

The case for rural community-based suicide prevention within agricultural extension

Laura Grattidge

Centre for Rural Health, University of Tasmania, Launceston Tasmania 7250
Manna Institute, University of New England, Armidale NSW 2350
Email: laura.grattidge@utas.edu.au

Abstract. Rural communities are faced with unique social and geographical challenges which impact mental health and suicidality. Prevention efforts must support the essential resource in agricultural production: the people. Community-based suicide prevention is a social driver of change, enabling rural communities to leverage existing strengths and resources. This paper will reflect on the author's experiences evaluating recent suicide prevention programs implemented in Tasmania and research drawing on professional and lived experience perspectives across Australia. The discussion shows how community-based suicide prevention can be used to build the capacity of and re-purpose roles already in the community linked to agricultural extension. Community-based efforts are a means to align with, coordinate and empower extensionists to be involved with localised prevention efforts. This approach can support farmers and producers, communities, and industries to impact the complex factors contributing to increased suicide risk and the ripple effects widely felt across rural communities.

Keywords: mental health; wellbeing; social innovation; public health; regional rural and remote; farming

Introduction

Agricultural producers and farmers have always been seen as essential to the development of societies, embodying specific virtuous characteristics, often more desired in comparison to urban people, communities, and occupations. This is the case, particularly in Western cultures, where the romance of rural landscapes (Peel et al. 2023) and the agrarian myth of people living off the land with happy and healthy lifestyles, free from stress, is sadly not founded in reality.

Rural communities face unique challenges which significantly impact people's health and wellbeing. These challenges are linked to extreme environmental events and geographies, lower education and literacy levels compared to urban counterparts, and exposure to physical and occupational injury, social isolation, traditional values, and stigma (Hazell et al. 2017; Australian Institute of Health and Welfare 2022). These factors all contribute to service inaccessibility and impact a person's livelihood, health broadly, and mental health and suicidality (Brumby et al. 2011; Grattidge et al. 2023a). Complex challenges are associated with limited accessible services and support, highlighting the need to better utilise people already working in, and with, rural communities. Occupations already working within rural communities include those connected to agricultural extension; the people and organisations that provide information on processes, practical resources and assistance pathways to those involved within agriculture (people, communities, and industries), to enable adaptation to adverse circumstances, including natural disasters, which, to date, has mainly focused on primary industries and natural resource management (Hunt et al. 2011). This paper aims to explore how, in addition to the common tasks undertaken within extension, there is an opportunity to integrate community-based suicide prevention. The objective of this paper is to synthesise findings from previous research and program evaluations to elucidate how community-based suicide prevention is a means to build the capacity of people working in agricultural extension to support community members at risk.

Methodology

Reflections are a crucial mental activity used in personal and professional life to generate meaning-making amid research and inquiry processes (Mortari 2015). This expert reflection piece triangulates several sources of information to explore the broader contexts, and demonstrated need for, community-based suicide prevention in rural areas and the potential role of those working in agricultural extension. The existing literature will support this point of view as a form of comparison and critical appraisal. The author's experience working in the field, drawing on insights from recent research and suicide prevention program evaluations undertaken in Tasmania and across Australia, will include insights from professional and lived experiences. Table 1 provides a brief overview of the methods used for each of the studies referenced throughout this article.

Table 1. Studies referenced in this reflection piece

| Project | Methodology overview | University of Tasmania Human Research Ethics Committee approval |
|---|--|--|
| Research project title: Preventing Suicide in Australia's Rural Youth: Towards Best Practice Guidelines for Community-Based Programs - key informant interviews | Research questions - <ul style="list-style-type: none"> - What is community-based suicide prevention in the context of rural Australia? - What is the community's role in rural youth suicide prevention? - What information and support do rural communities need to implement suicide prevention strategies for young people in their communities? Methods – Semi-structured interviews and focus groups with 37 experts in the field (research, policy, services and program providers) working across Australia. Additional methodological details published by Grattidge et al. (2023a) | Project ID: 23582 |
| Research project title: Developing 'Best Practice Guidelines for Youth Suicide Prevention in Rural Australian Communities': A Delphi Study | Research questions - <ul style="list-style-type: none"> - What should be included in the Best Practice Guidelines for Youth Suicide Prevention in Rural Australian Communities? - What are the key considerations when implementing the Guidelines in the Tasmanian context? Methods – Semi-structured interviews and focus groups with 22 experts in the field (research, policy, services and program providers), working in Tasmania. Additional methodological details to be published. | Project ID: 27211 |
| Evaluation project title: Evaluation of the CORES Devonport and Launceston Networks | CORES program uses peer support, Train-the-Trainer model, community networks. Methods – Evaluation aimed to determine the extent to which CORES reflects "best practice" in enhancing community awareness, capacity, and ownership. Mixed methods: Surveys ($n=179$), focus groups and interviews with training participants, program staff, stakeholders ($n=18$), observational data, in two Tasmanian communities (Launceston and Devonport). Additional methodological details published by (Grattidge et al. 2020). | Project ID: H0017811 |
| Evaluation project title: Process evaluation of Tasmanian National Suicide Prevention Trial | Trial used LifeSpan systems-based framework (Black Dog Institute 2019). Aimed to test new approaches to community-level suicide prevention. Methods - Local-level evaluation, using Participatory Action Research, to explore model implementation. Mixed methods: Working group member surveys ($n=22$), focus groups and interviews with working group members, program staff, stakeholders ($n=46$), observation data, Primary Mental Health Care Minimum Data Set Activity Data (activities $n=316$). Additional methodological details published by (Grattidge et al. 2021, 2022). | Project ID: H0017793 |

Agricultural extension, well-being, and mental health

Over the last two decades, extension services have changed radically, attributable to the increased direct participation by industry and private sector service provision. The role of agricultural extension has been explored across the literature; historically seen as services within the farming sector, sponsored by the government to assist with production, farm management knowledge, and skills development (State Extension Leaders Network 2006; Commonwealth of

Australia 2007; Knierim et al. 2017; Paschen et al. 2021). The range of agricultural extensionist roles now includes researchers and scientists, government, commercial vendors, and the innovation and development sector. People in these roles help solve agricultural problems by transferring knowledge and technological innovations to influence and improve farmer practices. Also known as farm advisors, agricultural extension covers the services (public and private sector) which support farmers by providing access to knowledge, information and technologies, and assisting them in developing their own technical and management skills and practices which further enables improvements in farming practices, food production, livelihood, and well-being (McNamara et al. 2021, p. 514).

In the United States, extension officers are deeply embedded in communities. Extension is shown to promote community well-being through extending the reach of research to local communities and applying evidence-based programming to systems and processes. These approaches have been shown to improve the transition of research through programs, as well as the quality of life and well-being of community members (Brown et al. 2023). Well-being is said to occur when individuals have the resources (psychological, social and physical) needed to meet a particular psychological, social and/or physical challenge (Dodge et al. 2012). An essential element of well-being is a person's mental health (Wassell & Dodge 2015), which is directly impacted by an interplay of social factors within communities. Is there social capital available in the community? What are the impacts of self and social stigma or social identity on how someone sees themselves within their community? These factors can influence well-being and mental health, and all contribute to how likely someone living in a rural community, including those involved in agricultural production, will seek mental health support and services (Baker et al. 2022; Grattidge et al. 2023a).

A study by Hansen et al. (2020) explored factors contributing to farmer well-being in rural Norwegian communities. Well-being was found to be linked to whether training was undertaken with the systems they used, i.e., automatic milking systems, and which personal and social level factors were present, including gender, education, access to counselling and extension services and colleagues. Looking further into mental health and suicidality in rural Australian communities, another study found that poor mental health can impact not only a person's productivity, functionality, and ability to undertake everyday tasks but also whether someone will engage in suicidal behaviours (Fitzpatrick et al. 2021). Exploring the factors impacting mental health and well-being, one cannot deny how the environment is intricately linked to mental health, with natural and environmental disasters directly impacting livelihood and agricultural production. With climate change, Australia's ongoing drought and bushfire crises will continue, having considerable implications for mental health. The impacts of trauma and loss for many will subside over time; however, ongoing stressors, including financial stressors, will mean many people will experience mental health difficulties, slowly emerging months or even years after the disaster (Cerdá et al. 2013). These difficulties can take the form of post-traumatic stress disorder, anxiety, depression and alcohol and substance use, all predictors of suicide (Bryant et al. 2018; Newnham et al. 2020).

The need for community-based suicide prevention

In rural areas, rates of suicide are higher than in urban areas, and service accessibility is a significant predictor of whether someone can seek help when they are distressed. People involved in farming who have suicided have been shown not to have a diagnosed mental illness, nor have they received mental health support six weeks prior to death (Kennedy et al. 2020). What does this mean for suicide prevention in rural areas? It potentially means that a) people in rural areas who are not accessing formal services do not have the opportunity to be diagnosed, but also b) the adoption of a range of suicide prevention strategies across all levels of the community is needed, utilising resources already readily available across all rural communities, which includes the community themselves.

Therefore, in the context of rural Australia, what is community-based suicide prevention? In an exploratory study published in early 2023 (Grattidge et al. 2023a), 37 experts working in the field of rural suicide prevention around Australia were asked how they defined community-based suicide prevention in the context of rural areas and any key considerations when implementing community-based suicide prevention to meet community needs. Exploring examples of program and service delivery, policy development, research and lived experiences, participants described strategies used in the rural communities where they have lived and worked. Community-based approaches varied across communities, with common features including efforts being community-led, program implementation involving and led by the people said to benefit from programs, meeting community needs and preferences, and implemented across all community levels to improve determinants of health and suicidality. Suicide prevention was seen as ingrained within

the community, with community members participating in early intervention and prevention initiatives, ideally placed to lead and implement initiatives in varied ways to reach community members most at risk (Grattidge et al. 2023a).

Community-based suicide prevention in practice

When considering how community-based suicide prevention can be integrated within agricultural extension, it is helpful to consider the roles associated with rural communities. This includes consideration of who is well placed to implement and be involved with community-based suicide prevention and approaches shown to be beneficial at a rural community level.

Building capacity to implement programs in rural communities

People working in rural communities in occupations of increased suicide risk, including agricultural production, need to be aware of suicide and its prevention. To live off the land, communities need to endure hardship. These hardships include the impacts of natural disasters and the insecurity of variations in production, as well as periods of economic hardship. People working in agricultural extension already support communities, and resilience is seen as an outcome of that role under the extension definition, both for individuals and communities (Hunt et al. 2011). When planning future suicide prevention strategies, particularly at the population level in rural areas, the next logical steps are to utilise these trusted local community members/organisations, who are already embedded in the everyday lives of their communities. These people are, therefore, considered a widely available resource in the prevention of mental ill health and suicide, leveraging informal community resources and shaping community conversations about mental health (Brown et al. 2023). The following provides an overview of who can be engaged within rural areas and agricultural extension to implement community-based suicide prevention.

Extension officers and the Socio-Ecological Model

Aligning to the systems approaches used in the National Suicide Prevention Trial, a recent evaluation of the Tasmanian trial site (Grattidge et al. 2022), along with an evaluation by Brown et al. (2023), found that with sufficient adaptation and community input, interventions implemented across systems can maximise impacts. Brown et al. (2023) also used the Social Ecological Model as a framework to support extension offices to be an intentional, integrated, multi-level resource targeting initiatives to address each of the five levels within the Model: 1) Individual, 2) Interpersonal, 3) Organisational, 4) Community, and 5) Public Policy. Implementing community-based suicide prevention under each level of the Social-Ecological approach could help address the social, relational and individual factors that are primary, direct predictors of imminent suicide risk (Cramer & Kapusta 2017).

Health services and resource hubs

Within rural areas, partnerships and working groups, including community members and health services, were seen as essential in addressing suicide prevention from a holistic viewpoint. In the US, Brown et al. (2023) discussed how mental health resource hubs were trialled within extension offices, to focus on meeting the community's needs in ways that are accessible, available, and acceptable and that serve diverse community members in rural areas. Also recognised is the role of community-based suicide prevention programs in building the capacity of local communities to implement programs. This includes health specialist services supporting them to do this role, where available and appropriate. Health service representation in working groups was also seen as a way to ensure the lived experience and community perspectives are considered in service and program design and delivery (Grattidge et al. 2022).

People in gatekeeper roles

Reaching people at increased risk of suicide is better achieved by utilising those community gatekeepers who have regular contact with people working in agricultural production, including their families. A recent study using focus groups with 22 Tasmanians working across suicide prevention in rural areas, explored who is best placed to be involved in suicide prevention efforts for young people and in rural areas. One participant used an example of agricultural mechanics as people who could work in these supportive roles. They were considered well placed to provide mental health awareness and support and, where needed, be a source of connection and referral for those young people in need living and working on rural properties.

Ones that go out and fix all your tractors and your harvesters... That would be a really good thing to resource because they're likely to be popping out to Jimmy, who's 17... doing his uni [work] back and forth on the self-driving tractor...he knows that Jimmy looks a bit too sad...[and] has a bit of a conversation. – Participant 16, female, Tasmania study

Preference for awareness-raising activities and building capacity of local gatekeepers was demonstrated in the National Suicide Prevention Trial. Training was delivered to professionals who had regular contact with the target populations (men and older people), and the wider community, including delivering the CORES gatekeeper training (Grattidge et al. 2020; Grattidge et al. 2022).

Agricultural advisors

In existing research, agricultural advisors have been described as ‘trusted companions’ to farmers. Advisors are seen to possess the skills required to engage with farmers, particularly around health, with this trust needing to be earned, and the advisor being both relatable as well as providing reliable and accurate information (Hammersley et al. 2023). With health traditionally not part of advisors’ core responsibilities, there is no avoiding the relationship between advisors other responsibilities and factors that directly impact well-being, mental health, and suicide risk. For example, Kelly et al. (2013) described how if the farmer is in financial trouble, this indirectly impedes certain goals developed by both the farmer and their advisor. Therefore, the advisor may offer financial guidance. Hossain et al. (2009) argued that health guidance can be seen in the same light. The potential role of agricultural advisors was recently explored in another study conducted in Ireland using focus groups with farmers, advisors, farming organisations and farmers’ ‘significant others’ ($n=11$) (Hammersley et al. 2023). The stress process theory was used to determine how personal and community resources available for farmers to draw on to cope with stressors can be complemented by advisors. Advisors were already assuming a health role in many circumstances, and it was suggested advisors take on more of this role. To do this, they proposed that there is a need for upskilling and providing specialist support and mentoring to undertake new roles as potential health promoters or connectors. This includes being signposts for farmers, connecting them to appropriate services and support when they pick up on any problems through their one-to-one interactions (Hammersley et al. 2023).

People with lived experience and community members

The role of people with lived experience in rural areas is also central to community-based suicide prevention through. Informing how people at risk can be reached through program efforts (Grattidge et al. 2023a). People with lived experience can be advisors or program partners, supporting those in extension roles by providing access to specialist knowledge and expertise (professional and lived). This can inform the design, implementation and evaluation of suicide prevention programs, leading to greater potential to influence more broadly across systems (Grattidge et al. 2022). A recommended action from a workshop co-facilitated at the Roses in the Ocean Lived Experience of Suicide Summit in March 2023, was that community members, including people with lived experience, champions, leaders and community-based organisations, have a role in governance and decision-making. These people need to be supported with opportunities to build capacity and funded to implement suicide prevention programs in rural areas. This is essential for local community ownership and the sustainability of efforts (Grattidge et al. 2023b).

The role of government

Government was described as central and essential to community-level efforts across studies and evaluations. Local governments and councils were host organisations for trial sites in the National Suicide Prevention Trial in Launceston, and played on their strengths of having connections and influence in communities to implement activities under a systems approach (Grattidge et al. 2022). State and Federal funding and coordination were also discussed as needed to support local efforts, with communities informing programs and strategies through their involvement in consultations and co-design, highlighting opportunities for including people working in extension in these processes (Grattidge et al. 2023a; Grattidge et al. 2023b).

Practical implications: first steps

Knowing the needs of the community is the first step in determining which programs or initiatives should be implemented, considering people and place characteristics that impact community health and the risk of suicide. This includes determining both the commonalities and uniqueness of every community. One participant in a national study, who was working at Australia’s leading suicide prevention advocacy organisation (Grattidge et al. 2023a), when asked what is needed to support community-based suicide prevention, said:

Some of those geographical regions, depending on where you are in Australia, might be very different... the farming communities, their geographical region might be quite vast... they are a specific community that is very different to the community a hundred kms down the road” – Participant 21, National study, male, New South Wales (unpublished)

Programs chosen will depend on these community characteristics, the needs of communities and the resources available in a geographical or social community. These efforts can range from one-off awareness campaigns to ongoing peer support programs or larger initiatives with multiple activities implemented across systems, such as health, education, and criminal justice. Ways of working for people involved in agricultural extension depend on understanding the community they are working with. This will include understanding those community needs and the wider processes and systems, including complex psychosocial factors exacerbating suicide risk, including social injustice, stigma, and contagion effects (Hill & Robinson 2022; Grattidge et al. 2023a). To build the capacity of local communities, people at all levels of agricultural extension can be involved in stigma reduction, awareness raising, and training to become gatekeepers, to be equipped with the skills and confidence needed to recognise and respond to someone at risk of suicide (Grattidge et al. 2023a). An evaluation of the Tasmania CORES™ suicide prevention community gatekeeper training program and networks found training increased participant awareness of suicide and its prevention, equipped participants with the skills and confidence needed to recognise, support, and refer on for further help people in their communities demonstrating suicide-related risk factors (i.e., social withdrawal, changes in mannerisms or behaviours). These findings were consistent with previous evaluations (Jones et al. 2015; Grattidge et al. 2020). One participant said they were able to use the CORES™ training to support someone at risk (Grattidge et al. 2020, p. 86):

In the course of our conversation, I've realised that he was extremely depressed. And I actually asked him the question, "Are you thinking of taking your own life?"...from doing the CORES™ training, I felt I knew what to ask him... when he said yes, and I asked him about whether he had a plan and he said yes and explained ...I was able to then refer him to, you know, another organisation who've directly helped him through that process. – Participant 6, CORES™ evaluation, female, Launceston

Similar Train-the-Trainer and gatekeeper training approaches have also been explored by other research in Australia, specifically with farmers and those in extension roles. The "Sustainable Farm Families Train-the-Trainer" model was shown to increase service providers' knowledge of how mental health impacts farmers and their farms, with farmers better engaged using a "farmer-centred model of care" (Brumby & Smith 2009). Mental Health First Aid was piloted in another training program with advisory and extension agents, who worked with farmers. Evaluation findings showed that one year post-training, participants (albeit a small sample size ($n=15$)), showed moderate to good gains in understanding mental health issues, the pathways needed to address these, and confidence to recognise and provide support to farmers in mental struggles, helping them access appropriate services (Hossain et al. 2010). In New South Wales, Farm-Link improved mental health service access by improving existing inter-agency linkages between mental health services and other "trusted" agencies in the farming community, for example, agricultural agencies and farm financial service agencies (Perceval et al. 2011). Programs implemented at the rural community level, specifically with farmers, have therefore demonstrated potential to reduce suicide risk factors, including social factors that impact people's health and likelihood of seeking support (Grattidge et al. 2023a; Oldham et al. 2023).

Overcoming potential barriers

When implementing suicide prevention programs in rural communities, regardless of the type of program, the needs of the community should be at the forefront, including how community readiness and resilience can affect program implementation. An evaluation of the Healthy and Resilient Communities program delivered through Rural Alive and Well in Tasmania (de Deuge et al. 2020) found that building community resilience requires looking at a community's features, including levels of community connection, caring and the resources available in a community to support program development and implementation and improve program success and sustainability. Not only do place-based and public health aspects need to be considered, but also how awareness and understanding of suicide are influenced by literacy, stigma and social connections and the contagion effects of suicide rippling through close-knit rural communities (Robinson et al. 2016; Brumby 2020; Hill et al. 2023).

When selecting programs, it is also important to consider how they can be delivered to best reach those most at risk. This includes understanding who the community is, any barriers to implementing programs and reaching the specific groups most at risk. The way people in rural communities are engaged in implementing prevention efforts should also be considered. Evaluation findings show the importance of people's motivations to participate, whether as community members, health or other professionals being made to attend a working group because of their job role, or whether they have a goal they would like to achieve. This was found through the evaluation of the National Suicide Prevention Trial in Tasmania, where for the working groups, exploring intentions and setting clear Terms of Reference was needed to provide direction for partnerships and different ways of working. Support for involvement includes providing flexible

ways to contribute, varied meeting options, i.e., face-to-face, online, and where possible providing ways to offset time requirements and costs of attending. Taking the training to places of work, whether industries or agricultural production, has been mentioned as a way to overcome this barrier to program participation (Grattidge et al. 2022). In a recent national study (Grattidge et al. 2023a), one participant working as a trainer for a suicide prevention gatekeeper program in rural Queensland described the realities of community-based suicide prevention, concerning agricultural industries:

You're never ever going to get the cane farmers to come to our location to hear a story about mental health...you have to go to them... go to the shed, put on a barbecue...[and have] somebody there to talk to them about mental health. At least then you're getting the message out there because you've got them there in attendance and you've got there as an audience...that's what we're working towards this year to do...particularly in the cane farm/sugar industry – Participant 31, National study, male, Queensland (unpublished).

People in extension roles have always helped those facing agricultural problems by transferring knowledge and technological innovations to influence farmer practices. When integrating new systems or technologies into practice, there is a period of trying and, to some degree, adaptation, which needs to be accounted for (Cook et al. 2021). With the implementation of the National Suicide Prevention Trial in three regional and rural Tasmanian areas (North-West Coast, Launceston, and Break O'Day) (Grattidge, 2022), challenges included the types of strategies implemented and the resources and capacity of the communities. This research highlighted not only the importance of how communities work together to support action at this local level but also the need to identify champions in the community with local knowledge to bring together community partners and advocate and drive change (Grattidge et al. 2021, 2022). This paper has described how extension agents could be these champions. Community-based approaches built within agricultural extension boast the advantage of there already being people in these roles across Australia, who, by their nature and function, are in the unique position of knowing their communities and social and geographical landscapes intimately. As Baker et al. (2022) suggested, solutions for agricultural extension need to be not only innovative but consider how to improve stakeholder's lives. Programs can, therefore, focus on increasing social capital and the capacity of broader rural communities to act. Programs incorporating mental health and suicide prevention education and training can promote help-seeking behaviours among rural communities, with supporting roles in extension further wrapping around not only agricultural producers but whole communities. Within agricultural extension, as with suicide prevention, there is a need to incorporate First Nations knowledge and practices. This includes utilising holistic, strengths-based approaches and cultural safety within practices, which ultimately ensures community resilience and cultural continuity within rural areas, as well as sustainability of efforts (Dudgeon et al. 2020; Radcliffe et al. 2021; Roberts et al. 2021).

Conclusions

Changing the complex public health issues and systems in rural areas that shape suicide and its prevention requires engagement and leadership from those already embedded at the farm gate (ground level). There is, and needs to be, local materialisations of global innovation and extension practices, and this paper has described how this can be done with community-based suicide prevention within extension. Extensionists have already been recognised as key actors in the continued exchange of knowledge-practices, sufficiently empowered to trial different option and contribute to essential changes (Cook et al. 2021). That is, people in extension roles have been recognised as well-placed to innovate and implement change in their communities.

Future research on opportunities for using trusted, local organisations and roles within extension is desperately needed in rural areas. This includes how communities across all rural and agricultural systems can benefit from community-based approaches to suicide prevention that contribute to the transference of knowledge around well-being, mental health, and suicide and its prevention.

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