

## Rural Health: Problems, Prevention and Positive Outcomes

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### **Introduction**

In Australia, nearly one third of our national population — approximately 7 million Australians — live in rural and remote areas. For all the complex reasons that health and place are associated, the health of this spatially, economically, socially and culturally distinct group is generally quantitatively and qualitatively different to — and often significantly poorer than — that of those living in major cities. While the benefits of this framing of rural as the conceptual Other to an urban norm is limited (as discussed below), it does highlight a serious social and equity issue, particularly when the influence or and differences between health care services in the two spaces is considered. Awareness of this issue has and continues to inspire concerted effort among government and other organisations to improve the health outcomes of rural Australians. The success of such efforts requires a broad conceptualisation of health, including a focus on social and environmental determinants of health and on preventative health approaches. In addition, this chapter concludes that a more positive interpretation of health is needed, especially to build the resilience of rural Australians in the face of severe health challenges such as climate change.

The perspective presented on rural health in this chapter is broad and interdisciplinary, drawing on the author's background in human geography, climate change adaptation and rural change. Significantly, this chapter is focused on Australia, and as such the perspective is Western-centric, reflecting the limits of the author's area of expertise. While there are important similarities between the developed and developing world context, such as the under-provision of health services in rural relative to urban areas, rural health in low-income countries has distinctive characteristics, including a host of health challenges not considered in detail within this chapter. Given that nearly half of the world's population is rural, readers are encouraged to explore the large literature on rural health and development to better understand the global context.

This chapter begins with a brief profile of rural health, focused on the health problems prevalent among rural individuals. The question of what is rural is then considered before major influences on rural health are discussed. To end, a perspective on preventative and positive rural health is presented.

### **A brief profile of rural health**

Measuring population health in a spatially explicit — that is, category based — way is difficult. Data therefore varies as to the exact extent and characteristics of the rural–urban health differential. Nevertheless, in Australia we have a relatively comprehensive statistical picture of rural health thanks to the work of academic institutes such as the School of Rural Health at Monash University and the Australian Centre for Agricultural Health and Safety at the University of Sydney, government agencies such as the Australian Institute of Health and Welfare (AIHW), and non-government organisations such as the peak body the National Rural Health Alliance (NRHA).

Some clear trends are evident. For example, people in rural areas do not tend to live as long as those in urban areas. According to 2002–2004 figures, life expectancy decreased and

death rates increased with increasing degree of remoteness (Bullock, 2009). More specifically, males had a life expectancy of 77 years in outer regional areas relative to 79 years in major cities, and this fell to 72 years in very remote areas (in part because of the large Indigenous population in such areas, as discussed below). A similar pattern is evident for females. We know too that the urban–rural differential is persistent, holding steady despite an ongoing reduction in Australia mortality overall (Bullock, 2009).

While life expectancy and general mortality rates are common and robust summary health measures, a more nuanced picture of the quality of rural health is needed. Why are people in rural areas dying early? Data collected by the Rural Health Information Framework is helping to provide a richer picture. It shows, for example, that people (especially males) living outside major cities are more likely to:

- die due to coronary heart disease and other circulatory disease
- die due to chronic obstructive pulmonary disease
- die due to cancer (especially prostate, lung and colorectal cancer)
- have Type 2 diabetes, asthma, bronchitis and/or arthritis
- be identified with an infectious disease (e.g., salmonella, Ross River virus, pertussis and sexually transmitted infections)
- have poor dental and oral health
- be overweight or obese
- have a disability.

The above causes of mortality vary in important ways across age, gender, racial and socio-economic groups. Nevertheless, the overall pattern suggests that the mortality in Australian rural areas is, like that in urban areas, similar to the rest of the developed world: predominantly the result of chronic and degenerative conditions. That said, Australian rural populations demonstrate additional mortality patterns more closely associated with the developing world. For example, rural and remote

women experience higher rates of maternal, neonatal and foetal death than their urban counterparts. In addition, rural people are more likely to die from infectious diseases, as well as from accidents, violence and poisonings. About 18–26% of excess deaths in regional and remote areas are due to injury. This includes a pronounced elevation of standardised mortality rates due to motor vehicle trauma in rural areas, with rural men and women being an estimated 1.65 to 3.81 times more likely to die from such an accident than their urban counterparts. These figures do not include off-road vehicle accidents, which greatly add to motor vehicle risk in rural areas, given the frequent use of off-road vehicles in agriculture. Research by Safe Work Australia indicates that a work-related fatality is over four times more likely in agriculture, fishing and forestry than other industries, particularly in grains production and among farmers over the age of 55 years (who are twice as likely to be injured).

While non-intentional injury among male farmers and farm managers was 19.5% higher than among other similarly aged men between 1999 and 2002, intentional injury was even higher (20.5%). Intentional injury points to the issue of suicide and mental health in rural areas. While for rural women there is no statistically significant difference in suicide rates relative to urban women, 2007 figures from the AIHW (which are likely to be an underestimate of the true extent of the problem because of reporting issues) indicate that men in regional and remote areas in Australia are 1.3 to 2.6 times more likely to die as a result of suicide relative to those in urban areas, particularly among disadvantaged groups and Indigenous males. While suicide rates have declined to a degree in urban areas, they have remained relatively constant in rural areas and increased among some groups of females. Suicide is closely related to mental health, but mental illness is generally no more prevalent in rural areas than urban. As discussed further below, what does differ is access to lethal methods of self-harm, cultural attitudes to mental health and access to health care services.

**What is rural?**

To understand statistics on rural health like those above, it is important to consider what is meant by ‘rural’. Rural populations are those that live and/or work in rural areas. To many people, the dominant characteristic of rural areas is low population density. This is perhaps particularly the case in Australia where we have one of the most urbanised populations in the world living within a small fraction of the nation’s land, leaving a relatively small number of ‘rural people’ living across a relatively large land mass. While as indicated above, nearly a third of Australians live in rural and remote areas, they are heavily and increasingly concentrated in regional centres and country towns. While estimates vary depending on classification criteria (as discussed below), one estimate is that only 8% of the population lives outside of regional centres, which with major cities make up only 8% of the total land area. What this means is that some rural people within Australia are often extremely geographically isolated, creating a host of specific challenges and issues when it comes to health, and health services in particular. It is in recognition of the relative commonness and consequence of such isolation that the category of ‘remote health’ — often bundled together with rural health, as in the journal *Rural and Remote Health* — has been created. The separate categorisation of remote health also reflects the important health issues by the indigenous Australians, who make up approximately 20% of the population in such areas (AIHW, 2000), which are discussed in a separate chapter in this book.

A second way of understanding ‘rural’ is as an environment or, more specifically, a land use. One of the reasons population densities are low in rural areas is that the predominant industry (at least traditionally) in such areas uses large areas of land. That industry is, of course, agriculture (and pastoralism), which use approximately 60% of Australia’s land area. Combined with large areas also devoted to the other major land-based primary industry — mining — and to

varying degrees of conservation, these land uses preclude high population densities. The third characterisation of rural, then, is as an occupational or sectoral classification — as in ‘the rural sector’ — which means that rural populations are often associated with particular industries and jobs. Together, the geographic and occupational particularities of rural areas create unique (and diverse) social settings for rural and remote populations. They add to the fourth way in which ‘rural’ is often interpreted, which is as a lifestyle and culture. All of these elements of ‘rurality’ have implications for health.

Definitions of ‘rural’ have long been debated in academia and policy. Various measures of degree of remoteness have been used. While on the one hand, determining where the ‘cut-off’ point between rural and urban, or major city and ‘the rest’, lies along the continuum of population patterns is a theoretical point, it is also highly consequential for the statistical picture of rural health that is developed, and for subsequent health resourcing targeted specifically at ‘rural’ areas. It is because of this that the Australian government’s recent decision to replace the Rural Remote and Metropolitan classification system with the Australian Standard Geographical Classification — Remoteness Areas system has been controversial (McGrail & Humphreys, 2009). The slightly different measures of rural that such classification systems use (e.g., the average distance between service centres or the total populations within Statistical Local Areas) change the way some individual areas are categorised and thus whether they are eligible for rural-only funds.

One of the reasons classification systems can result in unintuitive results for certain areas is the diversity that exists within rural populations. As the ‘Other’ to urban populations, rural populations are stereotyped as being a homogenous (and, therefore, often boring) group. Inadvertently perpetuated by the use of categories like ‘rural health’, this bracketing of rural populations as one and the same risks being not only dismissive but inaccurate. Rather than being a single ‘conservative,

independent, cohesive or individualistic' group (Fraser et al., 2002, p. 289), Australia's rural population and places are highly heterogeneous.

One, albeit unidimensional, way of beginning to recognise such heterogeneity is to distinguish finer grades of remoteness than simply rural. The new Australian Standard Geographical Classification — Remoteness Areas system, for example, identifies five categories: major cities, inner regional, outer regional, remote and very remote. Standardised ratio data on total mortality (2002–2004) reflects the value of developing this more detailed picture, with a continuum evident from the urban reference of a 1.00 mortality level in major cities, to 1.69 in very remote areas (Bullock, 2009). In other words, when finer grade divisions of remoteness are used, it becomes evident that mortality levels actually track remoteness, underlining the significance of remoteness (or a factor correlated with remoteness) as an influence on rural health. Conversely, finer-grade analysis of other measures such as the birthweight of live-born singleton babies reveal a non-linear relationship with degree of remoteness, which suggests that other stronger factors are in play.

Beyond merely adding categories along a single neat dimension of rurality, diversity within the rural sector demands we attend to the far messier and complex patterns created by multiple socio-demographic, cultural, political, economic and environmental factors. Such diversity is growing as individuals, families, towns, regions, and sectors are affected differentially by and respond differentially to the range of influences upon them. While overall most rural population centres are declining, for example, others are growing, and such quantitative patterns disguise and facilitate a range of demographic shifts shaped by myriad other trends and pressures, including drought and climate change, falling terms of trade and the changing role of agriculture in the economy, and negative or stereotyped representations of rural populations in the urban media. Perhaps more than anything else, rural Australia is

characterised by change, and this continual and unpredictable dynamism also represents and introduces its own health issues.

Tackling rural health requires that we understand not just what health outcomes manifest in rural populations but how the rural setting influences individuals' health outcomes — that is, how rurality is embodied. The diversity of outcomes indicated in the section above underlines that it is far from a simple question. It is also one we are far from fully answering. As Pong et al. (2009) recently commented, we still do not know:

... why generally speaking, there is progressive deterioration in health status as one moves from cities to the most remote regions. Is it because of distance from urban centres, or is it due to other socioeconomic factors, such as lower income, lower educational attainment, higher unemployment and poorer access to health services in more remote locations? (p. 64)

We turn now to the ambiguous issue of the possible causal relationships underlying the patterns of poor rural health outcomes described above.

### **Influences on rural health**

Determining what shapes health outcomes is a difficult and multidisciplinary undertaking. On the one hand, there are individual-level factors, such as genetics and other bodily factors. On the other hand, there are factors common to areas and communities, such as the qualities of the natural environment and the type of health infrastructure or occupations available. There are then a myriad of factors that are simultaneously individual and collective, such as mental outlook and health behaviours, for the division between the individual and population level is incomplete and problematic. Epidemiology demonstrates how individualised factors are not distributed evenly across populations but are clumped in different areas, while sociology and psychology underline the deeply social — that is, group — nature of seemingly individualised behavioural choices and psychological stances.

The division between social — that is, human — and environmental factors is also problematic. This is in part because there is no neat division between what is ‘social’ and what is ‘natural’ (especially in the context of anthropogenic climate change), and in part because the more specific idea of a simple, objective and one-way flow of influence from the environment to human health is inaccurate. The division of social and environmental elements is also challenged by the fact that ‘environmental effects’ are mediated via subjective perceptions, which operate at least to a degree at the level of the individual.

These points are of particular significance in considering rural health. As described above, ‘rural’ variously refers to a particular environment and social setting, including the strong presence of the agricultural sector, which shapes characteristics of both the landscape and community. These environmental and social contextual factors have positive and negative effects on health. Understanding how they contribute to the full nature, extent and underpinnings of the rural-urban health differential is difficult. Existing research suggests that rurality per se is not the cause of this differential as much as socioeconomic, demographic and social factors. For example, data suggests that rural populations are generally characterised by the following negative health determinants:

- lower income levels
- lower employment levels
- lower education levels
- lower ‘health literacy’ (understanding of health issues)
- higher rates of daily cigarette smoking
- higher levels of risky or high-risk alcohol consumption
- lower levels of healthy exercise, and
- higher (and increasing) average age.

Without going into detail, this section discusses some of these factors in the context of environmental and social influences on health in rural settings, both positive and negative.

In the rural environment, the first stand-out feature of the 'natural' landscape is that it is (by definition) more 'natural' than the urban landscape to the extent that it is considered to be less modified by human influence. While the difference between a large national park and an intensively managed agricultural landscape is considerable, relative to an urban environment dominated by tall buildings, heavy traffic and intense social stimuli, such a landscape can be understood as more 'natural'. Health-wise, this environmental context has a number of implications. To the extent that urban environments consist of a convergence of negative health influences, such as air, noise and artificial light pollution, lack of natural light and space for relaxation or exercise, stressful social situations and a round-the-clock work culture, rural environments emerge as comparably health-creating. While there is little data on the health benefits of rural areas, there is little doubt that some exist. The health benefits of country air, open space and a slower pace of life conducive to greater bodily awareness and relaxation have long been pursued, such as through the past tradition of country-based preventorium retreats for children (Grose, in press). Most telling, perhaps, is that rural residents generally report a relatively high level of perceived health and satisfaction with their lives.

Assisted by developments in information technology and transport infrastructure that are helping to overcome some of the hold cities have conventionally had on many professions, increasing numbers of urban residents are being drawn to life in rural areas characterised by a high degree of natural amenity, motivated in part by notions of the healthfulness of such locales and the quasi-agricultural lifestyles many undertake there. In making their move, these 'tree-changers' often contribute to the healthfulness of their destinations by working to make real their vision, using their typically substantial cultural capital to further enhance the high amenity environment they are after, and often creating a positive feedback loop between a valued space, its tourist appeal and its

economic viability. At the same time, however, they paradoxically undermine its achievement through the sheer weight of their own and tourist numbers, which bring with them some of the problems they are seeking to escape, such as traffic and crowded streets, particularly in the most accessible peri-urban 'rural' environments.

While there is more than a grain of truth to idyllic images of the rural as a health-giving space, we need to 'move beyond an undifferentiated assumption that all elements of a landscape will be equally therapeutic for everyone' (Conradson, 2005: pp. 345–346). Moreover, the poor health of many rural residents suggests strongly that there are other realities at work. As realised by anyone who has tried to cycle along a country road frequented by transport trains or buy high-quality fresh fruit or low-fat milk in a small town general store, trying to live out your vision of a healthful rural idyll can be challenging. In particular, most rural areas do not enjoy the sort of natural amenity that attracts tree-changers and tourists to gather and attempt to enhance selected health benefits (Barr, 2009). Rather, they are characterised more simply by the privately owned and managed landscapes of primary industries, which, despite improvements in the integration of environmental sustainability concerns into management practices, are conventionally designed singularly for commercial production. This has a number of implications for health determinants. Relative to cities, such areas offer space in the sense of an escape from buildings, but often less publically owned or green space of the sort that encourages and enables healthy behaviours such as walking. While much of Australian agriculture is 'low-input' relative to the rest of the world, such areas can also expose people to high levels of environmental pollutants as a result of the commercial use of inorganic chemicals. For example, 'spray drift' from pesticide application in agricultural areas is an ongoing regulatory challenge for government organisations. One way that tree-changers improve the health-giving amenity of areas they relocate to is

by using their cultural capital to campaign against such problems.

As indicated by the discussion about farm injuries, the farm landscape is also characterised by numerous physical hazards, from large animals and machinery to barbed wire, dams, flammable liquids, industrial noise and weapons. This is exacerbated by a traditionally low level of compliance with occupational health and safety regulations and guidelines, due in part to restrictions on personnel, capital and education. It is in recognition of the risky nature of the farm environment that special attention has been directed at reducing farm injuries by groups such as the Australian Centre for Agricultural Health and Safety, mentioned above, and the Collaborative Partnership for Farming and Fishing Health and Safety Program developed by various research and development corporations.

Exposure to physical hazards is also increased in the rural environment in other ways. Highlighting connotations of wild nature as frightening rather than nurturing, and evident in recent discussions about different populations' vulnerability to the impacts of climate change, rural populations are often conceptually positioned as more 'exposed' and 'sensitive' to nature in general. At one level this interpretation of the rural simply reflects the projected spatial distribution of the most severe climatic changes expected under climate change, as well as the relative prevalence of natural hazards including dangerous wild animals in rural areas. Yet, it also reflects the way we have designed urban infrastructure to insulate ourselves from natural variability and environmental conditions in general. Water shortages, for example, seem like merely a theoretical notion or regulatory idea in the city when drinking water continues to flow from the taps. But for many rural communities, drought literally means an absolute lack of water for drinking, washing and other normal life demands (as well as agricultural production). Whether because of a sole reliance on local rainfall or limited water infrastructure, in the country, drought is not about simply having a dirty car or a wilted

garden, but can be a matter of bodily (as well as commercial) survival. Water quality as well as quantity is a serious issue in drought and the impact of poor water quality, as well as low quality fresh fruit and vegetables, on rural health is emerging as a key research question. The poor quality as well as low quantity of road infrastructure is another climatically exacerbated issue rural communities face, which contributes to the pronounced elevation of motor-vehicle accident mortality in rural areas.

It is critical to note, of course, that the 'protection' from the environment we enjoy in urban settings can be dangerously illusory, particularly under extreme climatic conditions of the sort increasing in frequency and severity under climate change. In such situations, the relative self-sufficiency of rural residents, used to relying on electricity generators and water tanks, can be a source of relative safety and thus health. Murphy (2001), for example, found that when severe ice storms shut down the highly centralised electricity system in Canada in 1997, the electricity-free, agriculture-based Amish community were virtually unaffected, whereas thousands of city residents perished from cold due to their dependence on electricity-run heaters. While modern agriculture is Australia is far from the Amish ideal (being heavily fossil-fuel dependent), it nevertheless holds that rural independence from centralised infrastructure can shift at times of widespread system failure from being a negative health determinant to a positive one, relative to urban populations, demonstrating the dynamic nature of the relationship between health and place.

Demographic shifts are another major change (and indicator of other changes) that is strongly affecting rural populations. On the whole, the rural population is shrinking, due both to mortality and out-migration (mostly by young women). This has two negative effects on health: a reduction in health status as the remaining population becomes structurally more aged and male; and a reduction in health services as local populations fall below the critical mass often deemed

necessary to support them. As demonstrated by the tree-changers discussed above, however, re-population is also occurring in some areas. While in the case of tree-changers this could be imagined to produce at least a partially positive health effect on the basis of the socioeconomic capital possessed by the newcomers, an almost opposite process of repopulation is occurring in low amenity rural areas such as the Southern Mallee in northwest Victoria, where socioeconomic migrants are moving in to take advantage of the cheap housing on offer. Not only does this process involve the importation of health issues, including risky health behaviours, but the cultural clash emerging between some newcomers and existing residents seems to be a significant source of stress (eg. Rickards 2007). This is not only a negative health determinant in its own right but a motivator to leave the local rural area, worsening the issue of depopulation for those that remain.

The issue of culture brings us to a further critical point in understanding patterns of rural health, which is the role of cultural attitudes towards health and community interaction. It is well known that rural identities, especially among males, are shaped around ideals of individualism and stoicism. While such a stance can be a positive attribute in some cases, it can also contribute to underplaying health risks (e.g., in relation to using machinery) and a disinclination to seek help when needed (Campbell et al., 2006). Paradoxically perhaps, there is also often a strong emphasis on the value of community in rural areas, at least those in which members know each other well. Community cohesion and social capital are therefore typically higher in rural areas than urban ones, which is thought to have a strong positive effect on health, both directly via improved psychological wellbeing, and indirectly via improved socioeconomic status. Traditionally, however, such cohesion and capital is frequently developed through joint activities revolving around unhealthy drinking practices, albeit often following the healthy practice of team sport. For example, during the recent drought an important source of

community interaction was lost with the closure of some sporting facilities (namely ovals) and teams (due to member withdrawals). While this is a negative on health, qualitative interview data (e.g., Rickards, 2007) suggests that for some this was accompanied by a significant reduction in alcohol consumption, which is a negative influence on health both directly and indirectly via the association between intoxication and high-risk behaviours. Overall, it can be seen that the relationship between community interaction and health in the rural environment is not clear cut.

Risky sexual practices are one of the high risk behaviours associated with intoxication. The way in which sexual issues are handled in rural areas is a window onto some of the serious issues that exist with a further key socio-environmental determinant of health to which we now turn: health services.

### **Rural health services**

Recent research by the Centre for Excellence in Rural Sexual Health at the University of Melbourne highlights some of the issues rural young people face in accessing health services for sexual health. These issues illustrate some of the broader problems that exist with health services in rural areas. First, there is the issue of inadequate numbers of service providers, including female GPs. Then, there is the question of access. This is in part a function of transport options, which are especially limited for (underage and low income) rural youth. Third, is the perceived issue of privacy and confidentiality in small rural populations. For rural youth, discussing risky health behaviours or anything for which they may fear reprisal with an adult who they know is in contact with their parents can be extremely unappealing. Beyond such concerns, which are a question of the professionalism of rural health workers, the small population of rural areas means that simply one's utilisation of health services can be visible to others. Combined with the strong value that is typically placed on privacy in rural culture, for some rural residents simply being seen in a

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doctors' surgery can be a cause of embarrassment (Rickards, 2007).

These issues of service numbers, accessibility and privacy are just some of the challenges of health care provision in rural areas. Rural health services have been strongly critiqued as both quantitatively and qualitatively inadequate, both in relation to achieving equality with urban populations and in relation to meeting actual (often greater) rural health needs. 'Inadequate, inaccessible and diminishing health services' in rural areas emerged as a principal human rights concern for the Australian Human Rights Commission back in 1999. Despite this awareness, nearly 10 years later an Audit of Health Workforce in Rural and Regional Australia about the state of rural health services found the situation little improved, and the Office of Rural Health was created by the government in 2008 in response.

Quantitatively, rural areas require that services are not only allocated along conventional lines of number of services per local government area or cost-effectiveness, but that, given the often large size of local government areas and higher per capita costs of providing services in relatively isolated areas, the issue of accessibility is taken into account. Accessibility is a function of availability and appropriateness. Availability, in turn, is a function of what infrastructure and staffing is provided. In many rural places, essential health infrastructure, including service centres and equipment, is simply missing. It is in recognition of this gap that the federal government established the National Rural and Regional Health Infrastructure Program in 2010, which provides funding for local projects of up to \$500,000.

Staffing the use of such infrastructure is perhaps an even greater issue. The well-known doctor and nurse shortage in rural areas is even worse for many specialist and allied health fields, such as paediatricians, cardiologists, psychologists, midwives, dieticians, social workers, occupational therapists and pharmacists. While the culture of voluntarism in rural

communities meets this need in part (e.g., community-based emergency services), and brings with it attendant capacity building and social capital benefits (Skinner & Joseph, 2007), relying too heavily on non-professionals is not possible or appropriate in many cases. But, despite various payment and training schemes aimed at attracting health professionals to rural areas (based in many cases on controversial rural classification schemes like those discussed above), significant vacancies remain. Health carers' reluctance to work in rural areas reflects the challenges of rural health work. These go beyond the personal challenges of living in an often unfamiliar rural setting, including a perceived lack of opportunities for partners and children, to professional challenges often exacerbated by low staff numbers. Relative to an urban norm, these issues include:

- poor infrastructure and services to work with
- fewer colleagues and less professional support and development
- more challenging and varied cases, including being required to work beyond one's area of expertise or comfort level
- fewer choices and opportunities for specialisation
- longer and less predictable hours
- traditionally, lower pay (now being addressed)
- frequently, a large amount of travel
- a more blurred division between personal and professional life, creating the sense that one is 'never off duty'.

While variants of the above actually draws some professionals to rural health work, for many the above challenges result in a highly stressful work environment that creates its own health issues for those involved. Despite a range of incentivisation schemes, research has found that those who are attracted to and remain in rural health work are often those who have a rural background. This has led to renewed efforts to expose all health students to the rural setting during their training and to

encouraging rural students into the health professions. The latter 'grow our own' approach relies on attracting rural young people back to their home communities. As such, it faces the problem underpinning the loss of young people from rural areas, which is that often such young people receive the message, intentional or not, that leaving one's rural roots and 'moving on' to the city is a sign of progress and success that distinguishes a region's 'best and brightest' from those with more limited options (Gabriel, 2002). Further training of existing rural health professionals is also being pursued as an answer to some of the issues above, both to address capacity shortfalls and increase the professional appeal of rural work.

The second element of the accessibility of rural health services is its appropriateness. Manifest in utilisation rates, this is a function of the physical and economic accessibility of services, mentioned above in relation to youth. For patients needing to travel long distances to access specialist services, accommodation is also often required, along with other complicated family arrangements. 'Whole of journey' care is therefore an increasing priority within rural health. The social and cultural appropriateness of services also affects utilisation rates. The individualism, stoicism, low health literacy and a desire for privacy mentioned above as characteristics of the rural population, lead to low levels of help-seeking behaviour, especially in relation to sensitive or taboo topics such as sexual health, mental health and substance abuse. Exacerbated by the time, energy and financial costs of physically accessing services, this disinclination results in high levels of foregone care. While 20–30% more rural males have a disability than in urban areas, for example, many do not access disability services.

An ongoing and often successful response to the issues of availability and appropriateness is a model of decentralised health care that allows local solutions to be developed. As with all cases of devolved control, however, such an approach runs into the challenge of consistency. This is especially apposite in the implementation of large top-down ideals and initiatives, such as the one we now discuss: preventative health.

**Preventative and positive rural health**

Counter to the curative approach that continues to dominate health policy around the world, there is a growing swing toward more preventative approaches in a slow response to calls by the WHO since the mid-1980s. Preventative approaches aim to ‘design out’ (to a degree) certain preventable and expensive health problems such as type 2 diabetes, some cancers and depression by tackling their major risk factors. Responses include health services such as vaccination and antenatal care designed to avoid the occurrence of some conditions and others focused on early detection (eg bowel cancer screening) and early intervention in order to try to minimise the health impact of disease.

In Australia, preventative health is focused on reducing three well-known risk factors: smoking (the largest single cause of preventable death and disease), alcohol and obesity. All three are strongly prevalent in rural areas and relate to voluntary health behaviours, namely substance use, diet and exercise. Voluntary health behaviours emerge out of a complex combination of structural and individual factors of the sort discussed above. In rural areas, an important aspect of a response to the above conditions is the provision of appropriate infrastructure and services, such as bicycle paths and healthy food options.

Also important in reducing smoking and alcohol are regulatory responses such as bans on smoking in public places and restrictions on the serving of alcohol. Research on the largely successful efforts over the last two decades to reduce smoking (primarily in urban areas) illustrates that smoking is often strongly socially cued. Therefore, it loses its appeal in environments where others are not smoking due to smoking bans. Furthermore, bans on smoking can have a far broader impact by serving as a social proof — that is, a message about what is socially acceptable — which reduces the appeal of smoking at other times, including in private, and sets in motion a cycle of reducing the social norm of smoking (Trotter et al., 2002).

The social nature of smoking — and of not smoking — points to the strongly cultural aspect of voluntary behaviour change, especially for behaviours associated with pleasure, relaxation, socialising and rebellion such as smoking, eating and drinking. Educational messages targeted at individuals and based on fear are therefore likely to have limited impact. This is especially so within a rural populace that typically values social cohesion, is suspicious of top-down directives, has a high risk-taking threshold in relation to personal safety, has high levels of health satisfaction and is facing multiple, substantial threats to its survival. Thus, Chapman et al.'s (2009) suggestion that GPs should be used to deliver health warnings about smoking to rural adolescent patients as part of an effort to address the growing smoking 'epidemic' among this group is far from an optimal solution. This is especially the case given the infrequency with which adolescents are likely to visit their GP, for the reasons of access and privacy outlined earlier, or because they have encountered reprisal and disapproval on the few occasions they have done so.

Agricultural extension — the industry devoted to improving the agricultural practices of farmers — provides many insights about the limitations of a top-down approach to behaviour change in a rural setting. Extension best practice now recognises, for example, that: individuals most often have strong reasons for behaving as they do and any alternative behaviour is assessed in light of the perceived benefits of the existing practice; for this reason and the transaction costs involved, all behaviour change is itself a risk for farmers and needs to be approached as such; the identity of the messenger and a relationship of trust is crucial; and peer opinion usually holds substantially more sway than that of outsiders (Pannell et al., 2006). Extension scholarship also notes the particular challenges of motivating behaviour change for preventative purposes. As Rogers (1983) notes, by definition preventative innovations are often not very compatible with individuals' current values, attitudes or lifestyles because if problems can be

prevented, they are often a matter of choice and are thus actively pursued. This highlights the importance of respecting the trade-offs involved for individuals in any suggested behaviour change, rather than presuming that individuals are simply irrational. Introducing preventative practices is also difficult because their results are delayed and often exist only as an 'absence of effect', which given the lack of a scientific control, is impossible to properly observe. The latter is particularly important among farmers who usually demonstrate a preference for material or experiential proof (including the experience of peers) over theoretical evidence. This points to the strong influence of social norms in the rural setting, both in relation to maintaining certain (unhealthy) behaviours and, once a 'critical mass' is reached, in perpetuating a (healthy) behaviour change.

Agricultural extension best practice has developed out of the failed application of the traditional 'deficit model' of behaviour change in which the existing situation is framed as a problem, and the problem is framed as a lack of knowledge (rationality) within an individual, group or situation. In keeping with the negative attitude toward farmers that underlies this mostly historic approach in agricultural extension, the whole of the rural population has frequently been perceived through a deficit lens: as deficient, in myriad ways, relative to the urban norm, struggling to catch up and keep up. An approach to rural health focused solely on bringing rural health outcomes into line with urban ones inadvertently feeds into this negative cultural positioning of the rural as characterised by lack (Bourke et al., 2010). One alternative to this 'me too' approach is to adopt more of a postmodern 'different voice' attitude that celebrates the rural as different not deficient. The worth of such an approach is seen in the successfulness of many extension and health initiatives that start from a position of local knowledge and values and engage the community in shaping goals and pathways. Yet, cultural relativity also runs the risk of papering over real and significant

equity issues between groups. Rural health needs may be tempered by subjective local perceptions and statistical artefacts but they nevertheless remain a genuine cause for concern. How then to proceed?

Salutogenesis provides a promising approach. Based on the work of Aaron Antonovsky, salutogenesis is a future-oriented and open-ended model for health based on creating, enhancing and improving physical, mental and social wellbeing (Becker et al 2010). It does not deny the existence of important health deficiencies, represented by disease in the conventional pathogenesis model, but rather interprets health as more than their absence. Rather than aiming merely to cure or manage disease, or — in the case of preventative health — to avoid the occurrence or impacts of disease, salutogenesis moves beyond this disease focus and the conservative notion of neutralisation to a more proactive, generative approach to wellbeing. Positive health is the ultimate preventative cure, acknowledging the eventual inefficiency of trying to stem the growing wave of ill-health, problem by individual problem. As in other arenas including climate, disturbance is the norm rather than exception and demands a comprehensive rather than issues-based approach.

There is a promising synergy between reframing rural as more than the absence of an urban presence or ideal, and reframing health as more than the absence of disease. Both demand a more positive approach. Their combination in ‘rural health’ would create a subject area that incorporates but is not limited to an urban comparison and which encourages and commemorates uniquely rural models and initiatives. Preventative health priorities like reducing smoking, alcohol consumption and obesity would be taken on board, but repositioned in ways that celebrates the positive life-enhancing alternatives on offer, like the social and sporting advantages of being able to achieve fitness goals with clearer lungs and head, and pride in creating a healthful rural community (more healthful than ‘urban competitors’). Building on the appeal

already noted by tree changers in some rural areas, investment in the natural and physical amenity of rural areas could help to position positive health as an ideal characteristic of 'the rural', along with innovation and resilience.

The latter points to a further synergy. Like salutogenesis, resilience theory is based on the idea that disturbance and stress is normal and that proactive behaviour is constantly needed to achieve positive outcomes. Both highlight the rationality of investing in such outcomes, including the value of having a certain level of 'redundancy' in a system (such as an individual or community) in order to buffer it from external shocks. In the context of climate change, such redundancy is becoming more important than ever. Moreover, adaptation to climate change is usefully conceived as not simply the elimination or management of climate change impacts, but as a positive life-creating process (Rickards, 2010), albeit one that requires us to overturn many existing unhelpful unhealthy models, starting perhaps with the dominant models of rural deficiency and pathogenesis.

Finally, key to the celebration of the rural is the fundamental role it plays in the health of Australia as a whole, and beyond. Through the increasingly acknowledged close association between rurality, agriculture, food, and health (Lock et al., 2010), as well as the influence of rural land management on water quality, the health of the rural population can be seen as an important means to urban health. This is especially so when the significant contribution of farming to climate change is considered, which underlines the importance to urban health of supporting a healthy rural community capable of adapting to severe mitigation needs. As a massive environmental health issue, climate change illustrates the final point which is that rural health is inseparable from environmental health. Thus, not only does rural health require that environmental conditions are tackled as a key health determinant (adopting a model of positive presence rather than simply absence of obvious problems), but the contribution of positive rural

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health to the health of land, water and climate needs to be recognised and valued.

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