Lean on Me: The Effectiveness of Psychosocial Services Available to Farmers Following Adverse Events

Kellogg Rural Leadership Programme

Course 49 2023

Vanessa Thomson

I wish to thank the Kellogg Programme Investing Partners for their continued support.

Strategic Partners

Programme Partners

Service Partners

Disclaimer
In submitting this report, the Kellogg Scholar has agreed to the publication of this material in its submitted form.
This report is a product of the learning journey taken by participants during the Kellogg Rural Leadership Programme, with the purpose of incorporating and developing tools and skills around research, critical analysis, network generation, synthesis and applying recommendations to a topic of their choice. The report also provides the background for a presentation made to colleagues and industry on the topic in the final phase of the Programme.
Scholars are encouraged to present their report findings in a style and structure that ensures accessibility and uptake by their target audience.
This publication has been produced by the scholar in good faith on the basis of information available at the date of publication. On occasions, data, information, and sources may be hidden or protected to ensure confidentially and that individuals and organisations cannot be identified.
Readers are responsible for assessing the relevance and accuracy of the content of this publication & the Programme or the scholar cannot be liable for any costs incurred or arising by reason of any person using or relying solely on the information in this publication.
This report is copyright, but dissemination of this research is encouraged, providing the Programme and author are clearly acknowledged. Scholar contact details may be obtained through the New Zealand Rural Leadership Trust for media, speaking and research purposes.

Executive Summary

Climate change is increasing the frequency of climatic extremes. Accordingly rural psychosocial services must be prepared to support farmers in the face of increased adverse events. For those farmers most severely affected, the rural clinical mental health services which treat farmers are often underfunded, under resourced and difficult to access due to structural inequities.

New Zealand's economy and wellbeing of its people are intricately linked to the success of the primary sector. Therefore, farmers' psychosocial recovery after an adverse event is vital, not only for moral reasons, but sound economic reasons.

This project examines who the stakeholders are in the rural psychosocial ecosystem, how farmers interact with these stakeholders, and how these stakeholders in turn interact together. It aims to understand the challenges and constraints to delivery of effective psychosocial services, and solutions to overcome these challenges and constraints.

The key learnings of this project are:

- Distant stakeholders who set policy and control funding are removed from rural communities' needs and consequently, prioritisation and understanding of rural mental health suffer.
- There is a lack of strategic direction and metrics in rural mental health, and specifically psychosocial recovery following adverse events. There is a dearth of data, duplication and confusion of roles, unsustainable funding models for psychosocial services and a stretched clinical mental health workforce. All of which contribute to a less effective service for farmers.
- Psychosocial services need more support to develop and deliver their services.
- There is currently no plan to address rural mental health clinical workforce issues.
- In the absence of sector leadership, the government is currently leading the psychosocial response after adverse events which is leading to ineffective outcomes for farmers.

The recommendations from this project are:

- Develop a long-term national strategy for rural mental health including psychosocial recovery following adverse events, led by the sector and its industry co-funded mental health champion/ chief executive (CE).
- Establish a role within MPI's Rural Communities' office to advocate rural mental health and improve prioritisation of rural mental health.
- Develop a rural pathway for clinical psychologists and psychiatrists with their respective registration bodies to bolster the rural mental health workforce, overseen by Ministry of Health and the sector's mental health champion/ CE.
- Fund and resource existing psychosocial services, such as Rural Support Trust, to attract and develop some in-house clinical expertise to lessen the burden on the rural clinical workforce.
- Prioritise rural connectivity to enable technological solutions, with subsidisation for satellite connectivity.

Acknowledgements

Cyclone Gabrielle struck in February 2023 and suddenly this topic became front of mind. The more stories I heard through the interview process, the weightier the responsibility felt to represent this topic well. Thank you to all participants for entrusting me with your stories and insights. I am grateful to everyone who is out there working every day to genuinely improve farmer's situations. You are heroic, and our rural communities are lucky to have you walking alongside them.

Thank you to the Kellogg team, Scott, Patrick, Chris, Lisa, Annie and Matt. You have broadened my mind, and horizons in ways which continue to influence me for years to come. I have enjoyed getting to know you all, hearing your own journeys and your thoughts through our dinner discussions. Scott – thank you for facilitating a few pinch-me career moments and your generosity in sharing your experience. Patrick – you deserve a sainthood for your patience and kindly wisdom through the project process.

Thank you to Dairy Women's Network, and Fonterra for funding my attendance on this life-changing course. Thank you also to my employer DairyNZ for the generosity and support to attend. In particular, the DNZ leaders, who gave their time for me, and my project. Thank you to Dave Campbell, a mentor and champion of developing leaders. Your investment of time is gratefully acknowledged.

To my fellow K-49 cohort. What a wild ride it has been, with a significant adverse event affecting those in the North Island rural community at home and work within days of leaving phase 1. I am in awe of what some of you have managed and juggled with Kellogg. It is a privilege to have met K-49 and shared this special space. I cannot wait to follow your progress, and the great adventure that awaits you all within the food and fibre sector, and general leadership space.

Finally, but not least, to my family. Thank you - these things always sound a great idea in theory but can be tougher to execute. Ken, thank you for the 5647 cups of tea that you delivered to your distracted wife whilst she waded through her project. You have not only held the fort ably, but single-handedly managed our own emergency response to the first of two adverse events that befell our farm this year, whilst I was away at phase 1. Thank you, Matilda, for being so understanding why Mummy has been busy for the last 6 months. Luckily, calving is pending, so we will be reunited! Thank you also to the wider Thomson/Clements family who have ably supported the execution of Operation Kellogg through feeding, caring and supporting us all, as, and when required.

Table of Contents

Executive Summary 3

Acknowledgements 4

1 Introduction 7

1.1 The role of psychosocial services following adverse events 7

1.2 Why does farmers mental health matter? 7

2 Research Question and Aims 8

2.1 Aims: 8

3 Literature review 8

3.1 Definition of an “adverse event” 9

3.2 Frequency of adverse events 9

3.3 Baseline for rural mental health prior to an adverse event 9

3.4 Definition of psychosocial recovery 11

3.5 Risk factors after an adverse event 11

3.6 Wellbeing Models 12

3.7 Sudden and slow onset events 13

3.8 Supporting farmers 14

The eight components of psychological first aid (PFA) 16

3.9 Technology and mobile psychosocial support 17

3.10 Cost of failure 18

4 Method 19

4.1 Interviews 19

5 Analysis and Results 19

5.1 He Tangata He Tangata He Tangata! The voice of three farmers: 19

Ben and Lucy – farmers’ experience of a sudden onset event 20

Sam – a farmer’s experience of a slow onset event 21

5.2 Identifying psychosocial stakeholders for a farmer 22

5.3 Farmers’ interaction with psychosocial services 24

5.4 Stakeholders’ interaction between themselves 26

5.5 Challenges and Constraints 27

5.5.1 Availability of clinical mental health services 27

5.5.2 Funding issues 28

5.5.3 Regional and National tension 29

5.6 Solutions for better delivery 30

5.6.1 Community Solutions 30

5.6.2 Bolstering clinical mental workforce 30

5.6.3 Collaboration *31*
5.6.4 Technology *32*
6 Discussion 32
6.1 The disproportionate impact of distant stakeholders 33
6.2 National strategy for rural mental health and adverse events 33
6.3 The role of collaboration 34
6.4 Psychosocial services developing to the next level 35
6.5 The rural clinical mental health solution 36
7 Conclusion 37
7.1 The distant stakeholder effect on farmers 37
7.2 The need for strategy and collaboration 38
7.3 Improved psychosocial services 38
7.4 Solutions for a bolstered rural mental health workforce 38
7.5 Solutions for better access to rural mental health services 38
8 Limitations 38
9 Recommendations 39
References 40
Appendix 1 46
Interview questions 46
Appendix 2 47

1 Introduction

During phase one of the Kellogg 49 programme, New Zealand suffered two adverse events. Firstly, the Auckland regional flooding, and secondly Cyclone Gabrielle. Both were significant, traumatic events with loss of life suffered. Cyclone Gabrielle's scale made this the second most expensive non-earthquake disaster in New Zealand history (Ministry of Foreign Affairs and Trade, 2023).

Cyclone Gabrielle in particular, had a direct fiscal impact on New Zealand's' food and fibre sectors. With damage to crops accounting for $500 million to $1 billion and farm infrastructure losses of $1 billion. (Ministry of Foreign Affairs and Trade, 2023).

Both 2023 weather events were classified as an "Adverse Event" by the Ministry of Primary Industries (MPI, 2023), which triggered allocated funding for psychosocial support and cash funding to farmers as determined under MPI's Adverse Events policy.

1.1 The role of psychosocial services following adverse events

The primary aim of psychosocial support following an adverse event is to minimise the physical, psychological and social consequences of the event and to enhance the emotional, social and physical wellbeing of individuals, families, whānau and communities. As the Ministry of Health (2016) notes, psychosocial recovery is not about returning to normality; It is about positively adapting to a changed reality which has an indefinite period.

The issue is when an event such as Cyclone Gabrielle occurs that disproportionately affects the rural population. The available clinical mental health services which support community psychosocial services are often under resourced, underfunded, and difficult to access due to structural inequities in rural mental health services (Te Hiringa Mahara New Zealand Mental Health and Wellbeing Commission, 2023). This can make accessing treatment and the subsequent recovery for farmers challenging.

1.2 Why does farmers mental health matter?

Some may ask why it is important to focus on providing support to rural communities when there is an insatiable demand on the health dollar from all communities. The answer is multifaceted but goes beyond a moral argument for supporting and alleviating mental suffering of farmers. There are good economic grounds based on productivity, the role of farmers in providing employment and their contribution to New Zealand's GDP. Therefore, it is important to ensure farmers have the tools and support to recover financially, physically and mentally as quickly as possible, leaning into their innate psychological resilience and coping mechanisms for recovery. Whilst providing adequately resourced systems for those farmers who require more specialised treatment.

This report seeks to understand what psychosocial support services are available for farmers following an adverse event, how they interact, and their challenges and constraints. The report also seeks to understand solutions to overcome these challenges and constraints to deliver more effective psychosocial services for farmers following adverse events.

"My black dog seems quite away from me now – it is such a relief. All the colours come back into the picture."
Winston Churchill

2 Research Question and Aims

How might we provide more effective psychosocial services to farmers following adverse events?

2.1 Aims:

1. To identify the psychosocial services available to farmers and the stakeholders in the psychosocial eco-system, following an adverse event.
2. To identify how these services interact with farmers and interact between themselves,
3. To identify what their constraints and challenges are and how might we overcome these constraints and challenges.

3 Literature review

Firstly, it is important to understand how the Ministry of Primary Industries (MPI) define adverse events. As the classification of an "adverse event" will unlock certain levels of support and funding for farmers.

3.1 Definition of an "adverse event"

- storms
- droughts
- floods
- snowstorms
- volcanic eruptions
- earthquakes
- biosecurity incursions.

At the time of the adverse event, MPI will assess based on the following criteria:

- options available for farmers to prepare for the event.
- magnitude of the event (likelihood and scale of the physical impact)
- capacity of the community to cope (economic and social impact).

When an adverse event occurs, MPI is required to consult with:

- regional policy agents
- rural support trusts
- relevant regional and district councils
- regional civil defence emergency management groups
- industry organisations
- other government agencies.

Based on the information collected, MPI advises the Minister of Agriculture on the scale of the event, and the Government decides what support to provide and what scale the classification will be. An adverse event may also be declared a civil defence emergency by a local council. (Ministry of Primary Industries [MPI], 2023).

3.2 Frequency of adverse events

Climate change effects are increasing the frequency, duration and intensity of drought, together with an increase in the frequency of extreme weather events (such as cyclones and floods) (Bi & Parton, 2008) (Smith, Kelly & Owen, 2012). However, there remains some debate around the variation attributable to global warming, and what is attributable to 'normal' climate variations (Seneviratne et al, 2018). Regardless, psychosocial services serving rural communities should be preparing to support farmers through more frequent events.

3.3 Baseline for rural mental health prior to an adverse event

Until recently it was agreed that 16% of the New Zealand population live in rural areas, and 35% lives outside of urban areas – with these regional figures higher for Māori (Environmental Health Intelligence New Zealand, 2018). However, recent reclassification by

Whitehead et al (2022) would revise rural population estimations lower, with the effect being rural health statistics have been detrimentally underestimated to date.

Whilst rural and urban populations suffer similar prevalence of mental health conditions, evidence shows that people in rural settings are less likely to access mental health services (Gibb & Cunningham, 2018). Data also shows suicide rates are slightly higher for rural areas, than urban areas. (Gibb & Cunningham, 2018). Likewise, policymakers acknowledge rural communities are marginalised and that rural inhabitants experience worse wellbeing outcomes than the general population (Government Inquiry into Mental Health and Addiction, 2018) (Te Rau Tira Wellbeing Outcomes Report, 2021). Māori also have higher prevalence of mental health conditions and are less likely to be diagnosed. (Government Inquiry into Mental Health and Addiction, 2018).

Primarily the challenge for rural populations is access to mental health services. Rural populations frequently need to travel long distances for mental health and addiction services, which acts as a physical and financial barrier to access. Rural connectivity continues to be a barrier to access electronic forms of services (Government Inquiry into Mental Health and Addiction, 2018). However, Jaye et al (2022) suggested the high value that rural dwellers place on rural community assets. These assets can mitigate some of the disadvantage to geographical distance. Whilst the concept of communities may be important in the context of wellbeing, when farmers require specialised mental health treatments that are located beyond their immediate community, it unavoidably places additional burden on the farmer, their family and support network.

Therefore, a local mental health workforce that delivers regionally and culturally appropriate treatment is a critical piece of the psychosocial puzzle. Mental healthcare services provided in rural communities are often heavily relationship-based and reliant on strong local networks developing between clinical providers and local referral pathways to provide continuity of care to consumers (Government Inquiry into Mental Health and Addiction, 2018). However, the mental health workforce serving rural communities is often under resourced, and often can only cover crisis staffing, which limits the ability to deliver more preventive work (Government Inquiry into Mental Health and Addiction, 2018). Recently in response to the chronic, critical clinical workforce shortages in Australia, the Royal Australian and New Zealand College of Psychiatrists [RANZCP], (2020) created a rural training pathway under their strategic plan. Unfortunately, this analysis has not yet been carried out in the New Zealand context.

In terms of New Zealand policy, the Government has released a ten-year wellbeing plan Kia Manawanui Aotearoa (Ministry of Health, 2021), which sought to address inequities in mental health. Additionally, a national rural health strategy is also due to be released in July 2023, and will set a national strategy for reducing existing health inequities in the rural health care system. It is not specific to mental health, and there is no focus on psychosocial recovery (Ministry of Health, personal communication, May 1, 2023). It seems for now, whilst there is consensus of an issue of equity and sustainability in rural mental healthcare, neither policy makers, nor clinical registration bodies are agreed on how to resolve it.

3.4 Definition of psychosocial recovery

> *The adjective 'psychosocial' refers to the psychological, social and physical experiences of people in the context of particular social, cultural and physical environments. It describes the psychological and social processes that occur within and between people and across groups of people.*
> *(Williams and Kemp 2016, p 83) cited in Ministry of Health (2016).*

Psychosocial recovery is about mitigation. If successful, it should minimise the physical, psychological and social consequences of the adverse event, and enhance the emotional, social and physical wellbeing of farmers, their whānau and communities. The objective of psychosocial recovery is not about restoration to 'normality', instead it focuses on positively adapting to a changed reality. The period for recovery can also last years, depending on the nature of the event (Ministry of Health, 2016).

Following, an adverse event, a balance must be struck between supporting, but not interfering with a community and an individuals' resilience and coping strategies. Kring et al (2018) also cautions against assuming that all traumatic events are negative experiences for survivors; and points to post disaster growth, where a high proportion of people not only cope with trauma but cite a new-found appreciation for their life.

3.5 Risk factors after an adverse event

There is no singular response to an adverse event. An individual's resilience, coping ability and stressors, such as proximity to the event, existing social support, financial stressors and pre-existing mental health conditions will determine an individual's own pathway, and whether their distress is short-lived or may escalate and require more intervention (Kring et al, 2018) (Ministry of Health, 2016).

It is important to recognise, that prior to an adverse event farmers have several stressors, and risks that make them vulnerable to mental health issues. Firstly, farmers have traditionally displayed a reluctance to engage with health professionals compared to urban populations (31% vs 54%) (Bayer New Zealand & Country TV 2018). Over half of the respondents also found it difficult to discuss stress and anxiety with others. Advocacy groups suggest the problem is not only the difficulty in accessing help, but also the stigma or prejudice that a mental health illness of diagnosis ascribes, and the difficulty with small communities where 'everyone knows everyone.' Likewise, ACC (Goffin, 2014) found that farmers specifically had lower rates of accessing mental health services when compared with other occupational groups. This review also raised the issue of health professionals failing to observe symptoms in their farmer patients. This may be attributable to the "cultural rural value of stoicism or not complaining" (Jaye et al., 2022, p.289).

Farmers are experiencing stress, not only from adverse weather events, but also agribusiness changes, market instability, government regulatory changes and public perception. (Cheetham, 2021; Federated Farmers of New Zealand, 2021; Jaye et al., 2022).

In a recent survey by Rural Women New Zealand (2021) farmers mentioned long working hours, limited connectivity and travel distances as factors limiting their ability to socialise and access support groups.

3.6 Wellbeing Models

Wellbeing has been described as a continuum scale below in Figure 1 (Centre for Mental Health, 2021)

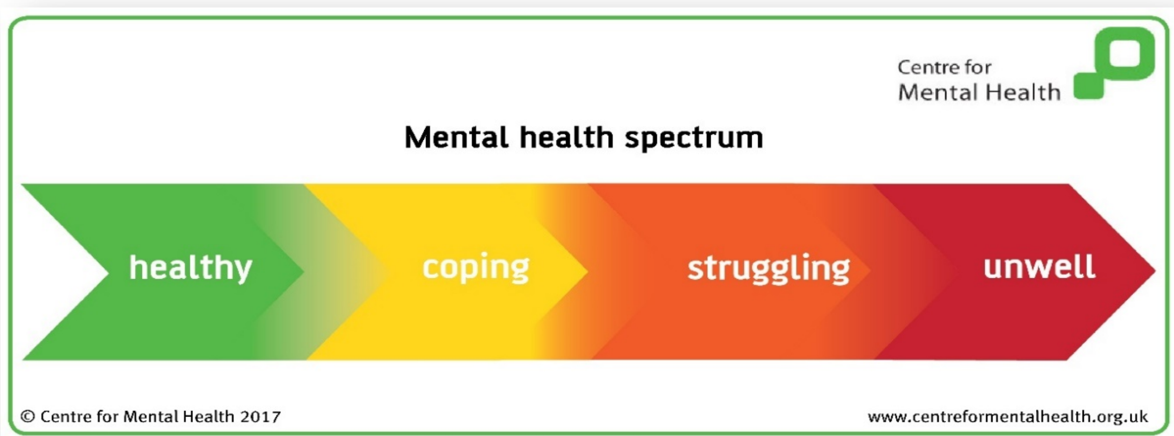

Figure 1: The Mental Health Spectrum viewing wellbeing as a continuum (Centre for Mental Health, 2021)

A farmer may oscillate between healthy and unwell ordinarily depending on their unique factors as described above, but the onset of an adverse event may escalate a farmer detrimentally on this scale. Once within the unwell category, the farmer will need more specialised intervention and care.

New Zealand uses Sir Mason Durie's model (Mental Health Foundation of New Zealand, n.d) at Figure 2 below, to describe health and wellbeing. The whare structure is represented by an individual's physical, mental, spiritual, whanau and social wellbeing. The foundations being represented by the connection with the land. Durie proposed that when an element is unbalanced, then wellbeing is impacted. This model resonates for farmers, given the recognition of the strong connection to whenua. It also neatly explains how the multidimensional consequences of an adverse event can affect a farmer's wellbeing.

Figure 2: Te Whare Tapa Wha viewing wellbeing as interconnected (Mental Health Foundation of New Zealand, n.d)

Whilst both models may be conceptually different, they both fundamentally acknowledge that wellbeing is not a fixed concept and will be in flux dependent on the individual and their environment, at any given time.

3.7 Sudden and slow onset events

The nature of the event is important in terms of the type of response farmers may display. Sudden nature adverse events, for example flooding, cyclones, earthquakes are more likely to be associated with anxiety symptoms, and diagnoses including post-traumatic stress disorder, and acute stress disorder. Serious trauma is defined as an event that involved actual or threatened death, or severe injury (Kring et al, 2018).

When a traumatic adverse event occurs, for many the distress may tolerable and short-lived, and support and care from families, whānau, friends and the wider community will be sufficient (Gluckman, 2016). Others, however, may need more formal or professional intervention and a small proportion of people will need specialised mental health services. Literature varies on the percentage affected, with Gluckman (2016) estimating that 4% of the population may be affected whilst others suggest this figure to be higher. Forbes et al (2012) instead suggests a range, and says the figure is likely to be between 5 – 20% of the affected population (Trounson, 2016).

Slow onset events, such as drought are more insidious, and symptoms commonly relate to chronic loss and failure. Evidence suggests that people are more likely to experience helplessness induced depression, ongoing emotional distress and generalised anxiety during drought (Coehlo, Adair & Mocellin, 2004).

During slow events researchers in a longitudinal study found that people's psychological distress rose during the first 2.5 – 3.5 years and then plateaued before decreasing. It suggests that people learn to cope, known as adaptative capacity, but their overall life satisfaction decreases (Luong et al, 2021).

Regardless of material difference in onset, it is recognised that psychosocial resources need to be allocated, and funded for some time (often years) after the event ceased (Bryant et al, 2018)

3.8 Supporting farmers

Following an adverse event, a comprehensive and effective psychosocial recovery programme is required which is tailored to meet all needs (from the healthy to the unwell on the mental health spectrum). Figure 3 sets out a hierarchy of treatments based on the escalation of treatment (Ministry of Health (2016) adapted from IASC (2007)) within the New Zealand context.

Interventions at the lower two tiers of Figure 3 range from basic listening, provision of information through to community lead initiatives which allow an individuals' innate psychological resilience and coping mechanisms come to the fore (Gluckman, 2016). For a farmer this might take a more practical lens, for example access to medicines for animal welfare, supplying emergency power sources for farm operations or emergency fencing supplies.

For those more severely affected, who are in the struggling and unwell categories of the mental health continuum scale, they will benefit from efficient referral systems and sufficiently resourced specialised mental health care, as evidenced in two upper tiers of Figure 3 (Gluckman, 2016).

Gluckman (2016) states if the system does not provide sufficient and adequate psychosocial interventions at the earlier stages, it can expect higher levels of people in the targeted and specialised group who require specialist care which will compound pressure on the clinical workforce.

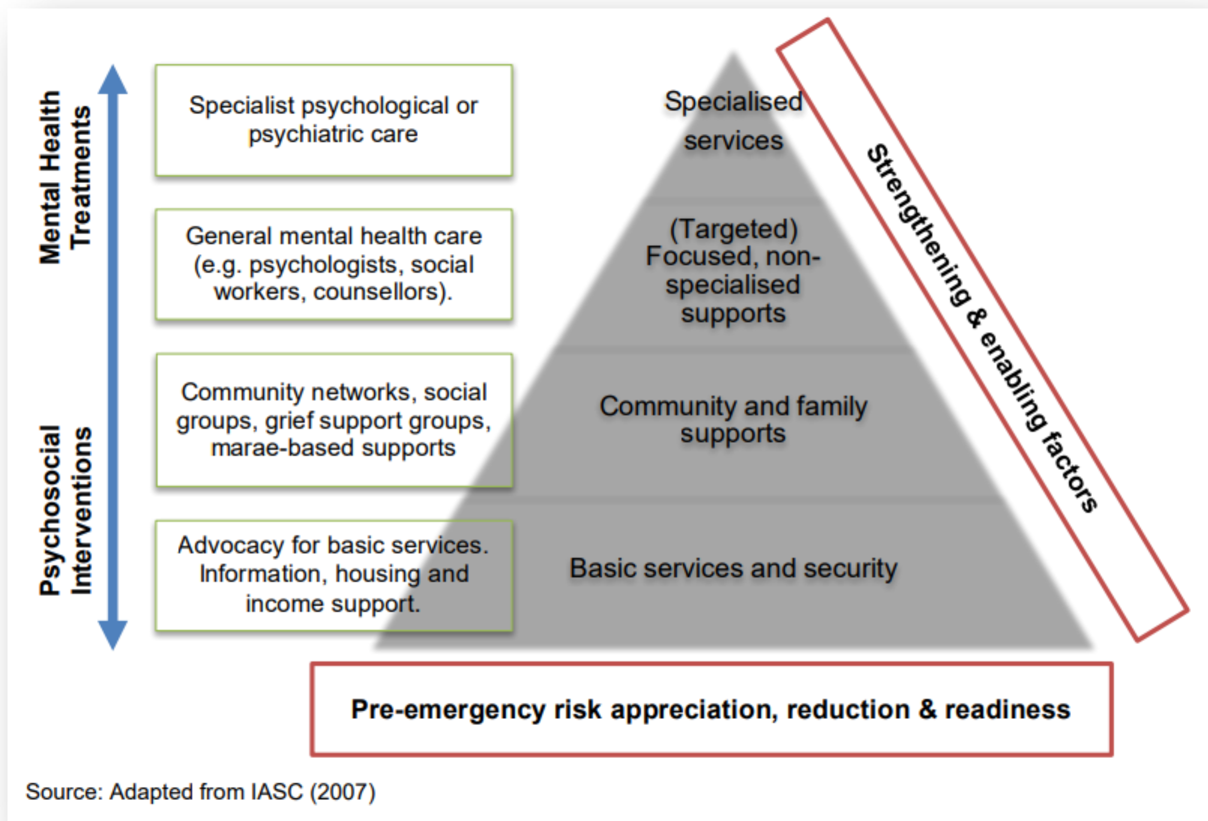

Figure 3: Tiered model of psychosocial interventions with escalation to mental health treatments (Ministry of Health, 2016)

The Australian Black Friday bushfires gave rise to a framework for psychosocial recovery, which influenced the development of similar frameworks in other countries, including New Zealand. Based on three levels of care following a disaster, it is also adaptable to the adverse events context. **Level 1** delivers psychological first aid; **level 2** offers more specialised skills for recovery and **level 3** delivers specialist clinical intervention.

Level 1 is based on five evidentially supported guiding principles for ppsychological first aid (Hobfoll et al, 2007): promoting a sense of safety; promoting calming; promoting a sense of self-and community efficacy; promoting connectedness and instilling hope. It is akin to the two lowest tiers on the triangle of Figure 3.

The eight components of psychological first aid (PFA)

1. Initiating contact and engaging with an affected person in a non-intrusive, compassionate, and helpful manner.
2. Providing immediate and ongoing safety and both physical and emotional comfort
3. If necessary, stabilising survivors who are overwhelmed and distraught.
4. Gathering information to determine immediate needs and concerns and to tailor PFA interventions.
5. Providing practical assistance in helping the survivor address immediate needs and concerns.
6. Connecting the survivor with social supports by helping to structure opportunities for brief or ongoing contacts with primary support persons and/or community helping services.
7. Providing information on coping, including education about stress reactions and coping (often in a written format).
8. Linking the survivor with collaborative services and providing information about those that may be needed in the future.

Figure 4: Level 1 – Psychological First Aid (Forbes et al 2012)

Psychological First Aid is delivered by generalist health and disaster response workers with support and training from mental health professionals. There is often a focus on community unison to mitigate the risk for community fractures when emotional tensions are high, following an adverse event. Community barbeques, community meetings and sports events are all examples of the type of events where communities unite, and psychosocial services can function as reference points, and actively identify individuals who may require more support.

In New Zealand, after an adverse event, psychological first aid is delivered by agencies such as Red Cross, Rural Support Trust (RST), iwi providers, and allied health.

Level 2 involves intervention for individuals who are continuing to experience mild to moderate distress following psychological first aid. Individual symptoms can include worry, sadness, insomnia, anger, a decreased ability to function at work or home. Often these symptoms arise from practical issues linked with the event, such as bereavement, the destruction of property, livelihood or the stress of relocation and rebuilding. The symptoms cause mild to moderate impairment of day-to- day functioning (Forbes et al, 2012). Level 2 is delivered by primary care allied health providers and counsellors and is typically delivered over 1-5 sessions and can be delivered outside of a clinical setting. It is appropriate to be delivered in community facilities (for example sport club rooms, community halls, and schools). Interventions are flexible and based on needs assessment, problem solving, activities scheduling, helpful thinking, social support facilitation and distress management (Forbes et al 2012) (Trounson, 2016).

Level 3 focuses on the minority of people who develop a diagnosable psychiatric disorder which causes significant distress and impairment to function day-to-day. (Forbes et al, 2012) (Trounson, 2016). This group would meet the unwell category on the mental health continuum at Figure 1. The onset of these disorders may be related to the traumatic event or may have exacerbated existing prior disorders. Clinical specialists deliver all Level 3 treatments in a clinical setting (akin to the top tier of the triangle in Figure 3). This level is reliant on delivery by a highly trained specialised clinical workforce.

Like the hierarchy of psychosocial interventions under Figure 3, this three-level model allows lower need individuals (those who are well or coping on the continuum) to receive support from non-specialised services. This alleviates pressure on the limited specialised clinical workforce (clinical psychologists and psychiatrists) and allows them to focus on treating the most severe illness (those who are struggling and unwell on the spectrum) as a priority.

3.9 Technology and mobile psychosocial support

With a constrained specialist mental health workforce, technology presents an opportunity to improve reach and accessibility of treatments and prevent escalation for rural communities (Government Inquiry into Mental Health and Addiction, 2018). Moore (2019) agreed that telehealth presents an opportunity to drive both productivity improvement and better outcomes across the wider health system.

However rural connectivity and its current infrastructure remains a challenge to this ambition, particularly in the aftermath of a sudden adverse event where existing infrastructure may be significantly compromised. Recently, following Cyclone Gabrielle, satellite internet (such as Starlink) performed well, although it is reliant on a consistent electricity supply. (Radio New Zealand, 2023).

Promisingly, a recent survey conducted by Federated Farmers (2022) cited almost half of respondents indicated that they would use better connectivity to improve their mental health and wellbeing through online services and resources.

RANZCP (2022) whilst supportive of telepsychiatry as a treatment and care option, cautions that it is not a singular solution. RANZCP (2022) also stated all technology solutions are reliant on good connectivity within rural communities.

As for mobile workforces, RANZCP (2022) acknowledged a role for fly in and fly out services in remote areas but prefers a longer-term commitment for placing specialists within the rural communities.

The Government Inquiry's into Mental Health and Addiction (2018) also commended rural related resources such as Farmstrong and Good Yarn in the rural communities, and more recently Will to Live as helping prevent and maintain wellbeing through improved accessibility and reach. Although, no resources mentioned are specific to psychosocial recovery from adverse events.

3.10 Cost of failure

Mental illness among farmers is likely to increase the risk of injury, accidental death and suicide (Goffin, 2014). Accordingly, the cost of mental illness arising from natural disasters cannot be underestimated.

International data shows that the social costs of natural disasters often transcend material losses from the event. An Australian Deloitte Access Economics report estimated that the mental health costs of the 2009-10 Black Saturday bushfires in Australia will exceed $1 billion (Deloitte, 2016). The total social cost will amount to almost $4 billion, larger than the material costs estimated at just over $3 billion.

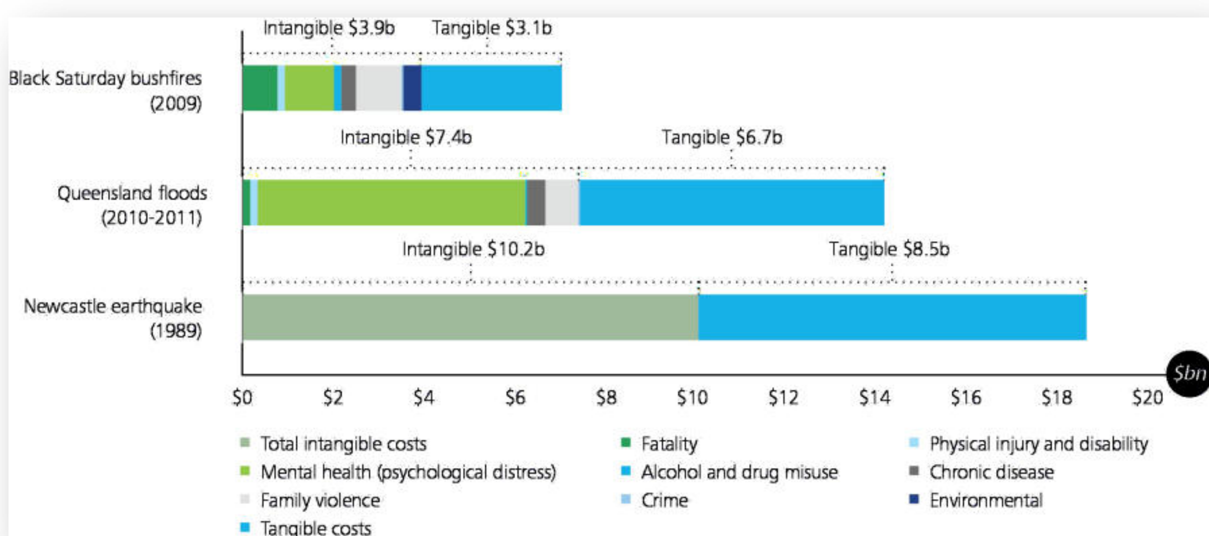

Figure 5: The economic cost of the social impact of natural disasters (Deloitte, 2016).

The above table also illustrates that following an adverse event, a farmer in distress cannot be viewed in isolation. Farmers form part of a family and wider community who can all be impacted detrimentally by the cost of poor mental health.

In the New Zealand context, there is sound economic argument to support farmers who contribute substantially to New Zealand's economic success. As contributors of 10.7% to New Zealand's GDP and employers of 13% of New Zealand's total workforce, farmers are important to New Zealand's prosperity (MPI, 2022). Adopting a lens of productivity provides salient reason to tackle mental health issues too. Data from the Australian Productivity Commission shows that mental health issues and suicide cost Australia just over 10% of their entire annual economic productivity (Mental Health Australia, 2020). Whilst there is a dearth of data in the New Zealand context, and specifically rural productivity. The impact of similar statistics on the food and fibre sector's bottom line, or conversely the potential boost it could provide if resolved, makes a convincing argument for rural mental health prioritisation.

4 Method

A literature review was undertaken to help the author gain insight into the frequency of adverse events, the difference between slow and sudden onset events, the existing baseline of mental health services within rural New Zealand, the unique risk factors for farmers the types of psychosocial interventions available for farmers. The review also considered technological solutions and what the cost of failure would be.

4.1 Interviews

The author interacted with several psychosocial services to firstly identify the groups in the psychosocial eco-system. Participants were then selected from across the groups. The groups were identified as follows:

- farmer voice (slow and sudden event experience) n= 2
- farmer facing support services (such as industry, advocacy and psychosocial) n= 4
- clinical services n =1
- policymakers n= 3
- corporates n=1

Semi structured interviews were conducted with eleven participants through an anonymous process which allowed qualitative, open-ended data; and to explore participant thoughts, feelings and beliefs about a sensitive issue. The author used set questions tailored for each group, as set out in the appendices (see Appendix 1).

Informal conversations were also conducted with participants from the above groups to assist the author with further identification of psychosocial service stakeholders and to validate ideas in an iterative process.

The author included the anonymised farmer accounts with consent, to illustrate both the differences of a slow and adverse event, and the types of pressures that farmers may face following an adverse event.

Interview notes were coded following the thematic analysis process outlined in Braun and Clarke (2006) and grouped into themes for further discussion. Identified psychosocial services were mapped via Miro mind map and through a Miro stakeholder map which explored the psycho-social stakeholder's relationship with the farmer.

5 Analysis and Results

Below are anonymised farmer accounts, illustrating the difference for farmers affected by a sudden event (a cyclone) and a slow event (a drought) and how the unique pressures of the type of event can affect a farmer's wellbeing.

5.1 He Tangata He Tangata He Tangata! The voice of three farmers:

Ben and Lucy – farmers' experience of a sudden onset event

Ben and Lucy are a husband-and-wife team on an intergenerational mixed arable with sheep and beef finishing farm in Central Hawkes Bay. They have a young family and run an innovative and progressive farming operation with a firm eye looking ahead, to secure a sustainable future on their farm for their family. The family and their respectful connection and kaitiakitanga to their whenua is exactly the kind of positive food and fibre producer story that New Zealand is seeking to tell its customers proudly about.

The couple have farmed through several droughts, but the effects of Cyclone Gabrielle has been the toughest adverse event to date. They have lost almost 40% of their processed food crops due to damage from Gabrielle. Most of the damage was caused by floodwaters, which took considerable time to recede. They have also suffered damage to infrastructure including damage to centre pivot irrigator pumps, loss of significant native plantings and some fencing. Despite this, when sympathies are expressed, they instead cite others locally who have suffered worst damage.

During the cyclone event, Ben was instrumental in rescuing neighbours, and their property in the floodwaters. Whilst Ben was away busy helping in the community, Lucy was required to evacuate their young family under civil defence orders with no ability to communicate to Ben, as all telecommunications and power was inoperative. In the following days, Lucy and Ben were instrumental within their community, in coordinating and cleaning silt and cyclone debris from properties, including removing deceased stock.

Ben and Lucy employ staff members and feel a strong sense of responsibility for their employees and their families, and ensuring they not only retain their employment, but are well cared for following this event.

Several months later, Ben and Lucy continue to play an active role in the recovering community, with Lucy busy coordinating a meal service for families in need in their community. This initiative was set up during a previous adverse event to connect and check in.

For Ben and Lucy, the pain point has been less about the physical damage sustained, but the financial damage to their balance sheet, not only for this growing season, but the impacts that will be felt through many fiscal years. There is the practicality of damaged soils, and rethinking existing cropping systems and cycles, but also that their plans for succession have suffered a blow, and it will take some time before they can reach the point they were at when Cyclone Gabrielle struck.

Ben and Lucy are well supported by their community and cite their farm discussion group who visited their farm following the event as critical for assisting them to help plan a way forward. They recognise that others in their community may not be so well supported and once the practical things are fixed, there can be a feeling of:

"The picture is so big; we don't know where to start."

Ben and Lucy also recognise the benefit of social gatherings with their local community, which have become a safe place to discuss and process people's experiences during this event, and a general check in on how others are faring. Ben and Lucy say that they are aware of people who are now distressed when heavy rain is forecasted or arrives:

"It brings back the trauma for them."

Ben and Lucy are optimistic about their own farming operation's resilience, but they know that there is a tough winter ahead for some in their community. They are also mindful of future weather events, and the impact on those in their community for whom it will be a painful reminder of the events of Cyclone Gabrielle.

Sam – a farmer's experience of a slow onset event

Sam is a mid-career dairy farmer who is now less involved in the day-to-day operations of his farms. He has farmed through numerous adverse events, including droughts and "weather bombs" which brought sudden high winds and high rainfall. Sam has an impressive self-awareness and literacy of mental health and is a champion of wellbeing in the Food and Fibre Sector. Sam is the kind of guy that you want, not only in your corner, but present within every rural community in New Zealand.

Sam recounts the drought of 2020 as one of the most difficult events he has farmed through. He recalls the farm as slowly getting drier in the new year. He had gone on holiday with his family and returned to check in with staff midway through his holiday and recognised that the situation had rapidly deteriorated, and the grass was "*literally dying in front of him*" on this searing, mid 30-degree day. Unable to process the impending situation and feeling a sense of desperation, he returned to his family holiday and says that he had four more sleepless nights as he struggled to articulate a plan of how to deal with the drought, and the impending food shortage for his cows.

Upon returning to the farm, Sam felt even more helpless as the scorching hot days had continued in his absence, and he recognised he urgently needed to get more feed in for his cows. Unfortunately, whilst preparing the tractor for the feed, he suffered a significant physical injury that he attributes to a flawed decision-making process. With the benefit of hindsight, he recognises that his muddled, and sometimes paralysed thinking was a symptom of the mental distress he was in at the time. He also recognises with hindsight, that the problem was the absence of having a plan, or the tools to plan as "*you cannot run a farm on a maybe*."

The physical injury meant that Sam was unable to work on the farm for another 9 weeks. The culmination of the drought, his injury and guilt about the burden he had placed on others lead to Sam's mental health deteriorating to crisis point.

Thankfully, Sam has excellent support networks around him. He was able to access urgent clinical help and medication through his rural GP quickly, alongside counselling. It was a tough time for him and his family, but they have emerged through this journey. Sam recognises that it will continue to be an ongoing journey for him to maintain wellbeing, one that he cannot "hop on and off." He is passionately committed to supporting any proactive initiatives for general wellbeing, as he recognises early intervention is critical. He says:

> *"If I had used the services earlier, I would've avoided mentally and physically the harm that I suffered."*

Sam is also now committed to telling his story, in the hope that it might help another farmer be more prepared or feel less alone when in a dark space. Sam is actively involved as a trained facilitator in his local Rural Support Trust and helps other farmers with both practical supports in planning, as well as psychosocial in their time of need. Sam's courage and commitment to championing rural mental health is an inspiration. Thank you, Sam.

5.2 Identifying psychosocial stakeholders for a farmer

When identifying stakeholders in the psychosocial eco-system, it became apparent stakeholders fell into groupings: farmer services who provide advice and support to farmers operating their businesses; corporates who supply services to farming businesses; clinical services who treat farmers; government who hold multiple policy roles which influence outcomes for farmers in primary sector, health and emergency management; disaster recovery agencies, and mental health wellbeing resources which represent a number of organisations who primarily have online resources. The tertiary sector was identified as a training pathway for the mental health workforce. Further definitions of each group are detailed below Figure 6. For a more detailed mind map, see Appendix 2.

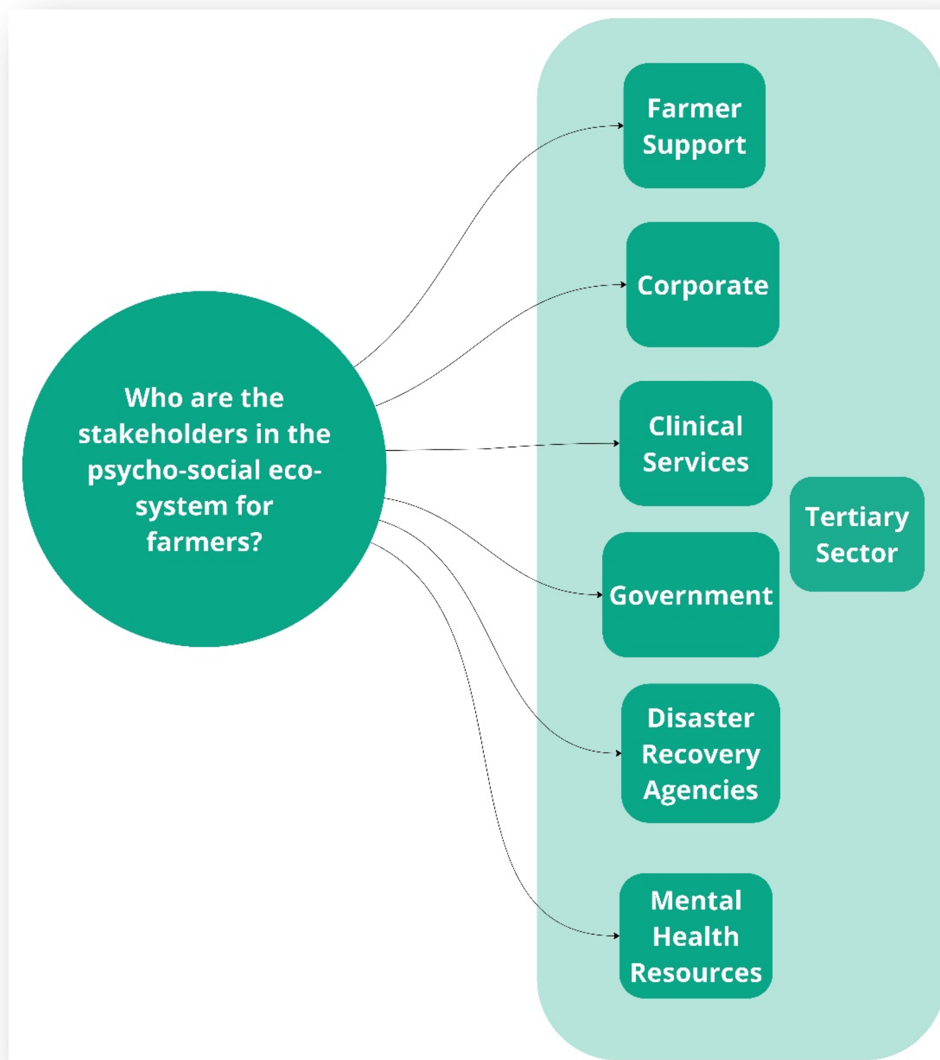

Figure 6: Mind Map of the farmer's psychosocial eco-system and the stakeholders

Mind Map Definitions

Farmer support services are defined as Rural Support Trust, Federated Farmers, industry bodies, rural community hubs, allied rural professionals, rural women's groups, catchment groups and Young Farmers. They serve farmers and are most likely to provide psychosocial services.

Corporates are defined as processors, insurers, banks, and rural supplies. They have a corporate relationship with farmers and are most likely to fund and sponsor psychosocial service efforts.

Mental health services are either clinical: clinical psychologists; psychiatrists; and general practitioners; or non-clinical services; for example: counsellors. These treatment services are referral based either by the farmer themselves, or by farmer support services. They are reliant on funding from Government policymakers, and training pathways from tertiary providers.

Government policymakers include MPI, Ministry of Health (MOH), ACC, regional and local authorities, Civil Defence Emergency Management. They are most likely to fund psychosocial services and fund training and delivery of clinical and non-clinical workforces.

Other psychosocial providers are non-rural specific disaster providers (e.g.: Red Cross) and mental health wellbeing resources (e.g., Farmstrong, Mental Health Foundation).

5.3 Farmers' interaction with psychosocial services

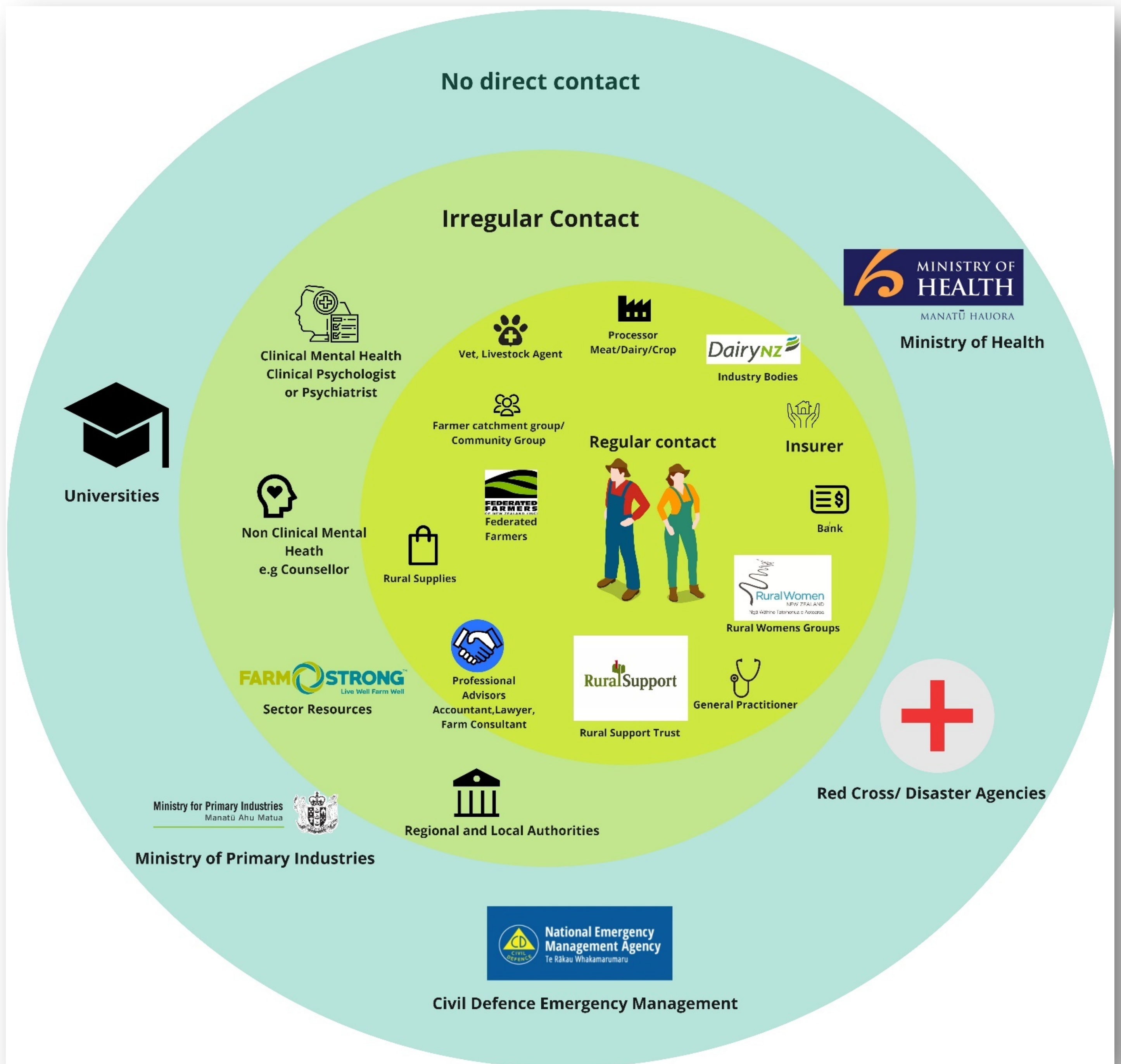

Figure 7 How a farmer interacts with psychosocial stakeholders

Stakeholders in the inner circle have an individual and enduring connection with farmers either through an interaction with their farming business, or via a personal connection. Stakeholders in the second circle may meet a farmer for a discrete reason (such as counselling sessions, or a regulatory process) but are unlikely to have an enduring connection. The stakeholders in the outer circle, are unlikely to have any direct contact with

a farmer, or an ongoing enduring connection. They tend to deal with farmers at an impersonal, community level.

Psychosocial services for farmers are delivered creatively and flexibly. Participants spoke of driving a trailer carrying fencing supplies for farmers and dropping off food as ways to gain permission to chat with farmers, and “a foot in the door.” Through this process, one respondent commented:

“*Being able to catch farmers who are escalating. We are able to link in with education, and important practical support like sorting out their (damaged) home and finding a place for the family to sleep that night.”*

“Our psychosocial support is two-fold, for farmers we connect to support them, and we also look at the stressors on their plate. Solving the next issue is going to help their wellbeing.”

All psychosocial services described a boundary, when an unwell person needs to enter the clinical health system for treatment and care. For those who became unwell, two pathways emerged for treatment. Either a farmer self-refers into clinical health services (for example through their local general practitioner, clinical psychologist or as acute patient presenting in crisis). Stakeholders also described another pathway, where stakeholders (those who had a point of contact with a farmer for example Federated Farmers, industry representatives, farmer supplier and services allied rural professionals) become aware of a farmer requiring more support. They would refer the farmer to RST, who are the only stakeholder who specialise in one-to-one facilitation, and view their role as assessing, liaising, navigating and supporting. RST’s remit is wider than mental health, and provides support for working through relationship, financial and employment issues for example. Several respondents, who work closely with farmers observed that when a farmer is in mental distress, often there are number of related issues affected in their life, and the issues cannot be dealt with in isolation. A respondent observed that RST being able to address some of the main stressors, financial, employment and relationship is a powerful tool.

When a farmer's mental distress requires more specialised clinical treatment, RST will refer to clinical mental health providers. Often this work is undertaken in acute situations when someone is suffering a mental health crisis. To capture the escalation pathway described by the respondents for farmers, the author created this model.

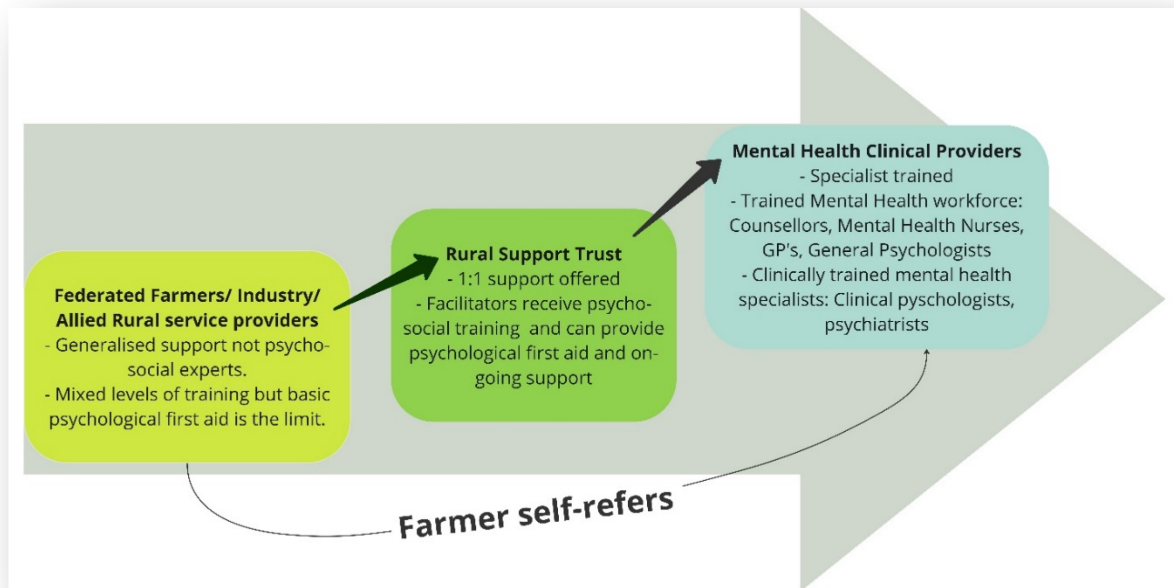

Figure 8 The pathway of escalation and intervention in the rural community

5.4 Stakeholders' interaction between themselves

Several farmer facing services acknowledged that the problem was bigger than their one service alone could tackle and therefore psychosocial services were required to collaborate.

"Collectively we know no one is big enough to solve this alone."

Psychosocial stakeholders did report duplication, particularly in organisations that ran autonomously strong regional provincial groups, for example Federated Farmers and RST. However, because each regional trust, or group has a level of autonomy, it means:

"Some crossovers can occur depending on the province."

Others agreed it was not always clear *"who did what."*
Common statements that came through from respondents within farmer facing and corporates was about uncertainty where their organisation's role may finish, or how they should interact:

"We don't want to step on toes."

"We don't want to be overstepping our place. We aren't skills equipped."

Whilst others, particularly in the policy field were clear:

“that’s not our remit.”

Another observed, there appeared to be an element of competition from corporate companies for providing the ‘best’ psychosocial events. The respondent noted, if the companies are not working together, it can result in an overwhelming number of events for Farmers to attend, which is counterproductive.

Duplication of resources for farmers interferes with the effective delivery of services. Many respondents cited the confusing plethora of wellbeing and information available. For example, the confusion between RST’s role and Farmstrong. Some respondents cited resources that were ad-hoc, and a need for consolidation and collaboration:

“a one-stop shop for disaster resources, so that it’s not so confusing.”

Although two respondents with clinical experience did stress, providing the advice in several forums had advantages of giving a farmer choice about how to access help in a way that worked best for them. As one respondent stated:

“No one size fits all. Different styles of farming, means we need different ways to respond.”

There was some confusion from respondents about the remit of MPI’s On-Farm Support team and whether it provided psychosocial services. Similarly, the multiple appeal funds operating (Red Cross, RST, Farmers Adverse Event Trust) was also cited by the psychosocial stakeholders as confusing, and the lack of cohesion in communications to farmers about what resources and funding was available was also cited as problematic.

The perils of providing an ineffective service in such a critical area was highlighted by one respondent:

“Farmers by nature aren’t going to ask for help but when they do ask, they need a good experience or else, they will never ask again.”

5.5 Challenges and Constraints

5.5.1 Availability of clinical mental health services

For respondents who had experience of referring farmers to clinical services, there was a mixed experience. All respondents cited a shortage of clinicians in their regional area as affecting the quality of service they receive. Several respondents said they had a positive experience if they referred to a clinician, they had an existing relationship with, but found it was “*hit and miss with the crisis team*.”

“*We are having real issues with getting people in front of a GP due to the shortage. It also then becomes a continuity of care issue for the patient*.”

One respondent cited a seamless experience, where they were able to access a counsellor from an approved provider list. When probed further about this, they acknowledged this model was reliant on their existing, deep relationships:

"*It works well when you have existing relationships in the community to lean on*."

Equally if a psychosocial provider had volunteers or staff who were trained, or had clinical experience, they found the referral easier to conduct.

All respondents acknowledged that the availability of services depended on the region where a farmer was based:

"*A farmer in Waikato can access up to four funded counselling sessions. But if they lived in Westland, they wouldn't have that funding, or necessarily the choice*."

Two respondents spoke of having to personally drive farmers in crisis to hospital themselves, due to a regional crisis team's unavailability.

5.5.2 Funding issues

There is a view held by several farmer facing respondents that there is not a shortage of funding, but rather an inefficiency in its allocation and distribution. Some respondents suggested that there needs to be a clear process and allocation of the roles after an adverse event.

Several farmer facing psychosocial service providers described the tension between managing their shoestring day-to-day operational budget and being required to scale up quickly when faced with an adverse event. This was particularly true for those who run a regional group model, where the regions are funded separately (for example RST). A respondent described:

"Most will hold some funds in reserve and can get through a small-scale localised event ok. But the bigger events are challenging. We are reliant on the MPI classification being medium to large to unlock the funding."

Many described the current allocation of funding as being unsustainable in terms of responding to day-to-day need. One organisation described being required to find two-thirds of their operational budget every year through sponsorship. This significantly impacted both the time and energy that was able to be spent on their actual remit:

"We need to give these organisations sustainable funding. Currently some live on an annual budget. If we could fund them for five years, then it takes away their hand to mouth existence and they can actually put in place a strategy and deliver on it."

The classification by MPI is viewed as critical because the scale will determine how the psychosocial services are funded to respond. Whilst they work with MPI to inform their decision, the decision itself sits with MPI. Some respondents spoke of tension and challenges in managing expectations on the ground with frustrated farmers in droughts, when MPI have not yet classified the event.

Policymakers talked about flexibility in funding, and ensuring that locally based psychosocial providers were resourced better, both in terms of funding and people:

"We need local solutions for local needs."

Some psychosocial services have sought to address the shortfall of funding issue through partnerships with rural corporate entities. For example, RST has partnerships with all major banks, Fonterra, Greenlea, and Pioneer, although partnerships do not cover all costs, and fundraising events are also required to meet the shortfall.

Conversely, funders of psychosocial services spoke of a lack of New Zealand based evidence to assist in their funding decisions:

"The data is a fundamental building block for everything. You need to approach funders with data."

One policymaker cited New Zealand's most recent mental health prevalence study being 20 years old. Without the data, several respondents spoke of their difficulty in building a case within their organisation to prioritise funding. Other funder respondents discussed being open to further funding partnerships, but needing psychosocial services to articulate their funding and planning requirements clearly to them:

"It wasn't clear what their strategic drivers were. We needed to see a long-term strategic plan with deliverables and an action plan from them in order to support them. We asked them, what have you got that's good? What can we help with?"

5.5.3 Regional and National tension

All farmer facing respondents heavily emphasised the appropriateness of regionally and culturally appropriate psychosocial interventions. However, all respondents acknowledged that currently the regional delivery of services varied, which made it difficult to provide national consistency of services to farmers. A respondent said we had to overcome regional differences to secure funding via known metrics:

"*We must standardise to a national rural mental health strategy in order to get metrics*."

When asked about the tension, one respondent stated:

"The regional and national tension has to be evolved gently. It will require good leadership and strategy."

Another cited historical regional autonomy as a barrier:

"It would streamline things much better if it evolved into a national structure. Some evolution will take time. It's not a quick answer."

One respondent also cited the lack of national strategy being responsible for some confusion in both MPI's role, and the ad hoc development of regional groups.

5.6 Solutions for better delivery

5.6.1 Community Solutions

Whilst the resilience phase was specifically excluded from this report due to resource constraints, all respondents agreed that the most important psychosocial tool available to farmers was their community.

"Neighbours helping neighbours is powerful."

All respondents agreed it was important to enable recovery and encourage resilience through equipping communities with the tools they need. Several respondents agreed that farmers themselves could become part of the solution through peer-to-peer training. Although a respondent thought it was important that any peer-to-peer model would be reliant on an organisational structure to keep some consistency and achieve scale.

Another respondent cited the importance for psychosocial services to seek out the community champions, those who have mana in the community, and give them psychosocial training. This solution echoed a respondent's reflection on their organisation's response following Cyclone Gabrielle:

"We had one seat on a helicopter (to go to an isolated rural community) and we had to make a call about who should get on. We thought it was important to send a technical animal expert to support farmers. On reflection, the biggest need was actually mental health. It would have been better to have sent someone who had local mana in the community. Who could've assessed people's needs better as a trusted known face."

5.6.2 Bolstering clinical mental workforce

Some workforce initiatives are under way with Ministry of Health. However, respondents cited the issue of the long-term training (on average 5 years for postgraduate clinical psychology and longer for psychiatry), the lack of places at universities for training, and then the lack of resourcing for supervision for internships. A respondent noted an incremental approach is therefore required, with the only feasible way to rapidly increase the workforce in the short to medium term by recruiting internationally.

"We need a dedicated workforce unit at Ministry of Health, that is horizon scanning, and facilitating the skilled workforce. They need to be consolidating and improving the training pathway. It's too ad hoc at the moment."

"We need to improve the working conditions of our workforce, so we can attract people to our rural jobs."

A respondent also cited an increase in funding of mental health under the current government in general and in supporting GPs to provide mental health services. Although these initiatives are not specifically addressed to rural communities.

Another respondent cited a training rural pathway, and the use of bonding to a rural community for a period, in return for tertiary loan repayments.

In terms of improving existing psychosocial services, one respondent suggested funding clinical skill positions in RST, to alleviate some workload on clinical services, who can function as a connector on the escalation pathway.

Another respondent suggested rural accreditation for practitioners, to standardise care across rural communities. As well as providing a trusted network of mental health practitioners for referrals. It could also work well for telehealth options, for consumers to immediately identify providers who may "*speak their language*."

5.6.3 Collaboration

On collaboration, respondents agreed the responsibility for rural mental health, lies with the sector.

"The adverse events response is quite government led at the moment. If groups come together and agree what the response looks like, everyone would be clear on roles and the collaboration required."

"The sector needs to be taking the lead, that way they will get local solutions to local needs. They need to take ownership and raise awareness."

"People fail to realise we are all in a psychosocial ecosystem and everyone has to participate."

"There was a lack of voice or a champion for rural within Ministry of Health…the sector's job is to engage and influence the policymaking within government through their insights. Give us direction as to what is needed."

A policymaker commented:

"*Who do you listen too when there are so many groups? It's a leadership challenge for the government."*

"There is nothing more powerful than coming to government with some cohesive unity."

In relation to government inter-collaboration a respondent noted that there is

a collective aspiration for a joined-up government approach to rural mental health (MPI, MOH, MSD, Māori Health Authority, MBIE).

"*We have regular engagement across ministries, but we could work more closely together in terms of rural health."*

"Mental health needs to sit above Ministry of Health. We need to be like Australia and take an all of government approach."

Two ministries, MPI and MOH were identified for improved collaboration:

"They are siloed. They aren't working close enough together."

5.6.4 Technology

All respondents were supportive of utilising telehealth. Particularly following the utilisation of video-calling technology since the pandemic and the increased familiarity and comfort with video-calling:

"*The opportunities are huge*."

Although there are several caveats. Importantly, the barrier of limited existing technological infrastructure in rural communities. As one respondent stated:

"*Isolation and connectivity are the root cause issues*."

Several respondents expressed concern how older farmers will adapt to technological solutions. Whilst supportive of telehealth, one respondent said they still saw a role in face to face for the first meeting due to the ability to read mannerisms and build rapport for future catchups, which can then be conducted virtually.

Most respondents cited generic telephone helplines (both calling and textlines) and online resources as being available for the rural community. Although all agreed they were not tailored specifically for farmers.

Mobile workforces were also considered for outreach into the community. The clinical respondent was supportive of this model.

6 Discussion

Following the results several key themes arose:

- The disproportionate impact of distant stakeholders.
- The need for a rural focused national strategy for rural mental health and psychosocial recovery following adverse events.
- The need for collaboration, inter-sector, intergovernmental and internationally.
- The need for psychosocial services to mature in order to develop; and

- The lack of strategic planning to bolster the rural clinical mental health workforce.

6.1 The disproportionate impact of distant stakeholders

> *"Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field."*
> *Dwight D. Eisenhower*

Figure 7, on page 24 shows how a farmer engages with psychosocial services stakeholders, based on three layers. The inner circle contains psycho-service stakeholders whom the farmer has regular contact. Whilst the outer circle stakeholders have no direct contact with the farmer. Yet, the outer circle stakeholders (tertiary, government) ultimately influence a farmer's mental wellbeing the greatest. Through their policy control which prioritises psychosocial funding and the training of the rural mental health workforce.

No policymakers spoken too, had a current and direct connection with their rural community outside of their professional work. This disconnect showed the importance of two aspects; firstly, that the sector has an important responsibility to communicate clearly and cohesively on behalf of the rural community, because they cannot rely on policymakers to instinctively appreciate the needs and nuances of the rural setting.

Secondly, it became clear that there is a lack of a rural mental health advocate within government who can engage and work across ministries and overcome operational silos in their advocacy for rural mental health. Logically this role, could sit within MPI's rural communities' team but it must have remit to engage outside of MPI, particularly working alongside MOH and with the other psychosocial service stakeholders identified in Figure 7.

The argument for situating this role within MPI, is due to the economic contribution that improved rural mental health can make to the food and fibre sector's prosperity. Another important facet of this role would be championing the communication of economic data to advance the compelling case for better prioritisation of rural mental health.

6.2 National strategy for rural mental health and adverse events

It is recognised that there are strategic and operational gaps which are affecting the delivery of psychosocial support and services to rural communities. It is proposed that a national rural mental health strategy is required. The national strategy should specifically include rural psychosocial recovery from adverse events.

The national strategy specifically needs to address the following:

1) How to collect data meaningfully following adverse events, which will help address the dearth of existing New Zealand rural data. It should prioritise the most critical

data gaps first, as it is clear an absence of quality data is hindering psychosocial investment decisions for funders.

2) Use of coordinated research at point (1) to better inform system improvement and enhancement. There is an opportunity to take an economical lens when collecting and analysing the data to assist central government, and other funders to prioritise rural mental health in the insatiable demand for health spend.
3) Implementation of a sustainable funding model for psychosocial services, both in peacetime, and following adverse events so the services, and particularly RST who are seen as the precursor to mental health treatment on the escalation pathway at figure 8, can deliver more effectively. The funding model needs to be, not only adequate and fit for purpose today, but sufficiently forecasted in the face of increased frequency of events.
4) The role of stakeholders following adverse events needs to be defined. If parties could agree parameters for roles in advance (and subsequently what funding those roles attracted). They could then meet in the immediate hours of an unfolding event and allocate organisations to roles. This will alleviate some of the duplication and confusion about stakeholders' roles.
5) How to increase the rural mental health workforce capacity.

All respondents recognised the value of some regional flexibility dependent on how the adverse event unfolds, so the challenge will be in creating a national strategy that sets a clear strategic direction but allows for some regional flexibility as each adverse event presents.

It is logical that MPI should own this strategy, but it should be led and set by sector stakeholders such as RST, Federated Farmers, Industry bodies and socialised with other key stakeholders so that there is sector buy-in as well as government buy-in.

6.3 The role of collaboration

The consensus is no one organisation, or group can provide the psychosocial solution alone following an adverse event. Improving responses to adverse events requires more than an individual leading, it also requires collaboration of leaders at three distinct levels.

Firstly, inter-sector collaboration is critical for improvement of psychosocial services. There is sentiment, in the absence of sector leadership, currently the government is driving the psychosocial response in the rural sector both before, and after an adverse event strikes. The consensus approach is that the sector needs to collaborate and present to government with a unified response plan. Part of this collaboration and unification could be presented through the agreement of a national rural mental health strategy, and rural adverse events strategy, which encompasses some of the larger challenges in delivering effective services through funding and evidence. Currently the status quo is that nobody 'owns' rural mental health' and accordingly it suffers from a lack of prioritisation. If the sector can work together to propose, and then execute regionally appropriate solutions, they will deliver better and more effective services to farmers.

To ensure delivery of effective services, it is proposed that an independent, industry co-funded, mental health champion role is established. The rationale being all levy payers and their communities will benefit directly from effective delivery and advocacy under this role. The ideal candidate would bring senior/ chief executive experience, deep primary sector connections, a passion for mental health improvement and strong record of delivery. Their execution would be focused on bringing industry, government and corporate stakeholders to work together to successfully implement the national strategy and provide a visible profile for rural mental health. The role could be accountable to a governance steering group, consisting of co-funders and should have clear, agreed performance metrics.

A respondent's observation "*there is nothing more powerful than coming to government with some cohesive unity"* resonates why the sector needs to work together to successfully attract prioritisation of rural mental health, and not just solely following adverse events.

There is a not insurmountable challenge in asking ministries to work collaboratively. Whilst some collaborative work has been undertaken, it was clear from respondents that there is scope for further collaboration. It is also arguable that as MPI's focus is the contribution of the food and fibre sector to New Zealand prosperity, there is mandate for them to ensure rural mental health is strongly advocated for within MOH. Equally an all of government approach means, rural mental health initiatives are less likely to fall prey to the political cycle if they are embedded deeply across ministries.

There is also scope for more collaboration internationally. Australia has a wealth of information through its mature Rural and Remote Mental Health Centre programme. MPI's Rural Communities office would logically be a natural collaborator, and equally it could facilitate data-sharing with psychosocial services like RST to leverage their funding with better data in the interim.

6.4 Psychosocial services developing to the next level

Rural psychosocial services are valued for their language, authenticity, and empathy with farmers. However, their services are also under greater pressure, both in terms of an increase of need from day- to-day issues, as well as more frequent adverse events.

The value of these not-for-profit organisations providing both formal psychological first aid, as well as informal community events was well-recognised. As it allowed community unison, facilitated transfer of technical advice as well as a connector for farmers who may require more escalated support through RST.

All psychosocial services who employ a national structure, with regionally autonomous groups have challenges to delivery. As natural tensions arise when a regional group may act inconsistently with their national organisation. There is consensus that consistency of service across the country, due to different structures both in terms of resourcing and funding, remains a critical frustration to delivery. All respondents agreed that if regional groups, were able to remain flexible to local nuance, but were better aligned and standardised under their national organisation it would work more effectively.

Governance of regional groups is also an issue. Currently most regional groups are reliant on deep-seated trust relationships, and some are run with informal arrangements. The reliance on an informal, personality centric network works effectively in some areas, but is problematic if the 'right' person is not in place. This then affects service uptake and delivery. To mitigate this risk, it would be better for all regional groups to better establish formal networks, particularly in terms of their referral mental health treatment provider lists.

Training for provision of level 1 psychological first aid should also be provided to all volunteers. Further volunteers with existing skillsets, or a wish to gain the skill set should be identified for provision of more specialised level 2 treatments. It would require supervision by a clinical specialist, but this may mitigate some escalation to level 3 specialist treatment, and therefore reduce the burden on the clinical workforce.

Currently there are considerable risks for psychosocial services. They are operating within a fragmented system, are often under resourced (in terms of training and funding) whilst assuming responsibility to serve people with high, immediate needs. By implementing national governance, it would not only assist in mitigating risks, but also make services more attractive to corporate funders who require sound governance for investment. Currently partnerships are sought by some psychosocial services to 'top up' their existing funding, however in the same way that farmers need psychosocial services to speak their language, psychosocial services need to learn to speak the language of their funders. Corporates are encouraging their partners to understand what a corporate partner requires for longer term partnerships. For example, the use of social impact assessments, to help quantify their needs.

Corporate funders also offer more than just cash funding. They can also offer in-kind support through access to their corporate resources, such as experience and advice in strategy and delivery. Establishing long term service partnerships (such as legal and accountancy) would also assist psychosocial services with implementing better governance.

There is an opportunity for psychosocial services to expand on their current services, if they can craft their narrative with evidence, in language familiar to funders that is coupled with credible governance.

6.5 The rural clinical mental health solution

All respondents unanimously agreed that an under resourced mental health workforce in rural communities is compounding existing inequities in the rural community. There was also unanimous agreement that it is vital for clinical mental health services in rural communities to have rural empathy.

Whilst a bolstered clinical workforce long-term would assist, there are different views on how to achieve this. Several respondents agreed that a specialist rural pathway for clinical psychology and rural psychiatry is important for increasing access for clinical mental health treatments. A training scheme that offered specific rural places and financial support for those who agreed to be trained and bonded to rural areas once qualified is suggested. If the

pathway were supported at every stage, including employment, and housing (as is common for medical doctors in rural areas) than it would become more attractive to enter, or retrain into this pathway.

Recognising that establishing a pathway takes time for results, respondents were also supportive of funding positions for people with clinical experience within existing psychosocial services in RST. These people are seen as the gateway to clinical services on the escalation pathway at figure 8. This would alleviate some existing pressure on clinical services, and hopefully reduce escalation. This already happens ad-hoc within some regional RST's due to skillsets of facilitators, but this would formalise nationally.

Likewise, a national rural accreditation would be a useful development, particularly if applied across the wider rural mental health workforce. For example, if urban based counsellors and non-clinical psychologists with rural affinity were able to gain rural accreditation and provide virtual services, it would increase the workforce (albeit virtually) able to service rural communities.

The use of technology is undoubtedly a positive development to increase the reach and accessibility of mental health support and care, and a valuable tool to alleviate pressures in the rural workforce capacity and provide better support at a local level to psychosocial services. However, its success is entirely reliant on rural connectivity, which is currently in a sub-optimal state, so this urgently must be prioritised by policymakers. Following the successful utilisation of satellite internet and mobile following Cyclone Gabrielle, where traditional infrastructure was damaged, it is suggested there needs to be further community availability of satellite internet services such as Starlink. With consideration of rural household subsidisation for those with poor connectivity and no other feasible options.

7 Conclusion

More than most countries, New Zealand's economy and people rely on the success of the primary sector. It is at the heart of New Zealand's economic success and is a major determinant of employment and social wellbeing (Goffin, 2014). If our farmers are mentally struggling after an adverse event, it is incumbent on all to resolve for both moral and economic reasons. This research has found there are currently several barriers and challenges for the effective delivery of psychosocial services to farmers. These challenges include:

7.1 The distant stakeholder effect on farmers

The Government sets policy and controls funding, yet the Government is a stakeholder with no direct contact with farmers. Accordingly, its policymakers are removed from rural communities' needs and consequently, prioritisation and understanding of rural mental health suffers. This report proposes that to overcome this challenge, an advocate role is established within MPI to work across government ministries for the prioritisation of rural mental health. This role is also tasked with establishing economic evidence to support prioritisation of rural mental health.

7.2 The need for strategy and collaboration

Currently there are silos operating in psychosocial services which makes the delivery of psychosocial services more challenging. The most notable being the unsustainable funding and resourcing of the services. This report found there is need for a national strategy for rural mental health, which specifically includes a strategy for rural psychosocial recovery following adverse events. The national strategy should address dearth of data, duplication and confusion of roles, address sustainable funding for services and a rural, clinical mental health workforce plan.

7.3 Improved psychosocial services

Currently there are considerable risks for psychosocial services. They are operating within a fragmented, under resourced system (in terms of training and funding) whilst assuming responsibility to serve people with high, immediate needs. This report found that psychosocial services can reduce their risk, and conversely improve their services by implementing national governance, using credible evidence coupled with language familiar to funders and by obtaining funding to formally increase in-house clinical expertise. This will reduce burden on the clinical workforce.

7.4 Solutions for a bolstered rural mental health workforce

The current rural, clinical mental health workforce is stretched, and often inadequate to service need, particularly for those farmers in crisis. Yet there is currently no plan or strategy to address this shortage. This report proposes that by creating a specific, rural pathway to bolster the clinical workforce, it could provide a starting framework for creating better, equitable, and sustainable clinical mental health services within rural New Zealand.

7.5 Solutions for better access to rural mental health services

Innovative technology such as telehealth will also play a role in reducing inequities but are reliant on reliable rural connectivity. The current state of rural connectivity is deficient and therefore improving rural connectivity both in peacetime, and after an adverse event must be addressed urgently to facilitate this adoption. This report proposes that further funding support is required for satellite connectivity, for both isolated rural communities, and rural households who have no other feasible connectivity options.

8 Limitations

Children, adolescents, and elderly have distinct vulnerabilities and needs. Due to constraint on resources, these groups are specifically excluded from this report in the definition of 'farmer.' Likewise, the generalisation of farmer includes male and female, but there may be differences in terms of gender roles in farming operation, and within family dynamics.

The author recognises that a Te Ao Māori lens is absent in this report and needs to be incorporated. As noted in the recent Cyclone Gabrielle āwhina response a culturally informed, clinical outreach approach was successful because it saw need through a cultural lens (Hawkes Bay Today, 2023). Both time and space limits, meant this could be acknowledged, but not explored.

The future release of the rural health strategy in July 2023 may also inform respondent's views differently.

This report specifically considers the recovery phase only following an adverse event. There is significant literature about the resilience phase including community preparedness for future events, but the author has limited the focus.

9 Recommendations

- Develop a long-term national strategy for rural mental health including psychosocial recovery following adverse events, led by the sector and its newly established, industry co-funded, mental health champion/Chief Executive (CE).
- Establish a role within MPI's Rural Communities' office to advocate rural mental health.
- Develop a rural pathway for clinical psychologists and psychiatrists with their respective registration bodies to bolster the rural mental health workforce, overseen by Ministry of Health and the industry funded mental health CE.
- Increase funding for existing psychosocial services to increase clinical expertise within their service.
- Prioritise and improve rural connectivity to enable telehealth solutions, with subsidisation for satellite connectivity.

References

Bayer New Zealand & Country TV. (2018). *State of the Rural Nation. Rural Consumer Insights Mental Health*. https://countrytv.co.nz/wp-content/uploads/2019/04/Mental-Health-Rural-Results_for_media_08.10.18-compressed.pdf

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bryant RA, Gibbs L, Gallagher HC, Pattison P, Lusher D, MacDougall C, Harms L, Block K, Sinnott V, Ireton G, Richardson J, Forbes D. (2018) Longitudinal study of changing psychological outcomes following the Victorian Black Saturday bushfires. *Australia New Zealand Journal of Psychiatry*. *52*(6):542-551. doi: 10.1177/0004867417714337

Bi, P. & Parton, A. (2008) Effect of climate change on Australian rural and remote regions: what do we know and what do we need to know? *The Australian Journal of Rural Health 16*(1), 2-4 https://doi.org/10.1111/j.1440-1584.2007.00945

Centre for Mental Health (2021, May 13) *Mental health for all: Working across the spectrum*. https://www.centreformentalhealth.org.uk/blogs/mental-health-all-working-across-spectrum

Cheetham, E. (2021). *Farming, droughts and Covid-19: The creation and maintenance of community in a time of hardship and forced social restrictions*. [Master of Social Sciences Thesis, University of Waikato] https://researchcommons.waikato.ac.nz/handle/10289/15121 (accessed March 10, 2023)

Coelho, A., Adair, J., & Mocellin J., (2004) Psychological responses to drought in Northeastern Brazil. *Revista Interamericana de Psicologia* 38

Cyclone Gabrielle: Healthcare and aroha being choppered to rural communities. (2023, March 27). *Hawkes Bay Today* https://www.nzherald.co.nz/hawkes-bay-today/news/healthcare-and-aroha-being-choppered-to-rural-communities/ZEWERZPDSZFUPJP4KBR4TU6ON4/

Deloitte (2016, March 2) The Economic Cost Of The Social Impact Of Natural Disasters http://australianbusinessroundtable.com.au/our-research/social-costs-report

Environmental Health Intelligence New Zealand (2018) *Urban-rural profile* https://www.ehinz.ac.nz/indicators/population-vulnerability/urbanrural-profile

Federated Farmers of New Zealand (2022). Rural connectivity survey *2022*.

Forbes, D., Creamer, M., & Wade, D (2012). Psychological support and recovery in the aftermath of natural disaster. *International Psychiatry, 9*(1), 15-17. doi:10.1192/S1749367600002939

Gibb, S. and Cunningham, R. (2018) *Mental Health and Addiction in Aotearoa New Zealand: Recent trends in service use, unmet need, and information gaps*. Wellington: University of Otago.

Gluckman, P. (2016). *Psychosocial consequences of the Kaikoura earthquakes - December 2016.* Office of the Prime Minister’s Chief Science Advisor https://www.dpmc.govt.nz/sites/default/files/2021-10/pmcsa-Briefing-paper-the-psychosocial-consequences-of-the-Kaikoura-earthquakes_1.12.16.pdf

Goffin, A. (2014). *Farmer's mental health: A review of the literature* ACC https://www.acc.co.nz/assets/research/dcaf5b4e0d/farmer-mental-health-review.pdf

Government Inquiry into Mental Health and Addiction (2018). He Ara Oranga: Report of the Government Inquiry into Mental Health and Addiction. New Zealand: Government Inquiry into Mental Health and Addiction. from https://mentalhealth.inquiry.govt.nz/inquiry-report/he-ara oranga

Hobfoll, S., Watson, P., Bell, C., Bryant, R., Brymer, M., Friedman, M., Gersons, B., de Jong J., Layne, C., Maguen, S., Neria, Y., Norwood, A., Pynoos, R., Reissman, D., Ruzek, J., Shalev, A., Solomon, Z., Steinberg, A., Ursano, R. (2007). Five essential elements of immediate and mid-term mass trauma intervention: empirical evidence. *Psychiatry*. *70*(4):283-315;. doi: 10.1521/psyc.2007.70.4.283.

Jaye, C., McHugh, J., Doolan-Noble, F. and Wood, L. (2022). Wellbeing and health in a small New Zealand rural community: Assets, capabilities and being rural-fit. *Journal of Rural Studies, 92*, 284-293. https://doi.org/10.1016/j.jrurstud.2022.04.005x

Kring, A., Johnson, S., Davison, G., Neal, J., Kyrios, M., Fassnacht, D., Lambros, A., Mihaljcic, T., Teesson, M., Matthewson, M., Morton, E., Kate, M-A., Harris, A., Izadikhah, Z., Piosevana, A., Crowley-Cyr, L., Baillie, A., Mewton, L., Johnson, L., & Middleton, W. (2018). *Abnormal Psychology*. (First Australian Edition ed.) John Wiley & Sons.

Luong TT, Handley T, Austin EK, Kiem AS, Rich JL, Kelly B. (2021) New Insights Into the Relationship Between Drought and Mental Health Emerging From the Australian Rural Mental Health Study. *Front Psychiatry*. *12*. doi: 10.3389/fpsyt.2021.719786.

Mental Health Australia. (2020). Analysis of the Productivity Commission Inquiry into Mental Health: final report https://mhaustralia.org/sites/default/files/docs/analysis_of_the_productivity_commission_inquiry_into_mental_health_-_final_report_-_dec_2020.pdf

Mental Health Foundation of New Zealand (n.d) Te Whare Tapa Whā https://mentalhealth.org.nz/te-whare-tapa-whaa Whā | Mental Health Foundation

Ministry of Health (2021). Kia Manawanui Aotearoa: Long-term pathway to mental wellbeing. Wellington: Ministry of Health.

Ministry of Foreign Affairs. (2023, 17 April) *Cyclone Gabrielle's impact on the New Zealand economy and exports - March 2023.* https://www.mfat.govt.nz/en/trade/mfat-market-reports/cyclone-gabrielles-impact-on-the-new-zealand-economy-and-exports-march-2023/

Ministry of Health (2016) *Framework for Psychosocial Support in Emergencies*. Ministry of Health. https://www.health.govt.nz/system/files/documents/publications/framework-psychosocial-support-emergencies-dec16-v2.pdf

Ministry of Primary Industries. (2023, 5 March) *How we classify adverse events.* https://www.mpi.govt.nz/funding-rural-support/adverse-events/how-we-classify-adverse-events/#: ~:text=The%20Ministry%20for%20Primary%20Industries,disasters%20and%20other%20adverse%20events

Ministry of Primary Industries. (2022). *Situation and Outlook for Primary Industries Report* https://www.mpi.govt.nz/dmsdocument/54517-Situation-and-Outlook-for-Primary-Industries-SOPI-December-2022

Miro (2023). Miro online whiteboard (no version provided). RealTimeBoard, Inc. www.miro.com

Moore, S., (2019) Innovation in Primary Healthcare: can it improve health sector productivity and health outcomes? *Policy Quarterly*, *15*, (1) pp.69 https://www.productivity.govt.nz/assets/Documents/innovation-health/510d01b275/Innovation-in-Primary-Healthcare.pdf

New Zealand Mental Health and Wellbeing Commission (2021). Te Rau Tira Wellbeing Outcomes Report 2021 – Wellington: New Zealand

Radio New Zealand. (2023) *Cyclone Gabrielle: How to get the best out of impaired communication networks* https://www.rnz.co.nz/news/national/484311/cyclone-gabrielle-how-to-get-the-best-out-of-impaired-communication-networks

Rural Women New Zealand. (2021). https://ruralwomennz.nz/wp-content/uploads/2021/08/FINAL-Quality-of-Life-Project-Report-24.06.21.pdf

Smith, W., Kelly, S., & Owen, S. (2012). Coping with hazards: A comparison of farmers' responses to drought and flood in the Manawatu, New Zealand. *International Journal of Mass Emergencies & Disasters*, *30*(1), 82-110.

Seneviratne, S.I., N. Nicholls, D. Easterling, C.M. Goodess, S. Kanae, J. Kossin, Y. Luo, J. Marengo, K. McInnes, M. Rahimi, M. Reichstein, A. Sorteberg, C. Vera, and X. Zhang, 2012: Changes in climate extremes and their impacts on the natural physical environment. In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC). Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 109-230

Te Hiringa Mahara New Zealand Mental Health and Wellbeing Commission (2023). *The impact of COVID-19 on the wellbeing of rural communities in Aotearoa New Zealand.* https://www.mhwc.govt.nz/assets/COVID-19-insights/Paper-3-Rural-communities-/COVID-19-insights-paper-3-summary-English.pdf

The Royal Australian and New Zealand College of Psychiatrists (2022, February). *Rural Psychiatry*. https://www.ranzcp.org/clinical-guidelines-publications/clinical-guidelines-publications-library/rural-psychiatry

Trounson, A. (2016, June 27) *Helping survivors overcome disaster trauma*. University of Melbourne https://pursuit.unimelb.edu.au/articles/helping-survivors-overcome-disaster-trauma

Whitehead, J., Atatoa Carr, P., Scott, N. & Lawrenson, R. (2022). Structural disadvantage for priority populations: the spatial inequity of COVID-19 vaccination services in Aotearoa. New Zealand Medical Journal 135(1551), 54-67.

Appendix 1

Interview questions

Farmer Facing Services, Corporates

1. Tell me about your organisation and role within the organisation?
2. How does your organisation respond to farmers following an event?
3. How do you communicate with famers? If there are issues with communication channels after the event?
4. Does your approach differ for slow or sudden events?
5. How do you scale up for significant events?
6. Where are your organisation's boundaries for supporting farmers?
7. Do you work with any other organisations after and adverse event? How does that work?
8. What are the challenges and constraints for your organisation in supporting farmers?
9. How might your organisation overcome these challenges or constraints?
10. Can farmers become part of the solution and what tools would they need?
11. What is the role of technology and mobile health?

Policy makers, Clinical

1. Tell me about your organisation and role within the organisation?
2. How does your organisation respond to farmers following an event?
3. Does your approach differ for slow or sudden events?
4. Where are your organisation's boundaries for supporting farmers?
5. Do you work with any other organisations after an adverse event? How does that work?
6. What are the challenges and constraints for your organisation in supporting farmers?
7. How might your organisation overcome these challenges or constraints?
8. Describe current funding available after an adverse event?
9. In your view, how do we increase funding and support?
10. The clinical workforce shortages in rural communities are a current issue. How do we overcome this?
11. How can we overcome existing inequities in rural mental health?
12. Has your organisation considered overseas examples for solutions?
13. How do we improve data for funding decisions?
14. What is the role of technology and mobile health?
15. Do you agree with a specialist rural pathway for training clinical mental health professionals?
16. What are the needs of farmers following an adverse event? (Clinical question only)

Farmers

1. Describe your farming operation and how long you have farmed?
2. Describe the adverse event and what it was like for you?
3. Did you access support services that were available after the event? If so, how did you choose them and what was your experience like?
4. Do you have any observations of how they operated in the community?
5. Would your needs be different in a slow/sudden event? And would you use the services differently?
6. Can farmers become part of a solution for peer-to-peer support? If so, what tools do they need?
7. How can psychosocial services better support the mental health of farmers following an adverse event?

Appendix 2

Interactive Stakeholder Mind Map

Click on the above link to view the interactive version of the stakeholder mind map from *Figure 6: Mind Map of the farmer's psychosocial eco-system and the stakeholders*.