

## Review

# Rural paramedics' capacity for utilising a salutogenic approach to healthcare delivery: a literature review

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## Abstract

### Introduction

Australia has had a long-standing challenge in meeting rural and remote healthcare needs. Recently, expanded paramedic roles have proven successful in addressing healthcare gaps, however, further research is needed to establish cost-effectiveness, sustainability and training. Equally, many established rural paramedics highlight primary healthcare as fundamental to their role. This study explores combining paramedics' existing assessment scope and unique access to patients in their living environments with the introduction of a tool to measure sense of coherence, general resistance resources and social determinants of health to build patient resiliency to improve outcomes of current and future health events. Through utilising a salutogenic approach which addresses patient wellness and capacity for utilising health resources and knowledge, paramedics can provide a more holistic and patient-centred approach to care and care planning augmenting their existing clinical scope.

### Methods

As this study aimed to establish the feasibility of paramedics undertaking a salutogenic approach to healthcare delivery, seven questions were developed focussing on areas identified as necessary components of feasibility within the paramedic paradigm. A systematic overview of literature was conducted to identify the connection between the salutogenic theory and the provision of pre-hospital care.

### Results

Fifty-four articles outlined the factors associated with rural living and the aspects that impact on the potential for paramedics in rural communities to undertake a salutogenic approach to healthcare delivery. Additionally, two pieces of grey literature were identified as pertinent to the research.

### Conclusion

It is reasonable to assume that it is a feasible option for rural paramedics to utilise their current skills and unique access to patients in rural and remote settings in a salutogenic approach to healthcare delivery by undertaking assessments of patients' sense of coherence, general resistance resources and social determinants of health.

### Keywords:

paramedic; rural health; salutogenesis; sense of coherence; resilience

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## Introduction

Australia has had a long-standing challenge of meeting the unique healthcare needs of rural and remote communities utilising existing healthcare systems (1). In 2013, 29% of Australia's population lived in rural and remote areas (2). This leads to barriers in accessing routine care and preventive services and makes management of chronic disease difficult. Additionally, each community is distinctly different with varying degrees of rurality, unique Indigenous Australian populations and a range of environmental challenges (3).

In recent years, it has become apparent that traditional approaches to healthcare do not fully address the needs of rural communities (1). The disparities in health services have created a need for health professionals and policy makers to explore new ways of delivering care and services among diverse rural and remote communities (4). Despite numerous programs and policies addressing rural health disparities, morbidity and mortality rates remain higher for individuals residing outside of urban (RA1) settings with the impact of disparities increasing with the degree of rurality (RA2 to RA5), as defined by the Australian Standard Geographical Classification-Remoteness Area (ASGC-RA) (1,5-7).

There is the potential for disparities in rural communities to be further addressed using a salutogenic approach by paramedics. Salutogenesis is defined as 'an approach focussing on factors that support human health and wellbeing rather than on factors that cause disease (pathogenesis)' (8). The aim of this overview of literature is to establish the body of knowledge relating to paramedicine, rural health and salutogenesis and to demonstrate the connection between salutogenic theory and the provision of out-of-hospital care services.

To conceptually understand the salutogenic approach, one should consider health as a continuum between ill health and total health where salutogenesis is the movement towards the total health end of the health continuum (9) (Figure 1). While a number of tools exist to assess resilience or burnout, few tools exist that measure health from a positive perspective. However,

increased emphasis has been placed on health promotion, better health measurement and influence, and evidence-based practice in public health interventions, creating a need for greater conceptual clarity regarding the complexities of health (4,9).

Antonovsky hypothesised that it was possible to measure an individual's sense of coherence (SOC) using the Orientation to Life Questionnaire (OtLQ) and their general resistance resources (GRR) to improve health outcomes during stressful events and that a high SOC is necessary to successfully adapt to a stressful situation (8). In a study to assess the psychometric properties of Antonovsky's OtLQ to measure SOC, the factorial structure was found to be stable (10). Additionally, the internal consistency of the three subscales displayed little variation from each other providing a good general measurement of the properties related to an individual's SOC (11). The original form of the OtLQ was a 29-question tool based around the three SOC components. Antonovsky later revised this to a 13-question tool (10).

## Methods

A literature review using EBSCO Host to search OVID (1946 to current), CINAHL and Google Scholar was undertaken. Search terms used were: 'salutogenesis', 'rural', 'paramedic', 'community'. Government publications were also searched, and two pieces of grey literature were identified that contributed directly to the topic. A search strategy was developed in adherence to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (12).

Abstracts were reviewed and all secondary sources and work not pertinent to this review were excluded. One publication was eliminated due to authors' declaration of conflict of interest. Due to the adoption of the term 'community paramedicine (CP)' in referring to paramedics' engagement in primary healthcare, the term 'community' was searched rather than 'primary care' or 'primary healthcare'. The PRISMA review process is shown in Figure 2.

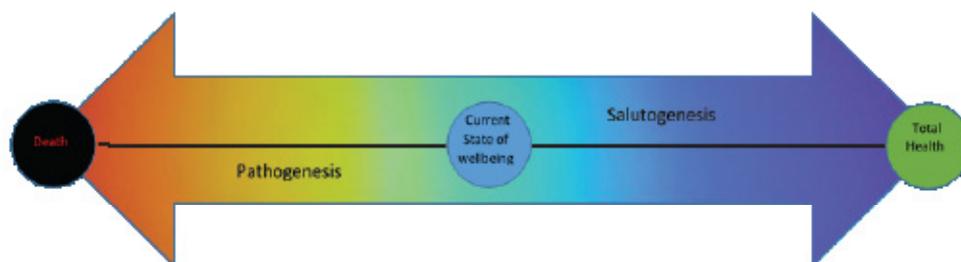


Figure 1. Representation of the health continuum model

## Results

A total of 1941 articles were identified following the initial literature search. Articles were reviewed for relevance to the topic and 1610 were excluded. The remaining articles (n=331) were reviewed in detail and a further 271 were excluded based on relevance to the research topic and question. Fifty-four articles outlined the factors associated with rural living and the aspects that impact on the potential for paramedics in rural communities to undertake a salutogenic approach to healthcare delivery. These results fall into a number of broad categories. First, the impact rurality has on health and wellbeing, and then the way paramedics respond to those challenges. Next, the way social determinants of health impact capability and resilience and potential ways paramedics can impact health resilience in their practice. Finally, an exploration of the developing practice of paramedicine and the capacity of paramedics to engage in new roles and activities as they develop, especially in reference to using a salutogenic model in practice.

### Impact of rurality and associated factors on health and wellbeing

Rurality brings a number of challenges to the maintenance of health and wellbeing. There is a significant differential of health

status and wellbeing between urban and rural areas, with the outcomes generally worsening with an increase in rurality (1). However, rurality alone does not equate to higher morbidity and mortality rates, but rather exacerbates socioeconomic disadvantage, decreased access to healthcare, occupational risk and environmental hazards. Rural populations are more likely to be exposed to greater risk factors and, on average, have lower levels of education, lower incomes, and reduced access to healthcare services (13-16). In addition to the economic and geographic disparities, rural communities are experiencing significant increases to ageing populations with 36% of people more than 65 years of age residing outside of major cities (17).

As rurality increases so does the prevalence of Indigenous Australians (13,18,19). Indigenous Australians living in remote (RA4) areas show higher rates of mortality overall as well as cardiovascular and diabetic diseases as compared to those living in regional (RA2-3) or very remote areas (RA5), suggesting that mortality rates are not directly linked to rurality and multiple causes should be considered rather than simply rurality of residence (18). In addition to rurality, socioeconomic status is one of the most reliable predictors of health disparity, with lower socioeconomic groups often experiencing poorer health outcomes (20). Lived experiences and interacting factors

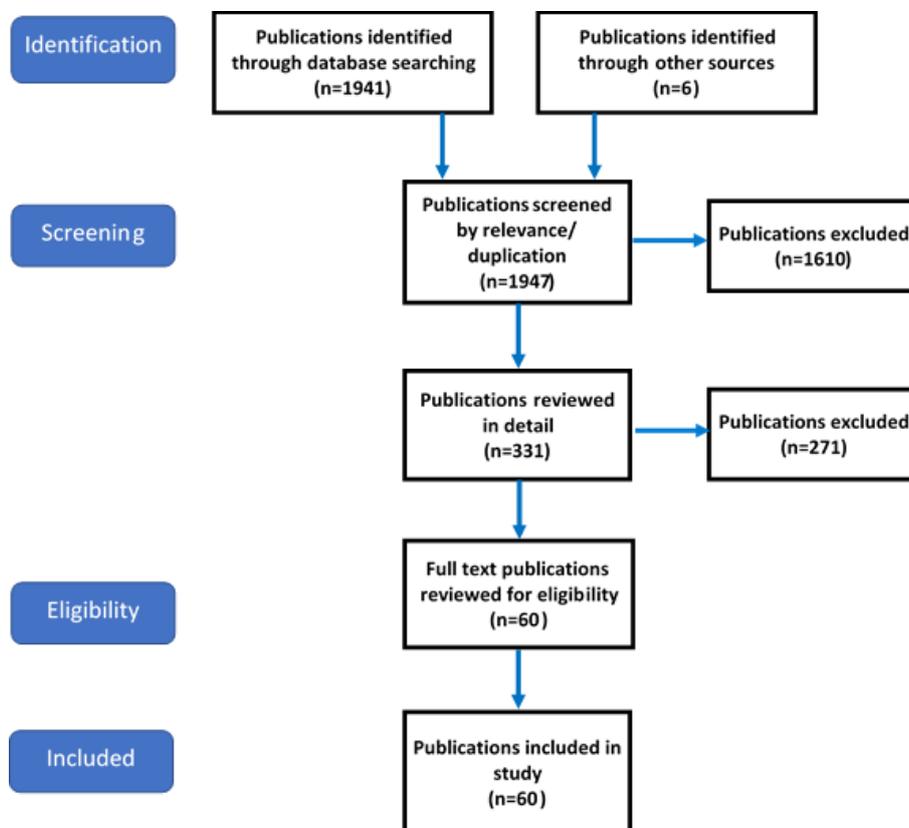


Figure 2. Flow diagram of the PRISMA review process for publication inclusion and exclusion

of social inequalities impact upon individuals' health and are key to understanding health inequalities and the interactions of these factors (21). Sense of community, trust and support can have positive impacts on the ageing process for many older Australians (17,22,23). Despite the reports of stronger relationships, some groups remain at a much higher risk of social isolation (17).

### **The response of paramedics to rural health challenges**

Globally, paramedics are adapting their profession to address new challenges within their communities and are increasingly taking on roles as frontline primary care providers (24-26). Rural paramedics, for example, are frequently operating more as multidisciplinary team members rather than in ambulance-only teams, often practising beyond traditional roles to address workforce issues and provide more flexible models of care (27). Patients increasingly influence the functions of healthcare systems while providers must learn new insights into how patients perceive their health and respond with new paradigms of practice (4,28). Paramedicine should be adaptive to the demographics and socioeconomics of each community emphasising the need for paramedics to have knowledge of cultural sensitivities, chronic disease pathologies and available community resources (25,28-30). Skills in leadership, management and communication are important to building community capacity and linking rural communities to urban services (31).

### **The relationship between social determinants of health and capability**

Social factors influencing health and the social processes which shape the unequal social distribution are not the same. The traditional Rawlsian view of justice suggests health policies should seek to promote a flattening of the distribution of health determinants between both advantaged and disadvantaged groups (5,32). However, indiscriminate flattening of inequity in social determinants of health (SDH) may also prove detrimental to health in various cultures as it fails to account for social diversity (32). Health policy should not undermine the importance of maintaining cultural aspects unique to each community. In this sense SDH may be viewed through the individual and society's capability to achieve outcomes as well as the environment in which they operate. Determinants and capability are, as such, then both outcomes of policy and service delivery frameworks (32). Utilising a capability perspective, the capacity for paramedics to influence capability, sometimes in situations where they cannot influence the social determinant itself, can provide a positive influence on health. In this way, patients are able to not only influence their social determinants of health but operate within their constraints more effectively.

### **The potential role of paramedics in building health resilience**

Health benefits are found in the ability to find advantages in adverse situations (33). SOC is determined by an individual's GRR and their ability to deploy them during stressful situations,

however, not every person can identify and use their GRRs adequately (34). Positive psychological interventions aimed at identifying positive aspects of an individual's life have been found effective at increasing wellbeing (33). This process helps to strengthen a person's SOC, a moderating factor between stress and emotional problems (35). Health is a learning process in which we can reflect on available resources, quality of life and how we can utilise our resources to create a better health situation (35). Sense of coherence is a mediator of the influence of the relationship between resources and life satisfaction. A strong SOC motivates individuals to engage themselves in social relationships which are helpful with life experiences (36). From a paramedic perspective, there is an opportunity to both be a resource for the patient and provide better utilisation of other available resources through the assessment, influence and improvement of the patient's SOC. Paramedics are often the first, and sometimes the only, point-of-care for many people experiencing unscheduled health events (37). In addition to managing emergencies, paramedics are trained to recognise the signs and symptoms of conditions and take appropriate action before the situation becomes an emergency. This unique access to patients in their regular environment creates opportunities to assess situations surrounding the patient to identify SDH that may be impacting their overall health and make referrals to appropriate resources (38,39). Additionally, this unique atmosphere for patient assessment creates opportunities for the paramedic to identify the patient's GRR that may be beneficial in assisting the patient in overcoming their health event. Once the context of the patient and their SOC is established, paramedics have the capacity to address, through either direct action or referral, deficits within the patient's SOC or GRR.

Socioeconomically disadvantaged rural residents have indicated that their expectations of the healthcare system can be at odds with healthcare providers (40). Choice and control may be absent from healthcare experiences and attempts to take control of their healthcare, especially regarding their children, can be met with disapproval by health service providers (40). However, with rural paramedics often engaging in non-traditional roles, this setting creates opportunities for paramedics to assess the patient's situation, educate the patient and engage them more effectively in decision-making about their healthcare in a way which empowers patients during both current and future health events.

Paramedics, within a holistic assessment, should consider spiritual wellness within an individual's health and wellbeing. Associations have been found suggesting positive religious wellbeing having a positive influence on mental health and wellbeing and potentially converse relationships between poor spiritual wellbeing and presence of poor mental health symptoms (41). Additionally, social gradient (such as socioeconomic status or access to healthcare) does not drive health in Indigenous Australian communities in the same manner as it does non-Indigenous Australian communities, suggesting that the heterogeneity of Indigenous Australian

culture is a strength that allows communities to survive despite disadvantage and offers understanding of the psychosocial pathways to health and illness within a cultural context (42,43).

### **The evolving practice of paramedicine**

Potential benefits of utilising paramedics for referrals to primary care services include reduced emergency department overcrowding and ambulance offload delay, improved patient satisfaction and cost-savings to the healthcare system (44-48). Additionally, paramedics have the capacity to assess and identify factors in a patient's life such as lack of meaningful occupation, lack of awareness of support programs or spiritual or cultural beliefs. However, paramedics do not currently have structures in place that allow or encourage them to assist patients in finding the appropriate resources that would allow them to improve the SDH that impact negatively on health. Equally, by creating a pathway that encourages paramedics to use these skills to assist the patient to identify GRR that may be useful (e.g. social support systems, religious beliefs, cultural groups), paramedics have the potential to help strengthen the patient's SOC, thus helping to build resilience. Research has found that factors such as community socio-cultural networks, maximising awareness and understanding community social dynamics are necessary to ensure successful healthy lifestyle programs in rural communities (49).

Paramedics are increasingly becoming frontline primary care providers creating a need for the paramedic profession to evolve to address the new challenges within the populations they serve, particularly in rural regions (26,50). Key factors propelling the need to evolve paramedic roles in Australia are emergency department overcrowding, paramedic professionalisation and decreased medical practitioner home visits (25). This evolution of the paramedic profession has led to complex paramedic roles, though questions arising regarding community and professional expectations as well as the sustainability of these roles. However, increasingly paramedics are operating synergistically in a multidisciplinary health framework where the contributions and unique skills of paramedics are highlighted (24,51). Despite the positive feedback thus far, the paramedic profession still has many challenges to overcome in providing equitable healthcare delivery to rural and remote communities. Geographical challenges associated with rural communities have led to the adaptation of expanded roles in paramedicine, however, issues regarding sustainability and standards of care continue to be a challenge (31). Cost of training and program development may be a deterrent to services considering initiating programs for their communities (52).

The expanded scope of practice (ESP) for community paramedics has led to much discussion regarding the training and education of practitioners. O'Meara et al (24) identified education as a crucial enabling factor for paramedics to advance their roles in the healthcare field. Currently numerous community paramedicine programs exist, but vary considerably regarding scope and level of training (47). Tertiary education is necessary to meet the demands of the autonomous

management of patient needs by the paramedic profession. Additionally, paramedic governing bodies need to establish a clearly defined standard of practice for ESP roles (47).

Successful community paramedicine (CP) programs are integrated within local healthcare systems and offer reasonable options for treatment or referrals in appropriate situations while being as unique as the communities in which they serve (52-54). With the limited amount of CP programs and training available, combined with the limited workforce resources and reduced access to care, there is a need for standard paramedics in rural locations to adapt their roles to address the needs of their communities. This transition should be relatively feasible as paramedics already possess substantial assessment and patient care skills. Repurposing these skills for new applications requires some additional education and orientation, but not a prohibitive amount. Some attempts have been made to use paramedics in extended role models rather than extended scope models. An example of this is the Paramedic Connect program of New South Wales Ambulance which utilises a community health model to address population health issues holistically through education and consultation with communities (55).

### **How prepared are paramedics for a role in assessing and building patient capability and resilience?**

A key factor for any program to be successful is the need for willing participants to engage and utilise the changes and tools effectively. However, transitioning roles to adapt to changes does not come without challenges. Paramedicine is engaged in a process of professionalisation and in Australia became a registered health profession on 1 December 2018. With this change in regulation and identity, paramedicine is evolving into a more diverse and flexible discipline. However, there is also diversity in views about paramedic identity and professional practice. This is common to many professions and disciplines, for example, medicine and nursing have been engaged in debate about this for some time (56).

The recent move toward tertiary education in paramedicine has provided programs with greater opportunities for interprofessional learning (57). Interprofessional learning programs which educate paramedics to become members of the primary health team has shown to increase participation in patient education and health promotion. Most health professionals seem motivated and interested in participating in interprofessional practice, however, success is often hindered by embedded cultural behaviours and rigid professional boundaries (58).

## **Discussion**

Paramedic practice has traditionally taken a pathogenic approach to healthcare delivery. The standard patient interaction of paramedicine has long been to respond, treat and transfer for definitive care. While emergency medicine will never cease to be an important asset to society, recent evolution of

paramedicine to adapt to the changing needs of communities has led to a greater need for a salutogenic approach to healthcare delivery.

Community paramedicine services have begun to move towards a salutogenic approach to delivery of care among rural and remote communities in many countries. Studies conducted to evaluate CP programs using the experiences and perspectives of the patients found that CP improved their sense of security and support, improved education and empowerment, and improved health monitoring and access to primary care (59). Consumers of CP programs have shown acceptance of paramedics engaging in non-traditional primary healthcare roles (59).

Paramedics' strong assessment skills and situational awareness provide potential to be an asset in their transitioning roles as primary care practitioners. These skills combined with their unique access to patients in their home, work and living environments creates opportunities for paramedics to assess the patient's SOC and GRR and assist them in applying their specific resources to build resiliency and produce better health outcomes for the current health event and in the future. Most adults show an increasing SOC over time, however, deficiencies of various GRR could lead to a weakening of SOC (60).

Access remains a key factor in ensuring equitable provision of adequate and appropriate healthcare with policy makers needing to recognise the complexities of addressing the issue of access to care in rural and remote areas (61). However, it is also imperative for policy makers to address the potential demographic effects of being successful in reducing health inequity to make appropriate plans for future services, infrastructure and other considerations (62). For example, current projections suggest that if current life expectancy trends persist, Indigenous Australians aged 55 to 85 years are likely to make the greatest contribution to the ageing population in coming years (62). The ageing population will create a further need for the paramedic profession to adapt its roles to meet the changing needs of the communities it serves.

It is reasonable to assume that it is a feasible option for rural paramedics to utilise their current skills and unique access to patients in rural and remote settings in a salutogenic approach to healthcare delivery. By undertaking assessments of patients' SOC, GRR and SDH, paramedics can have a more holistic picture of patient wellness and these assessments will provide the basis for a wider and more comprehensive capacity for care planning and referral. It is also a plausible expectation that embarking on a salutogenic approach to paramedic healthcare delivery will prove beneficial to all stakeholders involved leading to improved patient outcomes, cost-effective healthcare delivery and reduced stress on the healthcare system through a more patient-centred health delivery paradigm. While there is no one single solution to rural healthcare delivery, it is believed

that maximising paramedics' capabilities in a salutogenic sense will help to narrow the gap between rural and remote communities and their urban counterparts.

Further research is needed to establish paramedics' knowledge regarding the health disparities and benefits associated with rural and remote lifestyles and how they impact the health of their patients. Despite the substantial literature regarding the SDH and their impact on the health of individuals living in rural and remote regions, there is limited literature pertaining to paramedics' knowledge of SDH and how SDH directly impacts the way they deliver healthcare. With evolution of paramedic curricula, SDH are increasingly part of entry-to-practice education, however, it is unclear how this knowledge is operationalised into patient care. Further studies will also be necessary to establish paramedics' knowledge of cultures, customs and beliefs as well as environmental factors and geographic-specific determinants and how that knowledge enhances the delivery of healthcare. Although this is covered in many modern paramedicine curricula, it has not been an area historically addressed in paramedic education.

The association between community engagement of healthcare professionals, particularly paramedics, and trust among rural and remote community members also requires further research. Currently there is little literature pertaining to the relationships between community members and paramedics and how their level of involvement within the community impacts healthcare delivery.

## Conclusion

The concepts of SOC, GRR and salutogenesis in relation to paramedicine are still considerably new as is apparent from the lack of literature available. The pathogenic approach to healthcare has been the standard for paramedicine until more recently with the adoption of service delivery programs such as community paramedicine. Many services utilising paramedics (e.g. community paramedic programs) have already adopted a salutogenic approach to healthcare delivery in many aspects, often unknowingly. Further research is needed to better address paramedicine from a salutogenic approach. Additionally, research is needed to explore paramedics' capacity of assessing patients' SOC and GRR to help build their resilience to improve outcomes of current and future health events and whether this approach to care delivery would be cost-effective and beneficial.

Further research is also needed to establish paramedics' perceptions regarding their roles as frontline primary healthcare providers. Currently, little literature exist that establishes paramedics' perceptions regarding their roles within the transitioning field of paramedicine. Additionally, for any program to be successful, participants must be willing to engage in the new approaches and utilise the tools and training.

## Conflict of interest

The authors declare they have no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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