a rehabilitation case manager of our organisation working in a rural location. Please be assured that if you decide to participate in the study it will not affect your relationship with us, [name of organisation], or the University of Sydney. We will not know if you participate in the study and any information that you share with the researcher will remain confidential.

If you would like to participate in this study, or get further information about the study, please call Ms Kelly Yorke on 0451 307 559 or email kyor5431@uni.sydney.edu.au to advise her of your interest.

Thank you for your interest in this study.

Sincerely

THE UNIVERSITY OF SYDNEY

Discipline of Rehabilitation Counselling

Faculty of Health Sciences

ABN 15 211 513 464

Lynda Matthews

Associate Professor

Room M316
Building C42
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 93519537
Email: lynda.matthews@sydney.edu.au
Web: http://www.sydney.edu.au/

Compassion satisfaction and compassion fatigue influences on quality of work life among rural and remote rehabilitation and healthcare workers

PARTICIPANT INFORMATION STATEMENT

(1) What is this study about?

You are invited to take part in a research study about compassion satisfaction and compassion fatigue influences on quality of work life among rural and remotely employed rehabilitation and healthcare workers. The purpose of the study is to characterise Compassion Satisfaction and Compassion Fatigue in rural/ remotely employed Rehabilitation Case Managers and determine the personal and environmental factors which may influence Compassion Satisfaction and Compassion Fatigue experiences on quality of work life.

You have been invited to participate in this study because you have been identified as a suitable candidate. You have been identified as suitable because you meet the study criteria of being a Rehabilitation Case Manager employed in a rural/ remote location which meets the Australian Bureau of Statistics Accessibility/Remoteness Index of Australia criteria for employment in rural/ remote locations.

Participants must be able to converse in English, be over 18 years of age and gender identified. This Participant Information Statement tells you about the research study. Knowing what is involved will help you decide if you want to take part in the research. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

Participation in this research study is voluntary.

By giving your consent to take part in this study you are telling us that you:
- ✓ Understand what you have read.
- ✓ Agree to take part in the research study as outlined below.
- ✓ Agree to the use of your personal information as described.

You will be given a copy of this Participant Information Statement to keep.

(2) Who is running the study?

The study is being carried out by the following researchers:

Ms Kelly McGrath
Master of Applied Science (Research) candidate, University of Sydney
Kyor5431@uni.sydney.edu.au
0451 307 559

Associate Professor Lynda Matthews
Head of Discipline (Rehabilitation Counselling), University of Sydney
Lynda.matthews@sydney.edu.au
02 9351 9537

Kelly McGrath is conducting this study as the basis for the degree of Master of Applied Science (Research) at The University of Sydney. This will take place under the supervision of Associate Professor Lynda Matthews and Dr Robert Heard.

Ms McGrath is employed by the Department of Home Affairs and manages the Departmental staff who may liaise with potential participants as part of the Occupational Rehabilitation and Medical Specialist (ORAMS) contract. The organisations which we will be recruiting participants from will be through the ORAMS panel. Ms McGrath has no direct input in the ORAMS group or contract.

(3) What will the study involve for me?

The location of your interview is yet to be determined. It will depend on the nature and location of the organisations participating in the study. Current options include, but are not limited to, the University of Sydney Camperdown and/or Cumberland campuses, Skype and teleconference or private offices of Rehabilitation providers.

You will be required to partake in an interview which will be audio recorded. Information collected during the interviews will be pertaining to your occupational experiences such as: work life demands and supports, client engagement and also general information around the rewards and difficulties of your day to day workload.

(4) How much of my time will the study take?

The study will take approximately 2 hours, which will include reviewing/ signing the consent form (15 minutes), completion of the demographic questionnaire (15 minutes) and the interview questions (90 minutes).

(5) Who can take part in the study?

Participants will be adult (aged 18+ years) Rehabilitation Case Managers employed in rural/ remote locations of Australia. Participants must be able to converse in English. In the course of their employment, Rehabilitation case managers are required to communicate to a professional standard

of English. Rehabilitation case managers are university educated health professionals who have completed tertiary education which indicates they are over 18 years of age.

(6) Do I have to be in the study? Can I withdraw from the study once I've started?

Being in this study is completely voluntary and you do not have to take part. Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the University of Sydney, or your employer.

If you decide to take part in the study and then change your mind later, you are free to withdraw at any time. You can do this by advising the researcher at the time of the interview or thereafter. To withdraw from the study, at the time of the interview you can verbally advise the researcher. If you wish to withdraw from the study following the completion of the interview, please advise the researcher in writing (via email) at kyor5431@uni.sydney.edu.au within one month of the date of the interview.

You are free to stop the interview at any time. Unless you say that you want us to keep them, any recordings will be erased and the information you have provided will not be included in the study results. You may also refuse to answer any questions that you do not wish to answer during the interview.

(7) Are there any risks or costs associated with being in the study?

Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study.

(8) Are there any benefits associated with being in the study?

We cannot guarantee that you will receive any direct benefits from being in the study.

(9) What will happen to information about me that is collected during the study?

An audio recording of your interview will occur. Audio recordings of the interviews are necessary to ensure de-identified information and opinions are captured correctly for transcription and for researcher reference and analysis.

The study results will be published within a Masters Degree thesis, possible journal publications, conference and stakeholder presentations. The researcher will be using this data to formulate a Masters Degree thesis, possible journal publications, and conference presentations. The researcher is intending to progress to PhD from the Masters of Applied Science (Research) and data obtained from this study will assist to build a quantitative survey, a pilot to test, then wider distribution of the survey which will assist with formulating and finalising a conceptual model.

Your confidentiality is protected by deidentification of all participants by substituting a code number for your identifiable information. Your location will not be identified in any reporting. Electronic data and audio files will be stored in secure folders on the Faculty of Health Sciences server. The University of Sydney requires all research materials to be retained for a period of at least seven years. However, the data retention period for this study will be 10 years as the researcher is intending to request the use of this data for future PhD study. Following this, the data will be destroyed. There will be no third party access to information following the study.

By providing your consent, you are agreeing to us collecting personal information about you for the purposes of this research study. Your information will only be used for the purposes outlined in this Participant Information Statement, unless you consent otherwise.

Your information will be stored securely and your identity/information will be kept strictly confidential, except as required by law. Study findings may be published, but you will not be individually identifiable in these publications.

We will keep the information we collect for this study, and we may use it in future projects. By providing your consent you are allowing us to use your information in future projects. We will seek ethical approval before using the information in these future projects. The information will be used to develop a survey on occupational rewards and difficulties faced by Rehabilitation Case Managers.

(10) Can I tell other people about the study?

Yes, you are welcome to tell other people about the study.

(11) What if I would like further information about the study?

When you have read this information, Kelly McGrath who will be available at the time of consent, will be available to discuss it with you further and answer any questions you may have. If you would like to know more at any stage during the study, please feel free to contact either Kelly McGrath or Lynda Matthews (details below).

Ms Kelly McGrath
Master of Applied Science (Research) candidate
Kyor5431@uni.sydney.edu.au
0451 307 559

Associate Professor Lynda Matthews
Head of Discipline (Rehabilitation Counselling)
Lynda.matthews@sydney.edu.au
02 9351 9537

(12) Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. You can tell us that you wish to receive feedback by ticking the relevant box on the consent form. This feedback will be in the form a one page lay summary and you will receive this feedback after the study is finished.

(13) What if I have a complaint or any concerns about the study?

Research involving humans in Australia is reviewed by an independent group of people called a Human Research Ethics Committee (HREC). The ethical aspects of this study have been approved by the HREC of the University of Sydney (Project number: 2018/524). As part of this process, we have agreed to carry out the study according to the National Statement on Ethical Conduct in Human Research (2007). This statement has been developed to protect people who agree to take part in research studies.

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the university using the details outlined below. Please quote the study title and protocol number.

The Manager, Ethics Administration, University of Sydney:
Telephone: +61 2 8627 8176
Email: ro.humanethics@sydney.edu.au
Fax: +61 2 8627 8177 (Facsimile)

This information sheet is for you to keep

THE UNIVERSITY OF SYDNEY

Discipline of Rehabilitation Counselling

Faculty of Health Sciences

ABN 15 211 513 464

Lynda Matthews
Associate Professor

Room M316
Building C42
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 93519537
Email: lynda.matthews@sydney.edu.au
Web: http://www.sydney.edu.au/

Compassion satisfaction and compassion fatigue influences on quality of work life among rural and remote rehabilitation and healthcare workers

PARTICIPANT CONSENT FORM

I, ... [PRINT NAME], agree to take part in this research study.

In giving my consent I state that:

- ✓ I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.
- ✓ I have read the Participant Information Statement and have been able to discuss my involvement in the study with the researchers if I wished to do so.
- ✓ The researchers have answered any questions that I had about the study and I am happy with the answers.
- ✓ I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researchers or anyone else at the University of Sydney or my place of employment now or in the future.
- ✓ I understand that I can withdraw from the study at any time.
- ✓ I understand that I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study. I also understand that I may refuse to answer any questions I don't wish to answer.
- ✓ I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.
- ✓ I understand that the results of this study may be published, and that publications will not contain my name or any identifiable information about me.

I consent to:

- **Audio-recording** YES ☐ NO ☐
- **Being recontacted for participation in future research** YES ☐ NO ☐

I would like to review my interview transcripts YES ☐ NO ☐

I would like to receive feedback about the overall results of this study YES ☐ NO ☐

If you answered **YES**, please indicate your preferred form of feedback and address:

☐ Postal: _____

_____

☐ Email: _____

.....
Signature

.....
PRINT name

.....
Date

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Developed from:
Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Topic	Item No.	Guide questions/description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal Characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	5
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	5 & 6
Occupation	3	What was their occupation at the time of the study?	5
Gender	4	Was the researcher male or female?	5
Experience and training	5	What experience or training did the researcher have?	6
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	6 & 7
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	6
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	6
Domain 2: study design			
Theoretical framework			
Methodological orientation and	9	What methodological orientation was stated to underpin the study? e.g.	**7**

Theory		grounded theory, discourse analysis, ethnography, phenomenology, content analysis	
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	5
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	5
Sample size	12	How many participants were in the study?	6
Non-participation	13	How many people refused to participate or dropped out? Reasons?	6
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	6
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	6
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	4 & 5
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	6
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	6
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	5
Field notes	20	Were field notes made during and/or after the interview or focus group?	7
Duration	21	What was the duration of the inter views or focus group?	6
Data saturation	22	Was data saturation discussed?	7
Transcripts returned	23	Were transcripts returned to participants for comment and/or correction?	7
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	7
Description of the coding tree	25	Did authors provide a description of the coding tree?	7
Derivation of themes	26	Were themes identified in advance or derived from the data?	7

Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	7
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	10-25
Data and findings consistent	30	Was there consistency between the data presented and the findings?	26-30
Clarity of major themes	31	Were major themes clearly presented in the findings?	10-25
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	10-25

THE UNIVERSITY OF SYDNEY

Research Integrity & Ethics Administration
HUMAN RESEARCH ETHICS COMMITTEE

Tuesday, 6 September 2022

Assoc Prof Lynda Matthews
Ageing Work and Health Unit; Faculty of Medicine and Health
Email: lynda.matthews@sydney.edu.au

Dear Lynda,

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

I am pleased to inform you that after consideration of your response, your project has been approved.

Details of the approval are as follows:

Project No.:	**2022/597**
Project Title:	**Compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers**
Authorised Personnel:	**Matthews Lynda; Hancock Nicola Caroline; Heard Robert; McGrath Kelly;**
Approval Period:	**06/09/2022 to 06/09/2026**
First Annual Report Due:	**06/09/2023**

Documents Approved:

Date Uploaded	Version Number	Document Name
08/07/2022		Part 1 survey questions
08/07/2022	Version 5	Part 2 survey questions
08/07/2022		Part 3 survey questions
08/07/2022		Research data management plan
05/07/2022		Participant information
05/07/2022		Social media recruitment post

Condition/s of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
  - Serious or unexpected adverse events (which should be reported within 72 hours).
  - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).
- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.
- Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.
- Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.

- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.
- The Ethics Office may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely,

Associate Professor **Haryana Dillon**
Chair
Human Research Ethics Committee (HREC 3)

The University of Sydney of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2018) and the NHMRC's Australian Code for the Responsible Conduct of Research (2018)

Social media post draft

Forums: Linkedin and Facebook (participating organisations online portals if needed)

Help us learn about compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers!

In a world first study, The University of Sydney is conducting research to gain knowledge about prevelance and risk and protective factors associated with compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers. The results will inform interventions to reduce or modify organisational risk factors for the development of compassion fatigue.

Participation in this research is voluntary and involves completing an anonymous online questionnaire (taking approx 20 minutes).

❖ Who can participate?

Allied and other healthcare workers who hold membership with their professional body and are engaged in providing rehabilitation services to clients in workers' compensation, life insurance, NDIS, and other tertiary rehabilitation settings in rural/ remote locations of Australia.

Please let others who meet the requirements know about this study!

We thank you in advance for your interest and contribution. Further information: Kelly McGrath kelly.mcgrath@sydney.edu.au 0451 307 559

❖ How to participate?

Complete the survey via the link below.

https://redcap.sydney.edu.au/surveys/?s=FRX8443LAW7DFMFW

Add usyd logo (obtain official permission) Below is just a rough draft of a pic to gain attention in social media posts

You can help!

You are invited to participate in a world first study:

Compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers

THE UNIVERSITY OF SYDNEY

Participant Information Statement

Research Study: Compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers

Dr Lynda R Matthews, PhD
Honorary Associate Professor
Sydney School of Health Sciences
Faculty of Medicine and Health
The University of Sydney NSW 2006
Phone: +61 29351 9537 | Email: Lynda.matthews@sydney.edu.au

Ms Kelly McGrath (Doctor of Philosophy candidate)| Email: Kelly.mcgrath@sydney.edu.au

1. What is this study about?

We are conducting a research study about compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers. The purpose of the study is to examine the prevalence of compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers and the risk and protective factors associated with both conditions.

Taking part in this study is voluntary. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

By giving your consent to take part in this study you are telling us that you:

- ✓ Understand what you have read.
- ✓ Agree to take part in the research study as outlined below.
- ✓ Agree to the use of your personal information as described.

This Participant Information Statement tells you about the research study. Knowing what is involved will help you decide if you want to take participate in the research. You will be given a copy of this Participant Information Statement to keep.

2. Who is running the study?

The study is being carried out by the following researchers:

Ms Kelly McGrath
Doctor of Philosophy candidate, University of Sydney
Kelly.mcgrath@sydney.edu.au
0475 818 376

Lynda R Matthews, PhD
Honorary Associate Professor, University of Sydney
Lynda.matthews@sydney.edu.au
02 9351 9537

Kelly McGrath is conducting this study as a component of the degree of Doctor of Philosophy (PhD) at The University of Sydney. This will take place under the supervision of Honorary Associate Professor Lynda Matthews, Associate Professor Nicola Hancock and Dr Robert Heard. No funding has been provided to undertake this study.

Ms McGrath is employed by Comcare and manages staff who may liaise with potential participants who are engaged by the Commonwealth Government under the Occupational Rehabilitation and Medical Specialist (ORAMS) contract. The organisations which we will be recruiting participants from may have connections with the ORAMS panel. Ms McGrath has no input or influence in the management of the ORAMS contract.

3. Who can take part in the study?

We are seeking allied and other healthcare workers who hold professional membership with their professional body and are engaged in providing rehabilitation services to clients in workers' compensation, life insurance, NDIS, and other tertiary rehabilitation settings in rural/ remote locations of Australia.

You are invited to participate in this study because you have been identified as a potentially suitable candidate. This is because you may meet the study criteria of being a rehabilitation healthcare provider employed in a rural/remote location

You would have received the invitation to participate from your employer or professional association, this is to ensure participants meet eligibility criteria**.** Please be assured, all information gathered is kept confidential and no identifiable data will be shared with your employer or professional associations and there are no implications on your employment regardless of whether you choose to participate or not.

4. What will the study involve for me?

If you decide to take part in this study, you will be asked to complete an anonymous survey in an electronic (online) format, to be completed at your convenience.

Information collected during the survey will be pertaining to your occupational experiences such as: work life demands and supports, client engagement and general information around the rewards and difficulties of your day-to-day workload.

- The questionnaire will take a maximum of 20 minutes to complete
- It is recommended you undertake the study when you are not rushed and are feeling comfortable to best answer the questions.
- The questionnaire will be discreet, without any diagrams, pictures, or videos.
- The questionnaire may be incompatible with voice to text software. Minimal mousing and keying will be involved.

- There will be no distressing material or content to review.

5. Can I withdraw once I've started?

Being in this study is voluntary and you do not have to take part.

Your decision to participate or not will not affect your current or future relationship with the researchers or anyone else at The University of Sydney.

By submitting your survey, you consent to take part in the study. You can withdraw any time before you submit however once your responses are submitted, they cannot be withdrawn. This is because they are anonymous, and we will not be able to tell which one is yours.

6. Are there any risks or costs?

Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study.

However, if you feel upset or distressed by any of the questions, please contact your doctor for advice, your company Employee Assistance Provider (EAP), or Lifeline on 13 11 14.

7. Are there any benefits?

You will not receive any direct benefits from being in the study. However, information obtained from the study may assist with informing workplace-based interventions to help minimise the impact of compassion fatigue and increase the professional quality of life of rural and remotely based rehabilitation healthcare workers.

8. What will happen to information that is collected?

By providing your consent, you are agreeing to us collecting information about you for the purposes of this study.

Any information you provide us will be anonymous and stored securely. We are planning for the study findings to be published and you will not be identifiable in these publications.

The study results will be published within a PhD thesis, possible journal publications, and conferences and stakeholder presentations. Data obtained from this study will inform an evidence-based conceptual framework of risk and protective factors for compassion satisfaction and compassion fatigue in rehabilitation healthcare workers in rural or remote Australian locations. The results will identify interventions to reduce or modify organisational risk factors for the development of compassion fatigue.

Electronic data will be stored in secure folders on the Faculty of Medicine and Health Sciences server. The University of Sydney requires all research materials to be retained

for a period of five years after completion of the project. Following this, the data will be destroyed. There will be no third-party access to information following the study.

Your information will only be used for the purposes outlined in this Participant Information Statement. Your information will be stored securely, and your identity/information will be kept strictly confidential, except as required by law.

9. Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. You can tell us that you wish to receive a copy of the lay summary report by emailing Kelly McGrath (email listed below and also listed at the end of the survey). Kelly will save your request for information in a secure folder in the Faculty of Medicine and Health Sciences server and delete your email from the inbox to ensure your confidentiality. This feedback will be in the form a one-page lay summary and you will receive this feedback after the study is finished.

10. What if I would like further information?

When you have read this information, the following researcher/s will be available to discuss it with you further and answer any questions you may have:

Ms Kelly McGrath
Doctor of Philosophy candidate
Kelly.mcgrath@sydney.edu.au
0451 307 559

Lynda R Matthews, PhD
Honorary Associate Professor, University of Sydney
Lynda.matthews@sydney.edu.au
0419 603 193

11. What if I have a complaint or any concerns?

The ethical aspects of this study have been approved by the Human Research Ethics Committee (HREC) of The University of Sydney (HREC Approval No. 2022/597) according to the National Statement on Ethical Conduct in Human Research (2007).

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the University:

Human Ethics Manager
human.ethics@sydney.edu.au
+61 2 8627 8176

Compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers

Help us learn about compassion satisfaction and compassion fatigue in rural and remote rehabilitation workers!

In a world first study, The University of Sydney is conducting research to gain knowledge about prevelance and risk and protective factors associated with compassion satisfaction and compassion fatigue in rural and remote rehabilitation healthcare workers. The results will inform interventions to reduce or modify organisational risk factors for the development of compassion fatigue.

Participation in this research is voluntary and involves completing an anonymous online questionnaire (taking approx 20 minutes). You are free to terminate the survey at any time and your results will not be recorded. Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study. However, if you feel upset or distressed by any of the questions, please contact your doctor for advice, your company Employee Assistance Provider (EAP), or Lifeline on 13 11 14.

Who can participate?

Allied and other healthcare workers who hold membership with their professional body and are engaged in providing rehabilitation services to clients in workers' compensation, life insurance, NDIS, and other tertiary rehabilitation settings in rural/ remote locations of Australia.

We thank you in advance for your interest and contribution. Further information:

Ms Kelly McGrath

Doctor of Philosophy candidate

Kelly.mcgrath@sydney.edu.au

0451 307 559

Please complete the survey via the link below.

Age	◯ 20-24 years old ◯ 25-34 years old ◯ 35-44 years old ◯ 45-54 years old ◯ 55-64 years old ◯ 65-74 years old ◯ 75 years or older
Gender	_____
What is your employment location? Please list your state/ territory only.	_____
What is your professional speciality? (Physiotherapist, Rehabilitation Counsellor, Occupational Therapist etc.)	_____
Approximately how long have you been working in your professional speciality?	_____
Approximately how long have you practiced in a rural/remote location?	_____

What is your current working agreement?
- ◯ Casual
- ◯ Part time
- ◯ Full time

What is your current marital status?
- ◯ Married
- ◯ Single
- ◯ De-Facto
- ◯ Divorced
- ◯ Partnered
- ◯ Widow

What is your current remuneration package?
- ◯ 000- 25 000
- ◯ 25 001- 50 000
- ◯ 50 001- 75 000
- ◯ 75 001- 85 000
- ◯ 85 001- 100 000
- ◯ 100 001- 125 000
- ◯ 125 001- 150 000+

How many hours per week do you work (as a rehabilitation healthcare worker)?
- ◯ 1- 10
- ◯ 11- 20
- ◯ 21- 30
- ◯ 31- 40
- ◯ 41- 50
- ◯ 51- 60
- ◯ 60+

What is your level of professional qualification?
- ◯ Associate Diploma
- ◯ Bachelor Degree
- ◯ Graduate Certificate
- ◯ Graduate Diploma
- ◯ Masters Degree
- ◯ Doctorate

Did you relocate to a rural or remote area for your employment a rehabilitation healthcare worker?
- ◯ Yes , I relocated from an urban area
- ◯ No, I was already residing in a rural or remote location

How many cases are you currently managing?

_____

What proportion of your currently managed cases do you consider to be complex cases?

_____
(%)

Have you received specific training for working with complex cases?
- ◯ Yes
- ◯ No
- ◯ Unsure

How satisfied are you with the ongoing professional development opportunities provided by your employer?
- ◯ Very satisfied
- ◯ Satisfied
- ◯ Dissatisfied
- ◯ I don't receive any

What is your position in the organisation?

_____

Do you have management or supervisory responsibilities?
- ◯ Yes
- ◯ No

If you have management or supervisory responsibilities, are you also managing cases in addition to this?
- ◯ Yes
- ◯ No

ProQOL Version 5 (2009)

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Compassion Satisfaction and Compassion Fatigue (ProQOL) Version 5 (2009)
When you help people you have direct contact with their lives. As you may have found, your compassion for those you help can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a rehabilitation healthcare worker. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

I am happy	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am preoccupied with more than one person I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I get satisfaction from being able to help people	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel connected to others	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I jump or am startled by unexpected sounds	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel invigorated after working with those I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I find it difficult to separate my personal life from my life as a rehabilitation healthcare worker	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am not as productive at work because I am losing sleep over traumatic experiences of a person I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often

I think that I might have been affected by the traumatic stress of those I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel trapped by my job as a rehabilitation healthcare worker	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
Because of my helping, I have felt "on edge" about various things	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I like my work as a rehabilitation healthcare worker	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel depressed because of the traumatic experiences of the people I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel as though I am experiencing the trauma of someone I have helped	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I have beliefs that sustain me	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am pleased with how I am able to keep up with rehabilitation healthcare techniques and protocols	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am the person I always wanted to be	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
My work makes me feel satisfied	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often

I feel worn out because of my work as a rehabilitation healthcare worker	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I have happy thoughts and feelings about those I help and how I could help them	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel overwhelmed because my work load seems endless.	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I believe I can make a difference through my work	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I avoid certain activities or situations because they remind me of frightening experiences of the people I help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am proud of what I can do to help	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
As a result of my helping I have intrusive, frightening thoughts	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel "bogged down" by the system	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I have thoughts that I am a "success" as a rehabilitation healthcare worker	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I can't recall important parts of my work with trauma victims	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often

I am a very caring person	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I am happy that I chose to do this work	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often

Rehabilitation healthcare worker lived experiences 197

When considering your answers, please reflect on your experiences in your current role as a rehabilitation healthcare worker. When providing your answer, Select the number that honestly reflects how frequently you experienced these things in the last 30 days. When answering the text box questions, please ensure your written response is reflective of your experiences over the last 30 days.

I enjoy working work in a rural/ remote location	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel satisfied with the balance between my current work and personal life	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
My current organisational and workplace culture is positive	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel safe when undertaking my role	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often
I feel supported to deliver positive patient/client outcomes under current organisational management practices	◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Very Often

What are the primary stressors which impact the quality of your quality of work life? This may include organisational or psychosocial factors?

What do you think would improve or maintain your compassion satisfaction levels?

Do you have any other information that you would like to add that will help us to understand your experience/s?

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Included (Yes/No)	Page number	Relevant text from manuscript
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	Yes	2	Abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	Yes	2	Abstract
Introduction					
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	Yes	4-5	Introduction: Paragraphs 1-9
Objectives	3	State specific objectives, including any prespecified hypotheses	Yes	5	Introduction: Paragraph 9
Methods					
Study design	4	Present key elements of study design early in the paper	Yes	6	Methods: Study design
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Yes	6	Methods: Participants and recruitment and Instruments and Procedure
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	Yes	6	Methods: Participants and Recruitment and Instruments and Procedure
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Yes	6	Methods: Participants and Recruitment and Instruments and Procedure
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of	Yes	7	Methods: Instruments and Procedure and Data Analysis

		assessment methods if there is more than one group			
Bias	9	Describe any efforts to address potential sources of bias	Yes	8	Methods: Data Analysis
Study size	10	Explain how the study size was arrived at		8	Methods: Data Analysis Results: Participants
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Yes	8	Methods: Data Analysis
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	Yes	8	Methods: Data Analysis
		(*b*) Describe any methods used to examine subgroups and interactions	Yes	8	Methods: Data Analysis
		(*c*) Explain how missing data were addressed	Yes	8	Results: Participants
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	N/A	N/A	N/A
		(*e*) Describe any sensitivity analyses	N/A	N/A	N/A
Results					
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Yes	8	Results: Participants
		(b) Give reasons for non-participation at each stage	Yes	8	Results: Participants
		(c) Consider use of a flow diagram	No	N/A	N/A
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Yes	(a) 8-9 (b) 8	(a) Results: Demographic and work-related variables (b) Results: Participants

		(b) Indicate number of participants with missing data for each variable of interest	Yes		
Outcome data	15*	Report numbers of outcome events or summary measures	Yes		Results: Tables 3, 4 and 5
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	No	N/A	Levels of significance and effect sizes (Cohens d) have been used as alternatives to CI's. This is because we are just describing participants in our study.
		(*b*) Report category boundaries when continuous variables were categorized	N/A	N/A	N/A
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A	N/A	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N/A	N/A	N/A
Discussion					
Key results	18	Summarise key results with reference to study objectives	Yes		Limitations and future research Paragraphs 1-10
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Yes	13	Limitations and future research Paragraphs 1-3
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Yes	13	Limitations and future research Paragraph 12
Generalisability	21	Discuss the generalisability (external validity) of the study results	Yes	13-14	Limitations and future research Paragraph 3

Other information					
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	N/A	Title Page	Author Contribution statement on title page confirms no funding

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.