Rural health care: Paper 1

Changes in rural medical workforce and health service delivery since 1990

A report to the NSW Ministry of Health

SaxInstitute

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Executive summary

This is the first of three papers on rural health services prepared by the Sax Institute at the request of the NSW Ministry of Health. It explores the following questions:

- What are the drivers that have affected the delivery of regional, rural and remote health care internationally and in Australia?
- How have clinical service and workforce models changed in rural areas over the last 20–30 years?
- How have changes in models of care impacted on, influenced or determined workforce requirements in rural areas?

The impetus for this paper is a recognition that, both in Australia and internationally, significant changes in medicine and in society have had a profound impact on the availability and delivery of health services in regional, rural and remote areas. Despite many initiatives designed to ensure safe, high-quality care for all Australians regardless of where they live, the health of rural communities continues to be worse than that of people living in urban areas. A similar pattern is evident in most advanced countries, particularly those which, like Australia, have a large land mass and areas of sparse population. Many reports over the past two decades on rural and remote health in Australia and internationally have noted the concerns of rural communities about the accessibility of high-quality health care, and international reports have described challenges to rural health service delivery similar to those faced in Australia.

Drivers of change

The most important drivers of change in health care over the last 30 years, specific to rural health services, have been the following:

- Rapid advances in health technology. These advances have dramatically improved patient outcomes and brought faster recovery times than previous therapeutic options, but they also require greater specialisation and a need for more services to be provided in large and better equipped facilities.
- A strong emphasis on evidence-based medicine and on safety and quality in health care internationally, with the creation in Australia of new national and state structures to monitor, enable and support safety and quality. These developments have placed downward pressure on the range of services and procedures available in outlying rural areas.

- The movement of population from small towns to regional centres. This has occurred in Australia and in many other developed countries has also contributed to a reduction in the capacity to support diverse health services in more remote areas.
- The development of high-bandwidth communication technologies. This has presented new options for the delivery of health services – telehealth and virtual care – in rural and remote areas.
- Health professionals' expectations of professional practice and lifestyle. New expectations have made it increasingly difficult to recruit medical practitioners committed to long-term careers in country towns, especially in isolated areas.

New clinical service models

Health services in regional centres have expanded, but many smaller communities have experienced reduced access to on-site local medical care traditionally provided by general practitioners. New clinical service models are intended to support smaller towns and remote areas, where health care is provided through a mosaic of different services that rely on a networked approach. This is in part to enable access to a broad range of healthcare services, acknowledging that not all services can be safely or effectively provided in smaller or remote areas. The configuration of services and the extent to which they provide seamless care varies by location.

Many aspects of health care in regional centres are now at a similar level to major teaching hospitals. This reduces the need for residents of regional centres and more remote locations to travel to major cities for specialist health care. Health services in medium-sized towns have been modernised and have expanded as populations have grown, but the overall range and organisation of services has not needed to change.

The challenge of rural health service delivery is greatest in small towns and remote areas. In these areas the range of on-site services provided by general practitioners has decreased, and many small hospitals have closed or have been replaced by multipurpose services (MPSs). Care is provided by mosaics of networked services involving local and visiting GPs, MPSs, telehealth, and retrieval services, with linkages to hospitals in regional centres. There is local variation across these networks as a consequence of differing geographic, demographic and social factors.

The component services are funded from different sources, including state government, Australian Government grant or other funding, Medicare and non-government entities, and they have different lines of control and management. As a consequence service delivery is often seen as fragmented and difficult to access by some communities. This is difficult to overcome, as agencies other than those under NSW Government direction have responsibility for a large proportion of the services.

Workforce models and requirements

The drivers listed above and the changes in service delivery have had a significant influence on workforce requirements. Six workforce issues are particularly significant: the accessibility of primary care in small and remote communities; the future place of the rural generalist model; managing the need for on-call medical capability in multipurpose services and small and medium-sized hospitals;

the role of international medical graduates; sustaining hospital specialists; and providing seamless care.

Over the past 30 years most rural and remote areas have seen an increase in the numbers of general practitioners per head of population. However, the GP-to-population ratio is lower in the more remote rural areas than in regional centres and urban areas, despite the complexities of providing care in remote settings and small rural communities. Rural communities report significant difficulties with the accessibility of high-quality primary care.

Rural generalists – GPs with advanced training in emergency medicine and other fields needed for independent rural practice – have the potential to fill gaps and improve rural health care, but this model is still developing. Rural generalist models will be examined further in the second paper in this series.

Multipurpose services and small and medium-sized hospitals rely on GPs to provide a range of hospital services as visiting medical officers (VMOs). There continues to be a challenge in sustaining VMO services, especially in small hospitals and MPSs. However, the capacity and interest of GPs to provide VMO services is variable, and some GPs do not have the skills or expertise or confidence for this role.

International medical graduates have played a key role in rural primary care. They make up a large proportion of rural GPs in NSW, and their contribution is essential to the viability of the current GP workforce models. While some international graduates have the necessary expertise for rural practice and decide to stay, many do not. Australian graduates who aspire to rural careers are more likely to have obtained specific training for the acute health problems that are managed in rural hospitals. The reliance on international medical graduates contributes to the turnover of rural doctors.

The number of specialists in regional centres has increased, and specialists have also continued their long-standing visiting arrangements to many smaller rural locations. Extensive investment has been made by the Australian Government and state and terriotory governments in the training of health professionals for rural service, in collaboration with universities and professional bodies. However, supplementary arrangements, such as locums, continue to be necessary to sustain rural hospital services. Little coordination exists among the diverse components of the networked models, which have tended to evolve as a consequence of the market failure of fee-for-service general practice. This perpetuates the difficulty of providing seamless care for rural communities, especially those living in smaller towns and remote areas. The third paper in this series will propose some options to address these challenges.

Introduction

This is the first of three papers on rural health services prepared by the Sax Institute at the request of the NSW Ministry of Health.

The purpose of this first paper is to explore the following questions:

- What are the drivers that have affected the delivery of regional, rural and remote health care internationally and in Australia?
- How have clinical service and workforce models changed in rural areas over the last 20–30 years?
- How have changes in models of care impacted on, influenced or determined workforce requirements in rural areas?

The impetus for this paper is a recognition that significant changes in medicine and in society have had a profound impact on health services in regional, rural and remote areas, both in Australia and internationally.

Despite many new initiatives designed to ensure safe, high-quality care for all Australians regardless of where they live, the health of rural people continues to be worse than that of people living in urban areas. For example, the rate of premature deaths in remote and very remote areas is more than double that in urban areas, and the increase in life expectancy has been less in the country than in the cities.[1] A similar pattern is evident in most advanced countries, particularly those which, like Australia, have a large land mass and areas of sparse population.

Several factors contribute to these differentials, including lifestyle, socioeconomic factors and preventive health behaviours, but attention has focused on the contribution of the changes in health service models. Many reports over the past two decades into rural and remote health in Australia and internationally have recorded the concerns of rural communities about access to high-quality health care, and international reports have described challenges to rural health service delivery similar to those faced in Australia.

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1 A brief history

Over the past 30 years, there have been major changes in the provision of health care for rural, regional and remote areas In Australia and across developed countries.

Throughout much of the 20th Century, rural communities relied on the accessibility of their GPs and local hospitals. The safety and quality of the care that they provided was not questioned – good services were equated with accessible services. 'Accessible' meant available locally and whenever needed. Safety and quality as a methodological discipline had not yet permeated medical practice.

By the 1970s, change had arrived: the shift to modern scientific medicine was in full swing. It created an increasing need for specialisation, led by major metropolitan hospitals, which became academic centres of excellence that defined best practice. Rural practice, however, had hardly changed. Rural medicine was not yet recognised as a distinct field or sector of healthcare endeavour. There were few epidemiological data on the state of rural health or on health outcomes in rural populations. The historical ideal of the tireless country doctor, pillar of the local community, available day and night, was of course not necessarily a reality everywhere, as there had always been an acknowledged shortage of rural doctors.

By the 1980s the ideal of the traditional country doctor was fading. The advancing health delivery paradigm created a gap, as new models of care that could fulfil new expectations did not emerge for some time. It was not until the late 1980s and the 1990s that a confluence of factors put rural medicine on the public policy agenda and engaged the major professional bodies. The policy responses in Australia and internationally are detailed in the timelines in the appendices to this report.

One of the changes of most concern to many rural communities has been the diminishing access to care in their own locations. This has occurred across developed countries, especially those with rural communities dispersed over large areas.[2] For example, a recent Canadian report[3,4,5] noted that:

> Almost one-fifth of Canadians (18%) live in rural communities, but they are served by only 8% of the physicians practising in Canada. These communities face ongoing challenges in recruiting and retaining family physicians and other health care professionals.

The historical trajectory that led to the recognition of rural health as a significant component of the health system is summarised in Table 1.

Table 1: Outline of changes in rural health services

1960	1990	2020
• Health care depended heavily on GPs who looked after patients from cradle to grave, did surgical procedures, delivered babies, set broken bones, and provided palliative care. • Traditional country doctors (and many in the cities) saw broad-ranging competence as part of their identity. • Standards of safety and quality were not widely specified. • The safety and quality of the care that rural doctors provided was not questioned – good services were equated with accessible services. (i.e. care available locally and whenever needed). • Together with nurses and midwives, GPs ran the rural hospitals, which had facilities that matched the doctor's skills and capacity. • Some specialist care (e.g. from general surgeons and general physicians) was available in regional centres, but patients usually needed to travel to the major cities for specialist care. • Rural medicine was not a specifically recognised component of the health system, and there were few government policies or programs on rural health. • Epidemiological data on the health of rural communities or the outcomes of rural health care were scarce.	• The era of the traditional country doctor had faded. • Many small hospitals had ceased offering various services previously provided by GPs, such as obstetrics and surgery. • Health care in small towns depended on a largely uncoordinated mosaic of external services (e.g. visiting specialists, ambulance, Flying Doctor). • Patients from small towns and remote areas travelled by air, road ambulance or car to regional centres for tests or more specialised care. • By the mid-1990s, new, more structured rural models of care were just beginning to emerge (e.g. Aboriginal medical services). • The first Multipurpose Service (MPS) was opened in 1993, pooling health and aged care resources in a small town. • A state-wide trauma plan was formulated in the early 1990s, introducing new networks to manage serious trauma with minimal delay. • Specialist cancer services were not available outside major cities and cancer patients often spent long periods away from home for surgery, chemotherapy, or radiotherapy. • Specialist cardiology services were not available outside major cities, so people with coronary heart disease or heart failure had to be taken to Sydney, Newcastle, Canberra, Brisbane, or the Gold Coast. • Specialist stroke services were in their infancy and people with strokes received mainly supportive care in regional centres. • The larger regional centres began to grow during the 1990s and their health services became increasingly sophisticated as specialists arrived. • Rural health began to be recognised as a significant component of the health system.	• Regional centres had grown considerably, and most had new hospitals with multiple specialised units including comprehensive cancer services, interventional cardiology and stroke units. • People living in or near regional centres had easy access to safe, high-quality health services that were, for many conditions, equal to those in major cities, and patients needed to travel to major cities only for highly specialised services. • Multidisciplinary care had become the norm, and specialised nursing and allied health services were available in regional centres. • For most services, people living in and around small country towns and in remote areas only needed to travel to a regional centre if they needed anything other than basic primary care; the need to travel to major cities had reduced. • Many new health service models had emerged to overcome the service gaps in small towns and remote areas (see Figure 1). • Many of the new health service models were networked with services in regional centres or across several small towns. • Despite innovations in models of care and little overall change in rural doctor numbers, rural and remote communities perceived that local access to health care was inadequate. • Medical services offered in small towns, even intermittently, could provide an increasing number of on-site investigations as equipment had become more portable (e.g. echocardiography via visiting specialist).

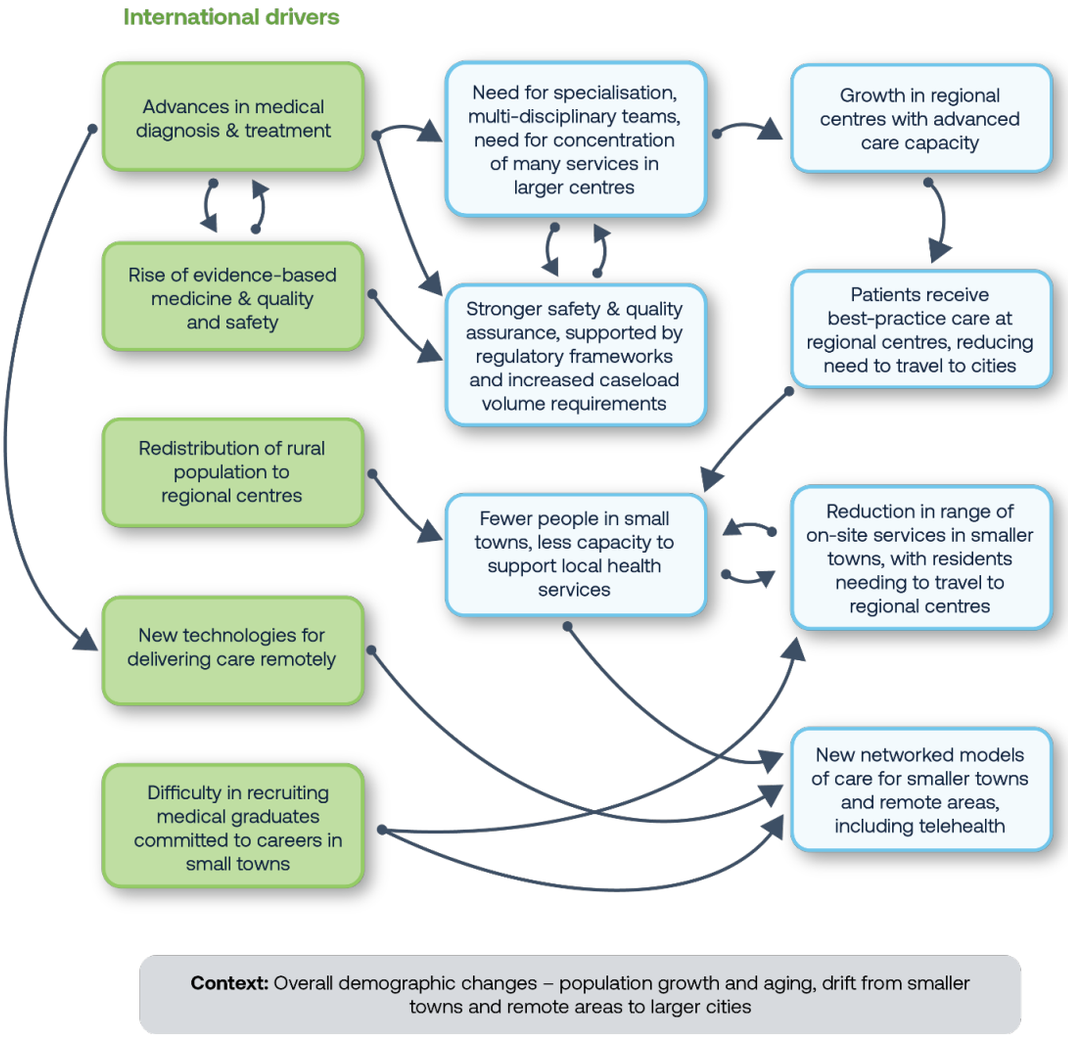
2 Drivers of change in Australia and internationally

Major scientific, societal and demographic changes have had profound consequences for health care in regional, rural and remote Australia.

Major advances in medicine have occurred across all developed countries, together with a greater focus on safety and quality of health care. Population ageing has resulted in more chronic disease and greater demands on health services. The population of small towns and remote areas has decreased as people have relocated to regional centres. Patients have greater expectations of ready access to health information and high-quality health services. Professional and personal expectations among healthcare providers have also changed, and the rural health workforce is ageing.

However, some forces have been particularly influential in driving the changes in the health system in regional, rural and remote areas. These forces interact in complex ways, compounding their effect on health care, as illustrated in Figure 1.

Figure 2: Factors driving changes in rural health care and their interactions



2.1 Advances in medical diagnosis and treatment

Rapid advances in medical treatments and techniques since 1990 have dramatically improved patient outcomes and provided faster recovery times than previous therapeutic options. These advances have also required greater specialisation and a need for more care to be provided in large and better equipped facilities.

The significance of advances in medical treatments and techniques that have occurred since 1990 cannot be overstated. Few areas of health care practice have been unaltered by the technological innovations of the last 30 years. While these medical advances have led to dramatic improvements in outcomes, their delivery often requires specialist care and specialised equipment, available only in larger facilities. Many of these services cannot be provided in small hospitals because they depend not only on specialised equipment but also on specialists maintaining their expertise by treating a sufficient number of patients. In smaller communities, there are too few people to generate the necessary numbers of patients. This is discussed further in section 2.2. below.

The management of myocardial infarction (heart attack) is an example of treatment advances. In the mid-1980s, typical care for heart attack patients involved pain relief and bed rest. Standard treatments for heart attacks now include many specialist treatments including thrombolytic ('clot-busting') drugs, echocardiography to investigate the extent of heart damage, and cardiac catheterisation to identify narrowed coronary arteries and insert stents as well as advanced surgical techniques for bypass of blocked arteries.[6] The recommended approach to stroke is management in a specialised stroke unit where outcomes are significantly improved.[7]

Likewise, advances in cancer treatment (such as image-guided radiotherapy) and surgery (for example, keyhole surgery for conditions such as appendicitis, hernia repair and perforated ulcer) have significantly improved outcomes but require specialist expertise in well-equipped facilities.

Other new developments include relatively inexpensive items of equipment that enable patients to monitor chronic disease parameters themselves in their own homes. In addition, reductions in the size, cost and power requirements of sophisticated medical equipment have meant that some of the more advanced clinical services can be provided in small towns and remote areas if the expertise to use them is available. Clinicians in the more distant locations can now relay the outputs in real time to specialists in regional centres and major cities (section 2.4). Aircraft now used by medical retrieval services carry sufficient portable rechargeable equipment to set up the equivalent of a temporary intensive care unit anywhere, even by the roadside or in a paddock.

2.2 The rise of evidence-based medicine and the safety and quality movement

Since 1990 developed nations have seen an emphasis on evidence-based medicine and on safety and quality in health care. In Australia, these have had major consequences for health care professionals, the delivery of health care and health outcomes. However, they have placed downward pressure on the range of services and procedures available in outlying rural areas throughout Australia.

Evidence-based medicine is an international movement that emphasises rigorous research as the basis for treatment, in contrast to previous reliance on “expert-based medicine”.[8] The plethora of new treatments and the burgeoning of research resulted in the development of clinical practice guidelines, underpinned by systematic reviews of research such as those conducted through the Cochrane Collaboration.[9] Across developed health systems, such clinical guidelines established ‘best practice’ approaches that enabled auditing of practice, accreditation, and other approaches designed to improve quality of care. These have often been led by professional colleges or other agencies such as the Institute of Medicine in the USA and the National Health and Medical Research Council (NHMRC) in Australia.

Several developments in Australia and internationally since the late 1980s resulted in the emergence of safety and quality as a central issue in health policy, the governance of health systems and health care institutions, the training of health professionals, and the delivery of health services. A cascade of safety and quality developments was stimulated by the production of new information on the frequency of preventable adverse outcomes for patients in many countries with advanced health care systems. An important example was the landmark Harvard study from 1991 that found nearly 4% of hospitalisations resulted in patient injury.[10] Second, a series of highly publicised examples of medical misadventure or wrongdoing leading to harm or death, which occurred in numerous countries, drove media and public interest and concern, and subsequently led to political and regulatory action. A prime instance was the inquiry into excess deaths among infants having heart surgery at the Bristol Royal Infirmary in the UK between 1984 and 1995. This was described by the chief executive of the UK National Health Service Confederation as “an extraordinary catalyst to improve standards”.[11]

Reflecting the increased focus on safety and quality issues, the NSW Government established the Health Care Complaints Commission as a statutory organisation in 1993. It has provided a mechanism for the investigation of formal complaints lodged by patients and others on medical errors and lapses in health service quality.

Meanwhile, the shortage of information on preventable adverse patient outcomes led to the Quality in Australian Health Care Study (QAHCS), which also began in 1993. The QAHCS reviewed the medical records of over 14,000 admissions to 28 hospitals in NSW and South Australia. It found that almost 17% of these admissions were associated with an adverse event which resulted in disability or a longer hospital stay for the patient and was caused by health care management; 51% of the adverse events were considered preventable.[12]

Legislation and processes to monitor and improve the quality and safety of care internationally included the US *Healthcare Research and Quality Act* (1999) and establishment of the Agency for Healthcare Research and Quality, and the English National Health Service’s introduction in 2004 of the Quality and Outcomes Framework, which sought to link general practitioners’ remuneration with quality benchmarks and indicators.[13] They also resulted in new accountability and transparency requirements – often, but not always, focused on the system rather than individual practitioner level – with new data analysis techniques allowing the creation of ‘early warning’ mechanisms to provide alerts when, for example, excess mortality rates were detected in specific areas or among the patients of particular health care providers.

In 2006, the Council of Australian Governments (COAG) recommended the formation of the Australian Commission on Safety and Quality in Health Care (ACSQHC), which commenced as an independent statutory authority in 2011, funded jointly by the Australian Government and state and

territory governments, and replacing an earlier, temporary safety and quality council. The reports, frameworks and standards produced by the ACSQHC have set the agenda for quality and safety in health care across Australia ever since. In 2004, prior to the establishment of the ACSQHC, the NSW Government had formed the Clinical Excellence Commission (CEC), with responsibility for setting clinical safety standards, monitoring clinical safety and quality processes, and improving the safety performance of individuals, teams and systems.

A new National Registration and Accreditation Scheme provided mechanisms to impose safety and quality standards on individual health practitioners. The National Scheme replaced individual state and territory registration systems via nationally consistent legislation passed by each state and territory between 2009 and 2014 (in NSW, known as the *National Practitioner Regulation National Law 2009* (NSW)). The National Scheme has enabled the movement of practitioners across state and territory boundaries, specified conditions for registration and renewal of registration, and specified requirements for international medical graduates (IMGs) seeking registration in Australia. The Australian Health Practitioner Regulation Agency (Ahpra) manages the registration process and serves as the secretariat for 15 national boards, each of which is responsible for one of the 15 health professions covered in the National Scheme. To ensure that practitioners stay up to date, the Ahpra renewal of registration process requires proof of compliance with continuing professional development criteria specified by the professional organisation relating to each practitioner, as well as evidence of currency in the individual's respective field of practice. In addition, since 2017, doctors aged over 70 years have been required to demonstrate fitness and competence to practice.

While these changes have done much to improve outcomes, they have resulted in additional pressure for services to be concentrated in population and clinical service hubs. By 2000, a growing body of research had clearly demonstrated that patients had better outcomes in larger volume hospitals and with doctors who had more patients with similar conditions. An international systematic review in 2002, for example, examined large studies covering 27 procedures and clinical conditions. Seventy-one per cent of studies reported significant associations between better outcomes and hospital volume, and 69% between better outcomes and physician volume.[14]

The combined effect of safety and quality measures, including the need to concentrate sophisticated new technologies in clinical and population centres, and the growing awareness of the relationship between volume and outcomes, have had a significant impact on the organisation of clinical services, and what can and cannot be provided in rural areas. Accreditation, minimum volumes and other requirements may be impossible to fulfil in smaller towns, resulting in a reduction in the local availability of services.

2.3 Redistribution of rural population to regional centres

The movement of people from small towns to regional centres seen in Australia and in many other developed countries has also contributed to a reduction in the capacity to support diverse health services in more remote areas.

Urbanisation remains a powerful force internationally. The United Nations estimates that globally, 2007 was the year when people living in cities outnumbered those living in rural areas for the first time. This is forecast to continue, with the balance shifting further to two-thirds urban dwelling by 2050.[15] The same trend is evident across Australia, and in NSW, where between 1991 and 2020 regional centres such as Bathurst, Dubbo and Wagga Wagga grew substantially while most smaller towns shrank. For example, Moree and Narrabri lost 17% of their population, and while Bathurst and Orange grew by around 30%, surrounding areas such as Cowra and Canowindra had a drop in their population of 7%.[16]

While regional centres have diverse and vibrant industries that continue to generate growth, life in smaller NSW towns and remote areas is more difficult. Employment opportunities have diminished as agriculture, the dominant employer, has consolidated, leading to fewer, larger and more highly mechanised farms.[17]. Flow-on effects have made many other local businesses unsustainable. This has created a population movement away from small towns and remote locations, mainly to regional centres rather than major cities.[18] Population ageing has contributed to the attrition. This phenomenon is not unique to NSW or Australia.

A depletion of rural populations undermines the viability of the social and commercial economy of rural communities, of which rural medical practice is one part. Medical services in rural communities experiencing declining populations are challenged not simply in financial terms, but also in professional terms. Smaller communities reduce the financial viability of general practice, creating pressures for GPs to provide care to larger geographic areas. The demand from smaller communities may not be sufficient to enable rural hospitals to continue to provide safe, high-quality services, creating a pressure towards consolidation of services in larger regional centres.

2.4 New communication technologies for remote delivery of health care

The development of high-bandwidth communication technologies has opened up new options for the delivery of health services – telehealth and virtual care – in rural and remote areas.

New high-bandwidth communication technologies capable of supporting real-time, two-way remote consultations and the instant sharing of large amounts of data, including high-resolution imaging, have provided new opportunities for the delivery of health services in rural and remote areas, and for the support of health professionals who can seek advice and support from specialists in metropolitan centres. Virtual care platforms (video, audio, or messaging) provide patients in rural and remote environments with a low-cost mechanism for obtaining health care while obviating the need for travel.[19] The terms 'virtual care', 'telehealth' and 'telemedicine' are not clearly distinguished, but 'vitual care' is taken as all-encompassing, while 'telehealth' and 'telemedicine' may refer to telephone or audio consultations.

Evidence from the US, Canada, Scandinavia and other countries supports the use of virtual care services for psychological treatments[20], chronic heart failure with remote monitoring[21], smoking cessation[22], and home-based treatment for diabetes, heart disease and chronic obstructive pulmonary disease[23], among others. Virtual care offers much to support other models of health care in rural settings.

Telehealth began to be used in Australia in the late 1980s. Its use increased with the ready availability of internet access and has expanded much further during the COVID-19 pandemic. However, despite the high-quality care being provided, emerging research suggests that patients may not value these approaches as much as a face-to-face consultation with a medical practitioner.

2.5 Changed professional and personal expectations among medical practitioners

Across developed countries, health professionals have changed expectations of professional practice and altered lifestyle expectations that have made it increasingly difficult to recruit medical practitioners committed to long-term careers in country towns.

As in other developed countries, it has become increasingly difficult to recruit and retain health professionals (largely GPs) in rural Australia.

Overall, enrolments in general practice training in Australia have been falling for several years[24], particularly in rural areas. In NSW, the most significant reduction has been seen in Western NSW, where the number of first-year trainees fell 33% over four years, from 91 in 2016 to 61 in 2019. The experience and qualifications required for for entering indepedent general practice were greatly upgraded with the introduction in 1996 of Vocational Registration, tied with eligibility for Medicare payments.[25] Previously, any fully registered medical practitioner could practise as a GP, including graduates whose training had proceeded no further than their internship. Prior to the change, graduates with limited experience and no specific rural training could become country GPs if they wished in their second postgraduate year. Today's requirement for several years of postgraduate vocational training improves standards of practice, but may discourage some graduates from considering a rural career.

Recruitment of health professionals to rural areas is a social endeavour – in the words of a former president of the College of Family Physicians of Canada, "to recruit a physician [to a rural area], you must recruit a family".[26] As well as professional supports, doctors need a viable social network, day care options for children, lifestyle options suitable for a young family, and career options for the doctor's spouse.[27] A parallel phenomenon is the trend towards shifting gender roles, with the balance of family and domestic responsibilities becoming more equal between men and women and an evident wish for better work-life balance than might have been possible in traditional country medical practice.

Further, the work model needs to be attractive, which is increasingly difficult when the local population will only support one or even two doctors, as working with limited professional backup often involves a degree of professional isolation and being on call for extended periods. Anecdotal evidence suggests that the reduced range of interventions and procedures that can be provided by GPs in rural towns is likely to reduce the prospects of a satisfying career for those who have training for such services. The rural generalist model (see section 4) may provide an avenue to resolve this, as arrangements can be made for a rural generalist to participate in networked clinical service models at different levels in a regional health structure.

3 Changes in clinical service models

Regional hospitals have expanded, but smaller communities have experienced reduced access to on-site local medical care, largely due to availability of workforce and emerging technologies. New clinical service models are intended to support smaller towns and remote areas, where health care is provided through a mosaic of different services that rely on a networked approach. The configuration of services and the extent to which they provide seamless care vary by location, influenced by local geography, demography and social factors.

The main changes in rural clinical services that have evolved over the last 30 years comprise the following:

- Growth in the capacity and scope of services in regional centres – regional hospitals are now able to offer many services equivalent to those in metropolitan referral hospitals
- Increases in the numbers of GPs across rural areas, but widespread community dissatisfaction with the accessibility of on-site primary care services in small towns and remote areas
- Away from regional centres, dependence on a combination of services comprising GPs who cover adjacent towns on a sessional basis, small nurse-led multipurpose services (MPSs) that pool health and aged care resources, occasional visits by specialists, telehealth links with regional centres, and travel to regional centres for serious conditions, with medical retrieval by air or road if necessary.

The main challenge for rural health care today is to provide accessible, high-quality services for communities that are dispersed in small towns and remote, isolated locations, often over large distances. A range of new service models have been developed in response to the shortage of on-site primary care capacity in small towns. Although the new service models are intended to be integrated as networks, they are operationally fragmented across funding and organisational lines, as they are funded by and report to various entities such as the Australian Government, state and territory governments, and numerous non-government agencies, and no overall management structure exists.

3.1 Models of care in regional, rural and remote towns

The models of care are different for regional centres, medium sized towns and smaller rural towns.

Health services in regional centres

Regional hospitals and community-based services in regional centres now provide many aspects of care at a similar level to major teaching hospitals. They provide high-quality care to people living in regional centres and surrounding towns, and they serve as referral centres for communities in more outlying areas. They reduce the need for residents of regional centres and more remote locations to travel to major cities for specialist health care.

Health services in regional centres have expanded over the last 30 years as their populations have grown, advances in medical technology have become available, communications have improved, and community expectations have risen. The numbers of specialists and the range of specialties represented have also increased. Several factors are likely to explain this, including an oversupply of some specialties in major cities, the relative ease of maintaining professional contact with city institutions and colleagues, the lower cost of housing in regional centres, and lifestyle benefits such as the proximity of rural environments. For those in the private sector, the potential for rapid development of a viable practice is appealing, and the cost of professional premises is lower than in major cities. The growth of regional centres has reduced the lifestyle disadvantages of country life by making goods, services and facilities such as schools more available.

However, while there has been a migration of specialists to the country, especially those who have recently completed specialist training, shortages still exist, and some specialties in particular are in short supply. The numbers of GPs have also increased, as discussed in section 4, but there are numerous anecdotal accounts of long waiting times for both GP and specialist appointments, and of general practices that have closed their books to new patients.

Many hospitals in regional centres that were previously known as ‘base hospitals’ have been redeveloped and upgraded to become ‘rural referral hospitals’. They have increasingly attracted medical specialists and allied health professionals, and many clinical services are now delivered by multidisciplinary teams. Their facilities variously include comprehensive cancer centres, interventional cardiology units, stroke units and advanced imaging technology. In many instances the clinical services that they can provide are indistinguishable from those in major metropolitan teaching hospitals. Examples can be seen in Dubbo, Wagga Wagga and Tamworth.

For communities in and around the regional centres, the local availability of advanced clinical services obviates the need for patients to travel to the major cities in NSW and the ACT for all but the most

specialised services. The size and scope of rural referral hospitals, their patient throughput and the numbers of their staff (and their qualifications and expertise) enable them to meet safety and quality standards across the range of services that they offer.

The regional centres also provide various forms of networked support for the smaller and medium-sized towns. For example, an oncologist in Dubbo regularly conducts clinics in Mudgee (population 12,400), 128 km away by road. Using virtual care facilities, a GP or nurse in the MPS emergency unit in Bourke (population 1,820) can seek advice from an emergency medicine specialist in Dubbo who is rostered to be available for online consultations 24 hours a day, seven days a week.

In some instances, metropolitan specialists also run clinics in regional centres, particularly in fields that are absent or in short supply in regional centres, such as rheumatology, neurology and orthopaedic surgery. Some of these arrangements are longstanding.

The numbers of GPs in regional centres have increased substantially over the last three decades. As outlined in section 4, the numbers of GPs per head of population in regional centres is similar to that in metropolitan areas.

Health services in medium-sized towns

Health services in medium-sized towns have increased as populations have grown and have modernised as medical advances have become available, but the overall organisation of services has changed less than that in regional centres and in smaller, more outlying towns.

In medium-sized towns the great majority of medical services are provided by GPs, some of whom are GP-obstetricians and GP-anaesthetists. Medium-sized towns may also support one or a few specialists, such as a general physician, as well as allied health professionals. Hospitals in medium-sized towns have retained limited procedural capacity, including low-risk obstetrics, as well as outpatient oncology services and renal dialysis, overseen by visiting specialists. Like the smaller towns, they have become networked with regional centres. Examples can be seen in Kempsey, Mudgee and Cooma.

People living in and around many medium-sized towns also have the benefits of greater proximity to the emerging tertiary-level services in regional centres. For instance, the community of the Kempsey Shire (population 29,900) has access to high-level clinical services in Port Macquarie, 40 km from the town of Kempsey. In the past, people would have had to travel more than 280 km by road to Newcastle for most specialist care.

Health services for small towns and remote communities

In many smaller and more remote towns the range of on-site services provided by GPs has decreased and hospitals have closed or have been replaced by multipurpose services. Care is provided by networks involving local and visiting GPs, multipurpose services, telehealth and virtual care, and retrieval services.

Smaller, more remote towns – those with populations less than 5,000 and/or distant from major centres – have struggled to maintain the types of on-site services provided in the past by country GPs. In response, a variety of new primary care models have emerged, networked with clinical services in regional centres. Their goal is to provide safe, high-quality clinical services for people living in areas where distance often presents a formidable challenge. Clinical services in small towns are supplemented by external services, including visiting health professionals, highly organised retrieval services (aerial and road-based), and virtual care facilities. Examples of such towns are Bourke, Walgett and Hillston.

In many small NSW towns, resources for general health care have been pooled with those for aged care to create multipurpose services (MPSs). The intent of the MPS program is to provide integrated health and aged-care services to regional, rural and remote communities that are too small to support an aged care facility and a hospital.[28] They are typically located in rural towns with populations in the range of 1,000 to 4,000 people. Since the inception of the MPS program as a collaboration between the Australian Government and state and territory governments in 1993, some 65 rural hospitals in NSW have been replaced by MPSs, making up more than half of all rural hospitals. Evaluations of the MPS program have focused on aged care rather than acute health services.[29,30] MPSs are thus a key health service model within small towns. They are planned with input from local community members and the scope of services that they offer varies according to local needs.

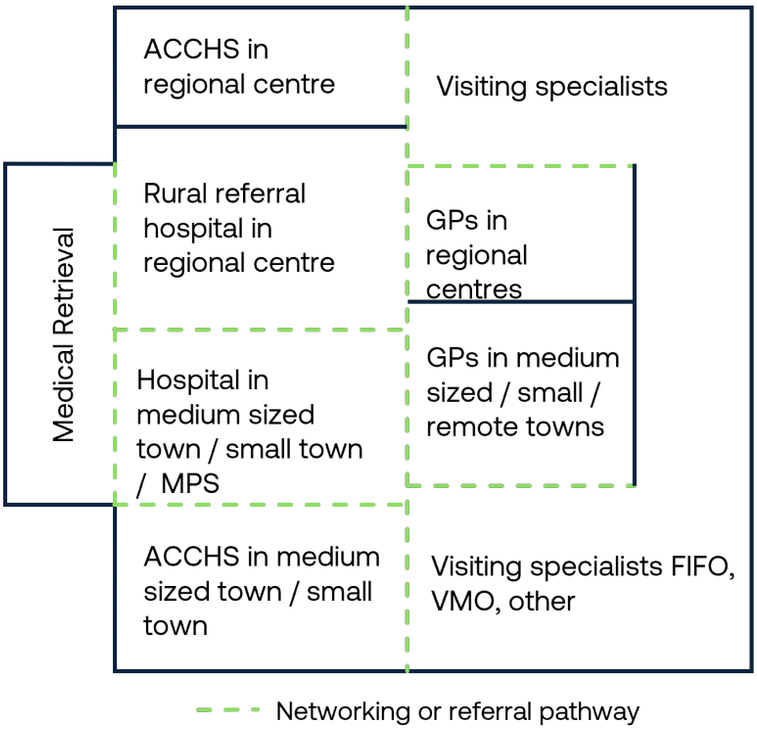
3.2 Mosaics of clinical services for regional, rural and remote communities

Health care across rural NSW is provided via a mosaic of networked clinical services that vary between areas. The component services are funded from different sources and have different lines of management, and as a consequence service delivery is often fragmented.

Clinical care in country NSW is delivered via a range of hospital, community-based and external services that relate to each other in different ways to form networks. The services comprise rural referral hospitals, hospitals and MPSs in smaller towns, Aboriginal community-controlled health services (ACCHSs), GPs, specialists in private practice, community-based specialist nursing and allied health professionals, and ambulance and medical retrieval services, plus telehealth and virtual care services. Collectively the services that relate to each regional centre form a mosaic, as shown in Figure 2.

The configuration of services and the ways in which they relate to each other vary, depending on local needs, resources, demography, and geography. To function effectively, the services need to be integrated, and this relies on networking among them. The critical points of interaction are shown by dotted lines in Figure 2.

Figure 2: Relationships among regional, rural and remote clinical service and workforce models



In this mosaic, different funding sources support each component, so no clear line of management exists, and seamless care is difficult to achieve. Regional hospitals are funded by NSW Health; GPs by private fee-for-service arrangements subsidised by Medicare; MPSs jointly by the Australian Government and NSW Health; ACCHSs jointly also by the Australian Government and NSW Health, plus fee-for-service via Medicare; telehealth either by NSW Health (in hospitals and MPSs) or by fee-for-service via Medicare (if private providers are involved).

In its totality, the mosaic of services has the potential to deliver excellent care in regional rural and remote areas, bringing high-quality specialist care and on-site local services, but in practice the complexity and tendency towards fragmentation mean that it will work better in some places and at some times than others. The multiplicity of agencies involved inevitably militates against coordination, and no single agency or level of government has overall control. Although the services operate within

the regions of the state, neither the NSW Government nor the leadership of the Local Health Districts can exert the authority needed to provide overall management or integration of each local mosaic of health care.

From a community perspective, care has moved from reliance on the accessible country doctor who provided community and local hospital care, to an interactive model that involves many service providers. While the individual services may meet standards of safety and quality at levels unattainable in the less structured models of the past, the frequent absence of on-site health professionals competent to deal with a wide range of acute and chronic conditions is viewed by rural communities as unsatisfactory. Communities perceive the fragmentation of services and may often be unable to identify the arrangements that are intended to integrate them.

4 Workforce impact and requirements

Medical and societal drivers and the changed models of service delivery have had a significant influence on workforce requirements. Seven workforce issues are of particular importance: access to primary care in small and remote communities; the potential of rural generalists; the role of international medical graduates; managing the need for doctors in small and medium-sized hospitals; the availability of medical specialists; education and training for the rural health workforce; and providing seamless care.

4.1 Access to primary care in small rural towns and remote areas

Over the past 30 years most rural and remote areas have seen an increase in the numbers of GPs per head of population. However, the ratio of GPs to the population is lower in rural than urban areas, despite the complexities of providing care in remote and small rural communities. Rural communities report significant difficulties with the accessibility of high-quality primary care.

Primary care is and always has been the backbone of rural and remote health services in NSW and in the rest of Australia. High-quality primary care requires sufficient numbers of doctors and nurses to live and work in rural locations from which they can provide coverage for remote communities and communities in small towns. It depends on well-trained health professionals who are competent and confident, understand the communities that they serve, and are committed for the long term. They need to be assured of a satisfactory income, reasonable working hours, and employment arrangements that enable them to spend time in regional centres or cities for continuing professional development and take leave.

There is no overall 'correct' ratio to define the size of the community that a GP can cover, and hence to determine the absolute numbers of GPs needed. The figure of 100–120 GPs per 100,000 population is sometimes given as a rough guide, but the ratio is inevitably affected by numerous local circumstances including the distances over which communities are spread, the distances from regional centres, the number of towns in which a GP service runs clinics, the demographic profile of the community (particularly the age distribution), and individual GPs' scope of practice. The move towards larger group practices and corporate general practices that support group practices in different locations potentially bring economies of scale, flexibility and responsiveness to the enterprise.

While the number of GPs in rural and remote areas per 100,000 population rose between 2014 and 2019, the ratio remains significantly less than that in urban areas and helps to illustrate the extent of the rural doctor deficiency (Table 2).

Table 2: NSW general practitioner workforce by remoteness, 2014 and 2019

Location	Number of GP full-time equivalents per 100,000 population	
	2014	2019
Major cities	115.6	124.0
Inner regional	108.3	117.0
Outer regional	82.7	86.8
Remote and very remote	83.8	88.3
Statewide (total)	112.2	120.7

Source: AIHW National Health Workforce dataset, accessed June 2021

Similarly, as Table 3 shows, the absolute numbers of full-time equivalent (FTE) GPs have increased markedly over most rural Local Government Areas over the last three decades. Table 3 also demonstrates the significant variation between towns in the access to GPs.

Table 3: Numbers of FTE general practitioners in selected NSW rural Local Government Areas, 1991–2019

Local Health District	Local Government Area	Numbers of general practitioners – full-time equivalents			
		1991	2000	2010	2019
Western NSW	Bourke	6.8	13.7	15.1	9.6
	Cobar	0	5.26	5.26	4.21
	Western Plains Regional	21.7	28.7	52.0	68.3
Far West	Balranald	1.1	3.2	3.2	2.1
	Broken Hill	10.5	17.2	24.0	39.7
	Wentworth	0	1.0	3.2	4.8
Hunter New England	Dungog	6.8	7.8	6.8	9.7
	Gwydir	1.7	1.7	4.2	7.5
	Tamworth Regional	21.1	38.4	43.7	52.0
Northern NSW	Ballina	13.5	28.2	42.4	56.5
	Kyogle	2.5	4.9	4.9	6.7
	Lismore	18.7	37.4	38.1	38.9
Mid North Coast	Bellingen	5.1	11.7	14.6	22.7
	Kempsey	14.2	27.6	33.4	39.3
	Pt Macquarie/ Hastings	31.8	53.2	76.1	126.0
Southern NSW	Goulburn-Mulwaree	5.7	14.4	20.8	33.7
	Snowy Mountains Regional	6.7	17.5	24.2	24.2

Local Health District	Local Government Area	Numbers of general practitioners – full-time equivalents			
		1991	2000	2010	2019
	Upper Lachlan	7.4	9.5	11.6	10.5
Murrumbidgee	Carrathool	0	1.3	1.3	1.3
	Hay	2.1	5.3	3.2	4.3
	Wagga Wagga	27.2	39.9	67.9	80.6

Source: Data supplied by the NSW Rural Doctors Network, July 2021.
Note: Some LGAs merged during the period. Table 4 refers to current LGAs and incorporates the areas that merged.

As shown in Table 4, when the data are broken down by remoteness, there is again an increase in the number of FTEs at each level.

Table 4: Total numbers of full-time equivalent general practitioners by remoteness, 1991–2019

Modified Monash Model (MMM) level	Total number of GPs – full-time equivalents		
	1991	2000	2019
3 – Large rural towns	315	522	962
4 – Medium rural towns	182	326	552
5 – Small rural towns	221	346	560
6 – Remote communities	7.8	22.4	34.1
7 – Very remote communities	16.4	26.0	17.8

Source: Data supplied by the NSW Rural Doctors Network, July 2021

People in small towns and remote communities continue to report an absence of on-site doctors for urgent health problems and the need to travel for medical attention. As noted in section 3.1, anecdotal reports from people in medium-sized towns also draw attention to very long waiting times to see a GP and inability of some new residents to see a local GP at all because the GPs in the town have ‘closed their books’ to new patients.

Several factors may contribute to the apparent discrepancy between the rising numbers of GPs and the lived experience of communities in many small towns and remote areas. As data are lacking (they

are only available in aggregated form as above), the following comments are speculative. First, anecdotally, GPs prefer to be based in towns of sufficient size to provide them with at least some of their professional needs, rather than in the isolated settings of a small, remote town; there is some evidence for this in Table 4 which suggests a significant increase in medium-sized rural towns relatively to smaller towns and communities. The advantages of group practices will be more readily supported by medium-sized towns than smaller locations. While such practices might provide sessional outreach services, smaller locations may not have a GP based on-site and their communities may not experience continuity of care.

Second, information from the RDN suggests that at least two contemporary GPs are needed to cover the workload of the country GP of yesteryear. The RDN attributes this to GPs being unwilling to work long hours with disrupted home life and to the significant amount of travel time required of GPs who practise across multiple sites.

Regardless, it is evident that recruitment and retention of sufficient GPs to provide quality care that is satisfactory to smaller rural communities remains an ongoing challenge. There is a continuing demand for GP services, and therefore it has been argued that the shortage of GPs in rural areas indicates a degree of market failure, as the private fee-for-service market has failed to respond to demand by providing sufficient suppliers (GPs) to meet the evident need. It has been suggested that alternative funding models to fee-for-service may be required in rural areas.

The future of rural primary care, which is discussed in the third paper in this series, points to an increasing involvement and recognition of nurse practitioners and other advanced nurses who can practise independently in isolated settings, supported by telehealth, virtual care and medical retrieval.[31] The nursing profession already plays a vital role in delivering remote health care, and it is often under-recognised. Anecdotal evidence suggests that nurses with advanced clinical skills are more willing to live and work in places that do not attract doctors, but data on attrition suggests that the turnover of nurses working in isolated locations is high.[32]

4.2 The potential of rural generalists

Rural generalists have the potential to improve rural health care but this model is still developing.

The rural generalist has become a major theme in rural primary care workforce planning in Australia[33] and elsewhere.[34] A rural generalist is a medical graduate who has a Fellowship of the RACGP or ACRRM and advanced training in emergency medicine and at least one other field that is important for rural practice, such as obstetrics, anaesthetics, paediatrics, or psychiatry. Trainee rural generalists spend at least one extra year of their training acquiring these advanced skills through hospital placements. Rural generalists have a broader scope of practice than GPs, as denoted by their

advanced training, and it is likely that they will fill some of the gaps in health service capacity that have been exposed by the changes of the last 30 years.

Substantial Australian Government and state government investment has been made in training programs, in conjunction with the RACGP and particularly the ACRRM.[35] This is discussed further in section 4.6 below. Ideally, local workforce needs for rural generalists with particular advanced skills should dovetail with the skills and interests of the locally available rural generalist workforce.

While it is evident that rural generalists represent a promising approach to enhancing the workforce in rural communities, it is still a developing model. Further definition of workforce requirements is needed, along with mechanisms to ensure that they can maintain competency across their scope of practice. The personal and professional needs of a rural generalist are analogous to those of other practitioners – reasonable working hours, acceptable remuneration, opportunities to maintain competence in their advanced practice fields as well as their broader general practice competence, and arrangements for leave.

The extent to which rural generalists improve care in the more remote and smaller communities remains to be understood; funding models that go beyond fee-for-service arrangements should also be explored. The roles of rural generalists and their place in rural health networks vary among Australian states and internationally. The second paper in this series will, *inter alia*, examine this variation, and the third paper will formulate options pertinent for NSW.

4.3 The role of international medical graduates

International medical graduates play a key role in rural primary care but contribute to the higher turnover of rural doctors.

International medigal graduates (IMGs) play a key role in rural primary care.[36] Estimates of the proportion of rural GPs who are IMGs vary from 45% to 60%. Most IMGs are undertaking a period of rural practice as part of the 10-year moratorium arrangements for Medicare access, rather than because of rural career aspirations.[37] Their contribution is essential to the viability of the current GP workforce models.

While some IMGs have the necessary expertise for rural practice and decide to stay, many do not. Australian graduates who aspire to rural careers are more likely to have obtained specific training for the acute health problems that are managed in rural hospitals.[38] The reliance on international medical graduates results in a higher turnover of rural doctors.

4.4 Managing the need for doctors in small and medium-sized hospitals

Ensuring medical staff capacity for rural hospitals and remains a challenge. Supplementary arrangements, such as locums, continue to be necessary to sustain rural hospital services.

In medium-sized towns, GPs often have a role in the local public hospital, as noted in section 3.1. They are usually appointed as visiting medical officers (VMOs) and may be remunerated on a sessional or per-patient basis. They may work in the emergency department, provide obstetric care with the hospital midwives, or take responsibility for inpatients, according to their qualifications, skills, experience and interests. VMOs may also admit their own patients.

Small towns also often depend on the local GP or GPs to provide VMO services for the local hospital or MPS, particularly emergency services. VMO payments can play a key role in maintaining the viability of general practices in small towns. However, the capacity and interest of GPs to provide VMO services is variable. Some GPs, including some IMGs, do not have the skills and expertise to provide emergency services or the types of medical care that hospital inpatients require.

In order to ensure medical coverage for small towns that have difficulty recruiting and retaining GPs, some Local Health Districts have contracted with corporate practices to supply on-call services for MPSs and small hospitals. Corporate practices can have the capacity to draw on the larger numbers of GPs that they engage in their multiple practice, thereby filling the local gap and fulfilling contractual obligations if there is attrition of GPs.

In regional centres and medium-sized towns, hospitals often employ non-specialist doctors, known as career medical officers, to supplement or support interns and resident medical officers, many of whom are seconded to regional centres and rural hospitals from metropolitan teaching hospitals. Regional and rural hospitals also often employ locum doctors when they are unable to fill rosters because of staff leave or resignations. This is a costly short-term solution to an ongoing or repeated problem, as locum pay rates are high and Local Health Districts are obliged to pay for their transport and accommodation. It is also unsatisfactory from the perspective of workforce development; while many locums are competent and experienced practitioners, their short-term engagement in a health service militates against review, training, and the attainment of consistent health service quality.

4.5 Sustaining the specialist workforce

The number of specialists in regional centres has increased, and specialists have also continued their long-standing visiting arrangements to many smaller rural locations.

One of the consequences of the growth of scientific medicine and advances in health technology has been an increasing reliance on specialisation and super-specialists. As regional centres expand, Local Health Districts recruit a mixture of staff specialists and VMO specialists, and gradually work towards building a sufficient specialist workforce to meet population needs. A stable local specialist workforce relies on a sufficient volume of patients to maintain viability, and also on a sufficient number of specialists to provide 24-hour, seven-day cover without burnout. For specialties where the volume of emergency presentations is likely to be high, such as orthopaedic surgery, gastroenterology and cardiology, the presence of only a single on-call specialist is undesirable.

Several models of medical specialist service delivery have evolved to provide for residents of regional, rural and remote NSW. They may either be staff specialists employed by a Local Health District, or VMOs working on a fee-for-service basis, or a combination. Many specialists have visiting arrangements in regional, rural and remote sites, including ACCHSs, either on a short fly-in, fly out basis, or for longer periods.

4.6 Education and training for the rural health workforce

The Australian Government, in collaboration with states, territories, local health authorities and professional bodies, has made extensive investments in the training of doctors for rural service. The numbers of medical students have greatly increased throughout Australia over the last 20 years, and 25% of domestic students are of rural origin.

The expanding numbers of specialists provide a mechanism for supporting the training of medical students and junior doctors working in regional centres and other rural hospitals, and also the training and updating of rural generalists. The Australian Government, with cooperation from state and territory governments, has invested substantially in rural health professional education (especially medical education) over the last 25 years. This investment has been made through several funding programs, which since 2016 have been consolidated into the Rural Health Multidisciplinary Training

(RHMT) Program, managed by the Department of Health. Funds have been allocated to establish university departments of rural health, which provide rural placements throughout Australia for students in medicine, nursing, and allied health, and rural clinical schools, and which provide clinical placements for medical students. Since 2018, the RHMT Program has funded the establishment of a number of full-length medical programs in NSW and Victoria, with student intakes commencing in 2021 and 2022. The investment is based on consistent evidence that students who experience rural environments are more likely to pursue rural careers, as are students of rural origin.[39] Students contribute to rural and remote health care by participating in health professional teams under appropriate supervision, an approach known as 'service-led learning'.

The expansion of support for rural medical student placements has parallelled a large growth in the numbers of medical students – and graduates – throughout Australia. This has been achieved both by the establishment of new medical schools and increases in student enrolments. Reports from Medical Deans Australia and New Zealand indicate that, between 2008 and 2018, the total number of medical students in Australia increased by 28%. In 2018, 3,822 styudents began studying medicine – approximately double the number in 2002. Of these, 83% were domestic and 17% were international.[40] Universities participating in the RHMT Program are required to ensure that at least 25% of commencing domestic students have a rural origin. The observation that students of rural origin are more likely to pursue rural careers[39], coupled with the increased student numbers overall, suggests that the number of graduates who might take up country practice will grow in coming years. Approximately one-quarter of commencing medical students are bonded to serve for a limited time in an 'area of need' after they graduate, but these include peripheral urban locations as well as rural sites.

At the postgraduate level, it is now commonplace for rural group general practices and ACCHSs to provide placements for GP registrars, who significantly supplement the rural GP workforce and account for some of the growth in GP numbers shown in Tables 3 and 4. In addition, since 2017 the RHMT Program has provided funding for Regional Training Hubs which support the training of rural specialists and generalists in regional centres, in collaboration with the professional colleges and Local Health Districts. The Australian Government is planning to expand this model to rural allied health professional training.

An evaluation of the RHMT Program has indicated positive trends[41], summarising its effects as follows:

> This evaluation found that overall, the RHMT program has been an appropriate response and important contributor to addressing rural workforce shortage. After two decades it is a strong foundation for rural health workforce training and research in rural, remote and regional areas which is now considered routine... The evaluation found strong evidence of the positive impact of longer-term rural medical placements on rural workforce outcome. This is supported by the available literature that demonstrates after controlling for rural background, students who are RCS [rural clinical school] participants are significantly more likely to take up rural practice; and those exposed to clinical training in both general practice and rural hospital settings were associated with subsequent practice in smaller regional and rural centres.

4.7 Providing seamless care

There remain challenges in coordinating the diverse rural workforce to provide seamless care for rural communities.

As described above. the workforce and service models introduced to develop and sustain rural health care capacity form a complex mosaic, the elements of which also interact in complex ways. In each area, the aim is to use the available resources of expertise and technology to maximum effect. Collectively, the capacity of clinical services to provide continuity of care for patients depends on networking and communication technology, and on overcoming the inevitable fragmentation due to disparate funding and organisational mechanisms.

As with the service delivery models, there are many different and evolving approaches to workforce. While primary care forms the core of rural health services, evidence suggests that current models are not meeting the needs of rural communities; fee-for-service models may not be the most effective approach to providing seamless primary care and efforts to attract and retain more rural general practitioners continue to be needed. The increasing diversity of different kinds of health practitioners (including rural generalists and nurse practitioners) has the potential to improve services in rural areas. However, it will be critical to ensure that the workforce is organised to provide seamless care that puts patients at the heart of delivery models.

The second and third papers in this series examine how the components of networked services are implemented in other health systems, and proposes options to ensure their stability and effectiveness in NSW.

Appendix 1 – Timeline of initiatives impacting rural health services

Legend:

Safety and quality | *Government/ legal* | *Professional association*

Tertiary education | *Professional indemnity*

Date	Jurisdiction or agency	Initiative
1973	Aus Govt / RACGP	RACGP establishes Family Medicine Program (FMP) for GP training with $1.1m funding from Australian Govt.
1982	Aus Govt / RACGP	Australian Govt-instigated review of FMP recommends improvements and changes to the program. A Certificate of Satisfactory Completion of Training is added as a formal end point.
1985	WA Govt	WA Govt commissions a review (the 'Kamien Report') to identify factors affecting the recruitment and retention of rural doctors.
1986	NSW	Health services in NSW delivered through 17 Area Health Services with separate governance.
May 1987	Aus Govt	May Budget includes several announcements that adversely affect rural GPs, effective from 1 Aug 1987. These include removal of after-hours loading for all GP consultations, removal of payment for administering IV fluids and reducing payment for ECG reading.
1987	Aus Govt	NSW Rural Doctors' Dispute triggered by changes to Medicare Benefits Schedule, including the removal of the after-hours loading. The dispute led to the resignation of almost all rural GPs from more than half of rural hospitals across NSW.
1987	RDA NSW	Rural Doctors Association formed in NSW – the first RDA in Australia
1988	NSW	Foundation of what was to become the NSW Rural Doctors Network, offering practical assistance and advice to GPs and rural communities including for recruitment and retention.

Date	Jurisdiction or agency	Initiative
1 August 1988	NSW	Resolution of the NSW Rural Doctors' Dispute with the introduction of a new fee structure known as the NSW Rural Doctors Association Settlement Package (RDASP). The RDASP became the national benchmark for rural and remote GPs and has been credited in the literature as a successful measure in reducing migration to cities of experienced country doctors.
23 March 1989	Qld	Qld Industrial Relations Commission grants a number of additions to the industrial award between Queensland Health and Medical Superintendents with Right of Private Practice (MSRPP), including recreation, study leave and locum cover provisions. The development contributes to the formation of the Rural Doctors Association of Queensland (RDAQ).
1989	WA	Funding of $2m granted to Uni of Western Australia to establish the Western Australian Centre for Remote and Rural Medicine (WACRRM), which was set up the following year. WACRRM's role was to assist in the recruitment and retention of rural GPs and as a point of focus for rural general practice in WA, and became a template for rural GP support and collaboration nationally.
1989-1995	Aus Govt	Introduction of Vocational Register for GPs, recognising general practice as a distinct professional discipline, with existing GPs initially able to apply for grandfathering subject to minimal criteria.
August 1990	Aus Govt	Establishment of the Rural Health Support Education and Training (RHSET) program to enhance rural communities' access to effective health services.
1990	State and Aus Govts	First rural health training unit (Cunningham Centre, Toowoomba Qld) is created in response to rural health workforce shortage.
October 1990	RACGP	RACGP Convocation (an advisory body to the College governing Council) votes in favour of creating a National Rural Faculty of the College.
January 1991	Monash Uni	Monash Uni School of Rural Health is formed in Moe, Victoria.
14–16 February 1991	RDAQ/National	First National Rural Health Conference is held in Toowoomba, Queensland.
1991	RDAA	Rural Doctors Association of Australia (RDAA) is incorporated.
26 April 1991	RACGP	RACGP Council votes to form a national Faculty of Rural Medicine.
May 1992	Aus Govt	Federal Budget 1992–93 announces funding to establish Divisions of General Practice; development of standards for general practice; and $15.2 million annually from 1993–94

Date	Jurisdiction or agency	Initiative
		onwards (indexed) for a GP Rural Incentives Program with the following five elements: • Relocation incentive grants worth ~$20,000 each • Training grants of up to $50,000 each to enable GPs to upskill as necessary • Remote area grants of ~$50,000 each for recruitment and retention of GPs in very remote or isolated areas • Undergraduate rural support grants to increase medical students' exposure to rural practice and gain skills • Rural continuing medical education (CME) and locum support grants.
1992	RACGP	Rural Training Stream created within FMP to recognise the distinct characteristics and need of rural general practice, especially the requirement for procedural skills.
October 1992	Cochrane Centre	The Cochrane Centre opens in Oxford, UK. The Centre is an organised attempt to disseminate and implement the ideas espoused in Archie Cochrane's 1972 book *Effectiveness and Efficiency: random reflections on health services*, which argued for the importance of randomised controlled trials in assessing the evidence behind new treatments.
1993	Aus Govt	Introduction of Rural Undergraduate Support and Coordination Program (RUSC) which (with the subsequent Rural Clinical School and Rural Clinical Training and Support programs) require that: • 25% of federally funded medical school intakes be students from rural backgrounds • Students undertake a four-week rural placement • At least 12 months of students' clinical training takes place in a rural area.
1993	RACGP	The FMP is renamed the RACGP Training Program
1993	All jurisdictions	Introduction of MPS model nationally.
October 1993	Cochrane Collaboration	The Cochrane Collaboration is launched at the first Cochrane Colloquium in Oxford, UK, a watershed moment in the global movement for evidence-based medicine (EBM).
2 December 1993	NSW	*Health Care Complaints Act 1993* (NSW) receives vice-regal assent. The Act establishes the NSW Health Care Complaints Commission.
February 1994	Cochrane Collaboration	The Australasian Cochrane Centre is established at Flinders University in South Australia.
1 July 1994	NSW	NSW Health Care Complaints Commission commences operations.

Date	Jurisdiction or agency	Initiative
August 1994	Qld	In response to a case brought by the State Public Services Federation of Queensland (SPSFQ), seeking increased payment for doctors working under the Queensland State Medical Specialist and Medical Officers' Award, the Qld Industrial Relations Commission hands down an in-principle judgement that states doctors holding a Fellowship in rural medicine – as and when such a qualification is created and recognised by the RACGP – should be "rewarded by increasing their award to two increments above that of an FRACGP". This fuels both the push for a rural fellowship from rural doctors (particularly those from Queensland) within the RACGP, and, when the existence of this conditional finding becomes known among the RACGP Council members in 1996, further resistance to it.
October 1994	Cochrane Collaboration	First public demonstration of the Cochrane Database of Systematic Reviews
3 December 1994	RACGP	RACGP Council resolves to award a Graduate Diploma in Rural General Practice to doctors who complete the rural training scheme, rather than a separate Fellowship in Rural Medicine, on the grounds that a Fellowship risks undermining the primacy of the FRACGP and creating a cadre of 'super-GPs'. The decision further alienates rural GPs and Rural Faculty Members.
1994/95	Aus Govt	The Better Practice Program (BPP) is introduced to provide supplemental income to accredited Australian general practices and an incentive for practices to seek accreditation.
1994	AHMC	Aus Health Ministers' Conference endorses the first National Rural Health Strategy.
22–23 July 1995	RACGP	RACGP Faculty of Rural Medicine presents College Council with four non-negotiable demands to forestall a split, being: • Establishment of a Faculty of Rural Medicine (rather than a rural faculty of the RACGP) • Replacement of the Graduate Diploma with Fellowship in Rural Medicine • The College's Faculty of Rural Medicine to have oversight of Fellowship curriculum and examinations • Establishment of a separate four-year rural training program, rather than a supplementary year to College training scheme.
April 1996	Cochrane Collaboration	The Cochrane Library, including the Cochrane Database of Systematic Reviews, becomes available worldwide as a quarterly publication on CD-ROM.
August 1996	RACGP	The RACGP Council rejects the Faculty of Rural Medicine's demands.

Date	Jurisdiction or agency	Initiative
1996	Aus Govt / tertiary education sector	Announcement of seven Uni departments of rural health, a key component of incoming Coalition Govt's rural workforce strategy.
1996	Aus Govt	Announcement of John Flynn Scholarships for GP students to allow rural placement during vacation. The program comes into effect in 1997.
1996	Aus Govt	Vocational registration (obtained either through grandfathering, or successful completion of RACGP Training Program) is made a condition of eligibility for higher VR Medicare rebates. Places in the RACGP Training Program are limited to 400 per year, with provider numbers restricted accordingly.
May 1996	RDAA	RDAA releases results of a plebiscite of rural doctors testing their views on rural training and representation. Two-thirds (1000/1500) of rural GPs say they are unhappy with rural training standards and with RACGP representation, creating the opportunity to form ACRRM. RACGP President Dr Col Owen and RACGP Rural Faculty representative Dr Bruce Chater announce they are foundation members of ACRRM.
July 1996	RACGP	RACGP publishes first edition of the *Entry Standards for General Practice*, used as the criteria for awarding general practice accreditation.
September 1996	Cochrane Collaboration	The Cochrane Database of Systematic Reviews becomes globally available for download via the internet.
1996	RACGP	The criteria for the Graduate Diploma in Rural General Practice and the Rural Fellowship are finalised.
January 1997	ACRRM	Formal establishment of Australian College of Rural and Remote Medicine (ACRRM), which publishes its first curriculum in 1998. The split that led to ACRRM's creation is described by Kamian as 'the biggest calamity to befall the RACGP since its inception in 1958'.
February 1997	RACGP	First Graduate Diploma in Rural General Practice is awarded by the RACGP Council.
March 1997	COAG	National Expert Advisory Group on Safety and Quality in Australian Health Care is established to provide practical advice to health ministers on further steps to improve the safety and quality of health care services.
May 1997	RACGP/ ACRRM	RACGP recognises ACRRM as having expertise in rural medicine and establishes a consultative structure, but mistrust and poor relations continue for at least another three years.
May 1997	Aus Govt	The 1997–98 Federal Budget allocates $17.4m over four years to establish National Rural and Remote Health Support Program to:

Date	Jurisdiction or agency	Initiative
		• Commission a range of projects focusing on best practice models of care in rural and remote areas • Develop a national rural and remote health research agenda, in consultation with states and territories and other stakeholders • Consult with specialist medical colleges regarding selection of trainees and accreditation of training positions • Negotiate with states and territories on funding arrangements for additional training places in areas of need.
1997	Aus Govt	Federal Health Minister Michael Wooldridge establishes the General Practice Strategy Review group to review the 1992 strategy (*The Future of General Practice: A Strategy for the Nineties and Beyond*).
1997	Aus Govt	Australian Divisions of General Practice (ADGP) established
1997	Aus Govt/ tertiary education sector	First University Departments of Rural Health are established in Broken Hill and Mount Isa.
19 December 1997	NSW	*Health Services Act 1997* (NSW) receives Assent, consolidating previous legislation from 1929 and 1986 and including several new provisions. The Act defines Visiting Medical Officers as independent contractors requiring their own personal accident and public liability insurance arrangements.
1998	Aus Govt	Development of Rural Workforce Agencies in each state and territory to address rural GP shortfall and provide support and training for existing rural GPs.
1998	Aus Govt	General Practice Partnership Advisory Council (GPPAC) is established.
18 June 1998	UK Govt	The UK Health Secretary announces to the UK Parliament the establishment of the Bristol Royal Infirmary Inquiry to investigate concerns over standards of care and suspected excess mortality in the hospital's paediatric coronary surgery unit. The Inquiry's report is provided to the UK Government in July 2001.
February 1999	RACGP/ ACRRM	RACGP and ACRRM establish a Joint Venture Board (JVB) to develop a shared approach to GP training, which is then largely controlled by the RACGP with Australian Government funding.
1999	Aus Govt	Australian Government commissions a 'Rural Health Stocktake' by Dr Jack Best OAM.

Date	Jurisdiction or agency	Initiative
1999	Cochrane Collaboration	The Australasian Cochrane Centre relocates to Melbourne.
July 1999	Aus Govt	Better Practice Program is abolished and replaced by Practice Incentives Program (PIP), including the GP Immunisation Incentives Program. The PIP is restricted to accredited general practices. As well as quality-related payments covering topics such as quality prescribing and clinical care for asthma, diabetes and cervical screening, the PIP also includes several components of particular benefit to rural practices including: • Aboriginal health • After-hours care • Teaching • Tiered payments for procedural skills • A rural loading applied to the total PIP practice payment.
August 1999	Aus Govt, RDAA, AMA, RACGP, ADGP	Aus Govt and four medical bodies sign the GP Memorandum of Understanding (MoU), which provides for guaranteed annual increases in MBS rebates over the life of the agreement, and includes an extra $26.5m over three years for rural initiatives including an extra $12m for rural retention grants.
1999	Aus Govt	Introduction of Rural Retention Program which pays GPs quarterly lump sums based on rurality and activity level, as financial incentivisation for rural medical practice.
1999	Aus Govt	Introduction of Enhanced Primary Care Program which provides annual payment for health care assessment for older people, care planning and multidisciplinary care (and in 2005, payment for referred allied health services) through new EPC MBS items.
1999	Aus Govt	Announcement of a Medical School at James Cook University in Townsville.
January 2000	Aus Govt Min for Health	Australian Council on Safety and Quality in Health Care is established as a time-limited, expert advisory body (term due to end June 2006).
31 January 2000	Preston Crown Court (UK)	British general practitioner Harold Shipman is found guilty at Preston Crown Court of the murder of 15 patients in his care and is sentenced to life imprisonment. A subsequent inquiry chaired by former High Court judge Dame Janet Smith estimates Shipman killed about 250 patients between 1971 and his arrest in 1988. An analysis published in 2003 suggested Shipman could have been apprehended in 1996 had a system of statistical monitoring been in place, as by then 67 excess deaths among his female patients aged over 65 years was apparent. The number of excess deaths grew to 119 by the time of his arrest.

Date	Jurisdiction or agency	Initiative
2000	Aus Govt	Implementation of Rural Australia Medical 2000 Undergraduate Scholarship (RAMUS) scheme to help people from rural areas train in General Practice.
3 May 2000	Aus Govt	Minister Wooldridge informs RACGP and others that arrangements for GP training will move to competitive tender, ending the role of the RACGP as sole provider of GP education. The new arrangements are to be run by General Practice Education and Training (GPET), with the new system to be running by 2002.
May 2000	Aus Govt	Minister Wooldridge announces moves to recruit overseas-trained doctors to fill places in areas of medical workforce shortage.
2000	Aus Govt / USyd	Establishment of first Rural Clinical School at Wagga providing at least one year of rural-based clinical training for 25% of Australian medical students.
2000	JCU	First regional medical school founded by James Cook Uni, Townsville.
2000	Aus Govt / tertiary education sector	Expansion of University Department of Rural Health program to include four additional departments.
May 2000	Aus Govt	More Doctors, Better Services: Federal Budget 2000–01 initiatives for rural health include: • $102.1m over four years to increase GP training places from 400 to 450 per year, 200 of which to be in rural and regional areas • $49.5m over four years to increase the range of allied health services available in rural and regional areas • $48.4m to increase the availability of medical specialist services in rural areas, through outreach incentives, travel costs and mentorship program funding • $10.2m over four years for Divisions of General Practice to enhance their recruitment and retention activities.$162m for doctors to undertake GP training in rural areas, supported by measures allowing 100 extra medical students annually to gain university places in exchange for rural practice; allowing graduates to 'work off' their HECS debt by practising in rural areas; and expanding the RAMUS scheme.
November 2000	National	The market-leading medical indemnity provider, United Medical Protection (UMP), imposes a 'call' on its members, requiring them to pay an entire extra year's subscription. The move disproportionately affects doctors practising anaesthetics and obstetrics, including rural procedural GPs. UMP's membership comprises about 70% of all practising doctors in Australia,

Date	Jurisdiction or agency	Initiative
		including 12,600 GPs nationally. The move triggers the national medical indemnity crisis of 2000–01.
5 March 2001	Aus Govt	Establishment of General Practice Education and Training (GPET) to establish the Australian General Practice Training (AGPT) program as a regionalised training program through 22 Regional Training Providers (RTPs).
5 July 2001	NSW	*Health Care Liability Act 2001* (NSW) receives vice-regal assent. The Act introduces a number of provisions that end the medical indemnity crisis, including: • A requirement for doctors to take out indemnity insurance • A ban on imposition of exemplary or punitive damages • A cap on awards for loss of earnings • A $350,000 cap on damages for non-economic loss, with a requirement that no damages for non-economic loss be awarded unless the case is assessed as at least 15% of “a most extreme case” • Exclusion of awards for interest for non-economic loss, and introduces a sliding scale for damages between 15–33% of a most extreme case.
October 2002	Cochrane Collaboration	The resources of the Cochrane Library become freely available to all Australians with internet access following the Australian Government’s decision to fund a national subscription.
11 February 2003	Medical Board of Queensland	The Medical Board of Queensland approves an application for Dr Jayant Patel, a doctor from the United States, to be granted medical registration for one year so as to take up a position at the Bundaberg Base Hospital, in an area of workforce need, as a Senior Medical Officer in surgery. He is later in 2003 made Director of Surgery at the hospital.
2003	Aus Govt	Objectives of lapsing UDRH program revised to emphasise increasing and improving rural experiences for undergrad health students, research on rural and remote health issues, and innovating in service delivery models.
May 2004	Aus Govt	Rural Health Strategy announced in 2004–05 Federal Budget with key elements: • Bonded Medical Places Scheme • Prevocational General Practice Placement Program.
May 2004	Aus Govt	2004–05 Federal Budget replaces Enhanced Primary Care (EPC) MBS items with Chronic Disease Management (CDM) MBS items (items 721 to 732).
May 2004	Aus Govt	2004–05 Federal Budget allocates $302.4 million over four years to refund the Divisions of General Practice.

Date	Jurisdiction or agency	Initiative
20 August 2004	NSW	Amendment to *Health Services Act 1997* (NSW) establishes NSW Clinical Excellence Commission.
1 January 2005	NSW	Health services in NSW reorganised into eight Area Health Services with departmental governance (reducing from the previous 17 AHSs).
March 2005	Aus Govt	Australian Government requests Productivity Commission to review health workforce issues.
22 March 2005	Queensland	Allegations regarding inadequate care provided at Bundaberg Base Hospital are aired in the Queensland Parliament.
23 May 2005	Queensland Govt	The Bundaberg Hospital Commission of Inquiry (the 'Morris Inquiry') commences hearings in Brisbane.
1 September 2005	Queensland Govt	The Queensland Government disbands the Morris Inquiry following a ruling by the Supreme Court of Queensland that upheld allegations of bias against government health officials.
8 September 2005	Queensland Govt	The Queensland Government establishes the Queensland Public Hospitals Commission of Inquiry (the 'Davies Inquiry').
December 2005	Productivity Commission	Productivity Commission delivers *Australia's Health Workforce* report (released January 2006).
2006	RACGP	RACGP replaces its Diploma in Rural General Practice with a new Fellowship in Advanced Rural General Practice (FARGP).
2006	Monash Uni	Monash Uni establishes Dept of Rural and Indigenous Health.
May 2006	Aus Govt	2006–07 Federal Budget introduces Better Access scheme through Medicare to increase access to psychiatrists and psychologists.
July 2006	COAG	COAG agrees to establish a single national registration scheme for health professionals.
2006	RACGP	RACGP Diploma in Rural General Practice is accredited as a formal tertiary qualification; the RACGP replaces it with a new Fellowship in Advanced Rural General Practice (FARGP).
2006	COAG	Australian Commission on Safety and Quality in Health Care is established, initially for five years.
February 2007	AMC	Australian Medical Council grants initial accreditation to ACRRM "as a standards body and provider of specific training and professional development programs for the specialty of general practice, subject to conditions". This includes accreditation of education and training leading to Fellowship of the ACRRM.

Date	Jurisdiction or agency	Initiative
29 January 2008	NSW Govt	Following ongoing controversy over the quality and safety of health care, including the death of a 16-year-old girl who died in November 2005 after being struck by a golf ball, the NSW Government sets up a Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals (the 'Garling Inquiry').
March 2008	COAG	Prime Minister, Premiers and Chief Ministers sign intergovernmental agreement to establish national registration and accreditation scheme by 1 July 2010.
2008	Aus Govt	Evaluation of the UDRHs and Rural Clinical Schools Program. Recommended maintaining flexibility and innovation of both programs, increased collaboration, consideration of further expansion
May 2008	Aus Govt	2008–09 Federal Budget allocates $181.7m to set up 36 GP Super Clinics in areas of need.
May 2009	Aus Govt	The Rural Health Workforce Strategy is announced in 2009–10 Federal Budget with the following key elements: • GP Rural Incentives Program (commenced 1 July 2010) – combined two previously available retention payments plus a relocation incentive • Scaling initiatives (weighting incentives according to rurality; enabling reduction in 10-year Medicare moratorium for overseas-trained doctors (OTDs) practising in regional, rural and remote areas) • Rural GP Locum program • HECS repayment scheme to fast-track repayments for rural and remote doctors.
2009	Aus Govt	Rural Clinical Schools at the University of Notre Dame Sydney, Deakin University and University of Western Sydney are all approved.
1 September 2009	NSW	Amendment to *Health Services Act 1997* (NSW) establishes NSW Bureau of Health Information (BHI).
11 January 2010	NSW	Amendment to *Health Services Act 1997* (NSW) establishes NSW Agency for Clinical Innovation (ACI).
2010	Aus Govt	Health Workforce Australia is established, with mandate to explore innovations in clinical training.
7 April 2010	Aus Govt	Aus Govt announces eight successful projects for funding under the $560m Regional Cancer Centres program, intended to fund up to 20 such centres nationally.
29 June 2010	Queensland Supreme Court	Dr Jayant Patel is found guilty in the Queensland Supreme Court of the unlawful killing of three patients and causing grievous bodily harm to a fourth, and on 1 July 2010 is jailed

Date	Jurisdiction or agency	Initiative
		for seven years. (In 2012 these convictions are quashed on appeal to the High Court of Australia.)
1 July 2010	COAG	The National Registration and Accreditation Scheme starts in all states and territories except Western Australia. Ten professions are included in the new scheme: chiropractic, dental, medical, nursing and midwifery, optometry, osteopathy, pharmacy, physiotherapy, podiatry, and psychology.
October 2010	WA	The National Registration and Accreditation Scheme starts in Western Australia.
10 Dec 2010	Aus Govt	Launch of MyHospitals website providing hospital-level ED and elective surgery waiting times data for 2009–10, data on outpatient services in 2008–09, and some capacity data such as bed numbers.
2011	COAG	National Strategic Framework for Rural and Remote Health approved by Ministers.
1 January 2011	NSW	NSW replaces its eight Area Health Services with 17 Local Hospital Networks (in alignment with COAG model of National Health and Hospitals Network).
February 2011	COAG	Heads of Agreement – National Health Reform agreed by COAG.
July 2011	Aus Govt	The 108 Divisions of General Practice nationally begin to be replaced by 61 Medicare Locals.
1 July 2011	NSW	Legislation comes into force to reorganise the NSW LHNs as Local Health Districts, responsible for the management and governance of clinical services in their respective areas.
1 July 2011	Aus Govt	Medicare rebates and financial incentives for specialist video consultations are introduced to address barriers to accessing medical services for Australians in remote, regional and outer-metropolitan areas.
August 2011	COAG	National Health Reform Agreement is signed, including: • The national introduction of activity-based funding (ABF) for public hospitals where practicable • A focus on improving performance through establishment of National Health Performance Authority and local-level reporting against various measures including those in the Performance and Accountability Framework.
2012	COAG	The Australian Commission on Safety and Quality in Health Care is established as a permanent portfolio agency of the Australian Government Department of Health, jointly funded by all jurisdictions.

Date	Jurisdiction or agency	Initiative
1 July 2012	National	Four more professions – Aboriginal and Torres Strait Islander health practice, Traditional Chinese Medicine, medical radiation practice and occupational therapy – are included in the National Registration and Accreditation Scheme.
March 2013	Aus Govt	The National Health Performance Authority launches the MyHealthyCommunities website to host local-level performance reports on population health, patient experiences of care and primary health care services, with data broken down at the level of various geographic areas, including Medicare Local (later Primary Health Network) catchment areas, Statistical Areas Level 2 and 3 (SA2s and SA3s), and for some measures, postcodes..
2013	Aus Govt	Mason Review of Australian Government health workforce programs recommends development of rural training pathways especially generalist training.
December 2013	Aus Govt	Australian Government Minister for Health asks former Chief Medical Officer Prof John Horvath to conduct a review of Medicare Locals.
6 Aug 2014	Aus Govt	Health Workforce Australia is abolished and its functions absorbed into the Australian Government Department of Health.
2015	Griffith Uni	Griffith Uni Rural Clinical School is established.
1 July 2015	Aus Govt	The 61 Medicare Locals nationally are abolished and replaced by 31 Primary Health Networks (10 in NSW, 7 in Qld, 6 in Vic, 3 in WA, 2 in SA, and 1 each in Tas, NT and ACT). Govt states key difference is that PHNs commission, not provide, services. Role of PHNs is: • To improve the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes • To improve the coordination of care to ensure patients receive the right care, in the right place, at the right time.
2015	Aus Govt	Rural Health Multidisciplinary Training Program is established to integrate rural workforce strategies administered by universities
2015	Aus Govt	Medical Rural Bonded Scholarship Scheme closes at the end of 2015, with its 100 places transferred to Bonded Medical Places Scheme.
Nov 2015	ACSQHC, NHPA	The Australian Commission on Safety and Quality in Health Care and National Health Performance Authority publish the first *Australian Atlas of Healthcare Variation*, reporting local-level (SA3s and hospitals) results across a range of measures

Date	Jurisdiction or agency	Initiative
2016	Aus Govt / tertiary education sector	Expansion of University Departments of Rural Health within new Rural Health Multidisciplinary Training Program.
2016	Aus Govt	Rural Locum Assistance Program funded under Health Workforce Program (administered by Aspen Medical) – $35.6m to June 2019 to enhance ability of obstetricians, anaesthetists and procedural GPs to take leave for CME/CPD purposes and to assist metro-based GPs to upskill in emergency medicine as preparation for rural locum work.
1 July 2016	Aus Govt	National Health Performance Authority abolished, local-level performance reporting functions transferred to Australian Institute of Health and Welfare.
2016	NSW	ACI develops the 'Living Well in an MPS' Toolkit, including eight principles of care and self-assessment checklist.
13 Apr 2017	Aus Govt	Locations announced for planned 26 regional training hubs, the concept of which was earlier announced under the Integrated Rural Training Pipeline for Medicine (IRTP) and implemented through the Rural Heath Multidisciplinary Training Program.
2017	Aus Govt / tertiary education sector	Three additional UDRHs established in Kimberley, Southern Qld and Three Rivers (NSW).
7 June 2017	ACSQHC and AIHW	ACSQHC and AIHW publish the *Second Australian Atlas of Healthcare Variation*.
June 2017	Health Ministers	Health Ministers endorse *National Safety and Quality Health Service (NSQHS) Standards (second edition).*
2017	Aus Govt	Rural General Practice Program is merged with the Rural Health Professional Program to create the new Rural Workforce Support Activity (RWSA) focusing on access, quality, and sustainability.
2017	Aus Govt	Health Workforce Scholarship Program is established with $33m over three years to June 2020, replacing a number of previous schemes.
September 2017	National	The Australian Health Ministers' Advisory Council endorses the Australian Health Performance Framework as a tool for reporting on the health of Australians and the performance of health care services in Australia. The framework has indicators grouped into four domains: determinants of health, health status, the health system (including effectiveness, safety, appropriateness, continuity, accessibility, efficiency and sustainability of health care), and health system context.
November 2017	ACSQHC	*National Safety and Quality Health Service (NSQHS) Standards (second edition)* publicly released.

Date	Jurisdiction or agency	Initiative
28 November 2017	Ahpra	Medical Board of Australia releases a new Professional Performance Framework for medical practitioners, in response to the final report of the Board's Expert Advisory Group on revalidation. The framework has five key components: • Strengthened continuing professional development (CPD) requirements • Active assurance of safe practice • Strengthened assessment and management of medical practitioners with multiple substantiated complaints • Guidance to support practitioners • Collaborations to foster a culture of medicine that is focused on patient safety, based on respect and encourages doctors to take care of their own health and well-being.
May 2018	Aus Govt	Aus Govt announces *Stronger Rural Health Strategy – Overseas Trained Doctors in areas of doctor shortage* initiative as part of 2018–19 Budget, including a range of incentives, targeted funding and bonding arrangements to increase opportunities for medical training in rural areas and to encourage rural medical practice.
December 2018	National	Paramedics become the 15th professional group to be included within the National Registration and Accreditation Scheme.
10 Dec 2018	ACSQHC and AIHW	ACSQHC and AIHW publish the *Third Australian Atlas of Healthcare Variation*.
2019	Aus Govt	Stronger Rural Health Strategy is launched, and includes changes to bonded medical places, support for nursing workforce, OTDs in areas of workforce shortage, focusing of bulk-billing incentives on rural areas, and the Workforce Incentive Program which is allocated $513.6 million in 2020–21 for two streams of incentive payments (one for doctors, one for practices).
2019	Aus Govt	2019–20 Federal Budget commits $62.2m to create a National Rural Generalist Pathway to attract, retain and support rural generalists.
2019	Aus Govt	A Review of the MPS program finds the program to be 'a sound model for delivering integrated health and aged care services in rural and remote communities' and makes 12 recommendations.
2020	All Govts	All Australian governments sign an Addendum to the National Health Reform Agreement 2020–2025, committing IHPA to integrate safety and quality into the pricing and funding mechanisms for public hospital services, with reforms already under way in three key areas: sentinel events, hospital-

Date	Jurisdiction or agency	Initiative
		acquired complications (HACs), and avoidable hospital readmissions.
13 March 2020	Aus Govt	Introduction of temporary MBS telehealth items to reduce risk of COVID-19 transmission (time-limited, measures extended to 31 Dec 2021).
12 October 2020	Aus Govt	Roll-out of Rural Generalist Pathway program commences in Murrumbidgee region.
28 April 2021	ACSQHC and AIHW	ACSQHC and AIHW publish the *Fourth Australian Atlas of Healthcare Variation*.
May 2021	ACSQHC	The ACSQHC releases an updated version of the *National Safety and Quality Health Service (NSQHS) Standards (second edition)*. The update includes the Preventing and Controlling Infections Standard, which supersedes the NSQHS Preventing and Controlling Healthcare-Associated Infection Standard (2nd ed.). The revision accommodates lessons learned from the response to SARS-CoV-2 (COVID-19), and better supports health service organisations to prevent, control and respond to infections that cause outbreaks, epidemics or pandemics, including novel and emerging infections.
11 May 2021	Aus Govt	The Federal Budget 2021–22 allocates $123m for rural health workforce initiatives, including: • $29.5m to increase non-GP medical specialist training in areas of workforce shortage • $12.4m to increase rural primary care rotations for doctors through the John Flynn Prevocational Doctor Program • $9.6m to expand the Allied Health Rural Generalist Pathway.
11 May 2021	Aus Govt	Federal Budget 2021–22 allocates $65.8m to increased bulk-billing incentives for GPs working in rural locations. From 1 January 2022, the Rural Bulk Billing Incentive (RBBI) will progressively increase from the current rate of 150% of the incentive in metropolitan areas as classified under the Modified Monash Model (MM) to: • 160% in MM 3–4, large and medium rural towns • 170% in MM 5, small rural towns • 180% in MM 6, remote areas • 190% in MM 7, very remote areas.
16 June 2021	Aus Govt	The *Health Insurance Amendment (General Practitioners and Quality Assurance) Act* receives vice-regal assent, leading to the discontinuance in August 2020 of the Vocational Register of GPs. The change means the higher VR Medicare rebates from 16 June automatically flow to GPs registered with the Medical Board of Australia within the specialty of general practice.

Appendix 2 – Position papers, reports and other documents with implications for rural health services

Legend:

Safety and quality

Date	Organisation or entity	Title
30 September 1987	NSW Govt	Report by Sir Nicholas Shehadie, commissioned by NSW Health Minister Peter Anderson, on methods and levels of remuneration for rural GPs in modified fee-for-service rural hospitals, is handed to govt. The report recommends improvements to rural GPs' access to CME and locums, and better recruitment practices.
Dec 1987	WA Govt	*Report of the Ministerial Inquiry into the Recruitment and Retention of Country Doctors in Western Australia* (the 'Kamien Report') is provided to the WA Govt.
1990	Royal Commission into Deep Sleep Therapy (the 'Chelmsford Inquiry')	Final report
July 1992	Aus Govt DoH, AMA, RACGP	*The Future of General Practice: A Strategy for the Nineties and Beyond*
February 1993	AIHW	*Telemedicine in Australia: A discussion paper*
November 1995	Aus Govt	*Review of Professional Indemnity Arrangements for Health Care Professionals (Australia). Compensation and professional indemnity in health care: final report*
November 1995	MJA	The Quality in Australian Health Care Study is published. A review of the medical records of over 14,000 admissions to 28 hospitals in NSW and South Australia, it finds that 16.6% of these admissions were

Date	Organisation or entity	Title
		associated with an adverse event, which resulted in disability or a longer hospital stay for the patient and was caused by health care management; 51% of the adverse events were considered preventable. In 77.1% the disability had resolved within 12 months, but in 13.7% the disability was permanent and in 4.9% the patient died.
1998	Aus Govt	Report of the Ministerial Review of General Practice Training: *General Practice Education: The Way Forward*
March 1998	Aus Govt	Report of the General Practice Strategy Review Group: *General Practice: Changing the Future Through Partnerships*, which among other things calls for a greater focus on quality, better information management and use of IT, and more financial certainty for GPs including scrapping the BPP and replacing with the PIP.
July 1998	National Expert Advisory Group on Safety and Quality in Australian Health Care	Interim report *Commitment to Quality Enhancement* presented to Health Ministers.
1999	National Rural Health Alliance	Release of *Healthy Horizons: A framework for improving the health of rural, regional and remote Australians.*
August 1999	National Expert Advisory Group on Safety and Quality in Australian Health Care	Final report *Implementing Safety and Quality Enhancement in Health Care* presented to Health Ministers.
July 2001	The Bristol Royal Infirmary Inquiry (UK)	*The Report of the Public Inquiry into children's heart surgery at the Bristol Royal Infirmary 1984–1995* is handed to the UK Government. The report finds about one-third of the children who underwent open heart surgery at the BRI during the period received sub-optimal care, resulting in the deaths of between 30 and 35 babies aged less than 1 year between 1991 and 1995. The report makes nearly 200 recommendations, which include calls for: • Very sick children to be cared for in a "child-centred environment, by staff trained in caring for children and in facilities appropriate to their needs" • More action to reduce barriers to safe care, including a focus on unsafe practices and aspects of professional culture that inhibit openness

Date	Organisation or entity	Title
		• Tighter safeguards to ensure clinical competence of healthcare professionals • The introduction of standards of care for healthcare professionals and separately for hospitals • Openness about clinical performance through publication of hospital performance data • Effective systems within hospitals to monitor clinical performance.
May 2002	Australian Government	Publication of first Intergenerational Report.
July 2002	Australian Council for Safety and Quality in Health Care	Publication of report *Lessons from the Inquiry into Obstetrics and Gynaecological Services at King Edward Memorial Hospital 1990-2000*, which summarises the findings of the Western Australian inquiry into care offered at the hospital and draws parallels with factors identified in the Bristol Inquiry in the UK the previous year, as both resulted from problems being identified by whistle-blowers rather than by routine monitoring systems.
2003	Productivity Commission	*General Practice Administrative and Compliance Costs: Research Report* finds workforce, financial, IT and other pressures on GPs are more pronounced in rural areas.
July 2004	Australian Council on Safety and Quality in Health Care	*Standard for Credentialling and Defining the Scope of Clinical Practice: A National Standard for credentialling and defining the scope of clinical practice of medical practitioners, for use in public and private hospitals*
July 2004	Australian Council on Safety and Quality in Health Care and National Institute of Clinical Studies	*Charting the Safety and Quality of Health Care in Australia*

Date	Organisation or entity	Title
30 November 2005	Queensland Public Hospitals Commission of Inquiry	The Davies Inquiry into the events at Bundaberg Hospital and some other public hospitals in Queensland recommends criminal charges be brought against Dr Jayant Patel, the former director of surgery at Bundaberg Base Hospital, and criticises officials for failing to address a culture hostile to open airing and investigation of errors.
22 December 2005	Productivity Commission	*Australia's Health Workforce* report proposes streamlining registration arrangements then split across 90-odd registration bodies into a national registration board.
March 2006	Clinical Oncology Society of Australia	*Mapping Rural and Regional Oncology Services in Australia* – first national mapping of cancer services inn Aus finds significant service shortfalls in rural and regional areas, with COSA concluding that quality and availability was directly linked to lower survival in regional areas.
13 April 2007	COAG	Communiqué stating each of the nine health professions subject to regulation would establish their own national boards.
2008	ACSQHC	First *Australian Charter of Healthcare Rights* published.
27 November 2008	Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals	Publication of the Inquiry's Final Report (the 'Garling Report). The Inquiry makes 139 recommendations and numerous observations in relation to rural hospitals, including the difficulties experienced in recruiting and retaining staff at all levels, progressive ageing of the rural hospital workforce, a reliance on expensive fly-in, fly-out arrangements as a consequence of recruitment difficulties, and gaps in on-the-ground training including a shortage of clinical nurse educators. Recommendations 12–14 of the report propose consideration of various solutions, including enhanced employment packages to make rural practice more attractive, and arrangements to facilitate the transfer of staff from metropolitan to regional and rural hospitals.
March 2009	Commission for Healthcare Audit and	*Investigation into Mid Staffordshire NHS Foundation Trust* report finds higher than expected mortality rates

Date	Organisation or entity	Title
	Inspection (UK) ('The Healthcare Commission')	among patients aged 18 and over admitted to the Trust's hospitals as emergency patients. For the three years from 2005–06 to 2007–08 the Trust's standardised mortality ratio for patients aged 18 and over admitted as emergencies varied between 127 and 145. If the outcomes had been the same as expected in comparison with similar trusts, the SMR would have been 100. The report finds many examples of poor record-keeping, poor patient evaluation, inadequate staffing and equipment, insufficient nursing staff, poor supervision of junior doctors, poor infection control standards, and other failings, with patient care deemed 'unacceptable'. The Healthcare Commission report makes numerous recommendations to improve processes and procedures regarding the Trust's accident and emergency department, medical and nursing staffing, patient assessment and care, data collection and analysis, governance, and other areas.
30 June 2009	National Health and Hospitals Reform Commission	Final report presented to Australian Government.
2009	Clinical Oncology Society of Australia	*Bringing multidisciplinary cancer care to regional Australia: requirements for a regional cancer centre of excellence*
October 2009	Clinical Oncology Society of Australia and Medical Oncology Group of Australia	*Improving cancer care for rural Australians*
November 2009	RACGP	Position Statement – 10-year Moratorium for International Medical Graduates.
24 February 2010	The Mid Staffordshire NHS Foundation Trust Inquiry (UK)	*Independent Inquiry into care provided by Mid Staffordshire NHS Foundation Trust January 2005–March 2009* ('the Francis Inquiry) is provided to the UK Secretary of State for Health. The report makes a number of recommendations, the first being that the Trust should prioritise delivery of a high standard of patient care, and "not provide a service in areas where it cannot achieve such a standard".
December 2010	ACSQHC	*Australian Safety and Quality Framework for Health Care* published after endorsement by Health Ministers

Date	Organisation or entity	Title
15 January 2011	NRHA	*An overview of the shortage of primary care services in rural and remote areas*
6 June 2011	NRHA	*Plan for a greater number of interns for rural, regional and remote settings in 2012*
13 October 2011	NRHA	*Plan to ruralise junior doctor training*
October 2011	ACRRM	Physician Assistant Policy Position Statement
2 February 2012	NRHA	*Developing a national approach to brain injury rehabilitation services in rural and remote Australia*
15 April 2012	NRHA	*Achieving the best possible outcomes for people with acquired brain injury who live in rural and remote communities*
26 April 2012	NRHA	*Supporting and promoting rural medical prevocational training and practice*
16 May 2012	NRHA	*The NRHA's 20-point plan for improving health services and health workforce in rural and remote areas*
18 June 2012	NRHA	*Wanted: A uniform system for assessing health workforce strategies and targeting programs to attract health professionals*
29 August 2012	NRHA	*Locums and short-term contractors in the health workforce*
September 2012	ACSQHC	*National Safety and Quality Health Service (NSQHS) Standards (first edition)* published

Date	Organisation or entity	Title
January 2013	ACRRM	*Defining the Specialty of General Practice* Position Statement
February 2013	Qld Health	*Evaluation and Investigative Study of the Queensland Rural Generalist Program*
November 2013	ACRRM	International Statement for Rural Medical Generalism: Cairns Consensus Position Statement
May 2014	Aus Govt	Review of Medicare Locals: Report to the Minister for Health and Minister for Sport, by Prof John Horvath
May 2014	ACRRM	National Rural Generalist Pathway Position Statement
3 June 2014	RACGP	RACGP National Rural Faculty Position Statement on supporting the next generation to ensure a future rural general practice workforce.
3 June 2014	RACGP	RACGP National Rural Faculty Position Statement on advanced skills in rural general practice
24 July 2014	RACGP	RACGP National Rural Faculty Position Statement on Geographic Provider Numbers
2014	Royal Australasian College of Surgeons	Rural and regional surgical services position statement
2014	ACSQHC and AIHW	Publication of *Exploring Healthcare Variation in Australia: Analyses Resulting from an OECD Study*, a forerunner to the Australian Atlas of Healthcare Variation series
2014	NSW Ministry of Health	*NSW Rural Health Plan: Towards 2021*

Date	Organisation or entity	Title
March 2015	RACGP	Position statement: *Provision of mental health services in rural Australia*
May 2015	ACRRM	Telehealth Position Statement
23 July 2015	NRHA	Policy proposals endorsed by NRHA based on recommendations from 13th Nat Rural Health Conference
September 2015	NRHSN	Quality Indigenous Health Curriculum position paper
September 2015	NRHSN	Extended scope of practice position paper
October 2015	ACRRM	Rural Workforce Development Position Statement
November 2015	ACRRM	End of Life Care Position Statement
March 2016	RACGP	*GP-led palliative care in rural Australia*
July 2016	RACGP	Position statement: *GP-led aged care in rural Australia*
September 2016	NSW Ministry of Health	*Reshaping the Multipurpose Service (MPS) Model in NSW*
October 2016	ACRRM & RDAA	Position Statement: *The Role of the Rural GP in Disaster Response and Pre-Hospital Care*
1 October 2016	NRHA	*Food security and health in rural and remote Australia*
November 2016	CPMC	Obesity CPMC Consensus Position Statement
November 2016	RACGP	Position Statement: Integrated Rural Training Hubs
22 February 2017	Canadian Collaborative Taskforce	Society of Rural Physicians of Canada and College of Family Physicians of Canada release the *Rural Road*

Date	Organisation or entity	Title
		Map for Action, which contains 20 recommendations to enhance rural care. These include: • Improving rural medical education through the creation of visible rural generalist pathways, and enhanced skills training for rural practitioners • Standardise policies to support effective consultation and transfer of patients between healthcare facilities • Develop infrastructure and networks of care at local and regional levels to support access to care, including for mental health patients • Support staff to understand and deliver culturally safe care for Indigenous patients • Work with local communities and rural practitioners to provide "system-wide, coordinated, distance technology to enhance and expand local capacity".
May 2017	RACGP	On-demand telehealth services – Position statement
3 July 2017	RACGP	Rural Generalism 2020 – Position Statement
August 2017	NRHSN	Indigenous health position paper
August 2017	NRHSN	Climate change position paper
23 November 2017	Australian Medical Association	Rural Workforce Initiatives 2017
December 2017	Australian Health Care Reform Alliance	Policy Position Paper: Health Workforce
March 2018	National Rural Health Commissioner	National Rural Health Commissioner Annual Report 2017
March 2018	NRHSN	Nurse practitioners position paper
March 2018	NRHSN	Bonded schemes position paper
May 2018	ACRRM	Rural Generalist Medicine Position Statement

Date	Organisation or entity	Title
May 2018	ACRRM	*Defining safe and quality procedural and advanced care in rural and remote locations*
23 May 2018	NRHA	Position paper on Federal Budget 2018–19
August 2018	NRHSN	Mental health position paper
August 2018	NRHSN	Uluru Statement from the Heart position paper
August 2018	NRHSN	*Mental Health within the Nursing and Allied Health Workforce position paper*
August 2018	NRHSN	Rural Generalism position paper
September 2018	ACRRM	*The Delhi Declaration: Health for all Rural People* – WONCA Rural Health Position Statement
December 2018	Australian College of Nursing	*Improving health outcomes in rural and remote Australia: Optimising the contribution of nurses*
December 2018	National Rural Health Commissioner	Advice to the National Rural Health Commissioner on the Development of the National Rural Generalist Pathway
February 2019	National Rural Health Commissioner	National Rural Health Commissioner Annual Report 2018
16 May 2019	AMA	2019 AMA *Rural Health Issues Survey*
June 2019	ACRRM	Uluru Statement from the Heart Position Statement
June 2019	ACRRM	Pharmacist Prescribing Position Statement

Date	Organisation or entity	Title
July 2019	National Rural Health Student Network	*Availability and accessibility of positive rural placement experiences for allied health students in Australia*
July 2019	ACRRM	Pill Testing Position Statement
October 2019	ACRRM	Climate Change and Rural Health Position Statement
December 2019	RANZCP	Rural psychiatry: Position statement
December 2019	ACRRM	Audit template: Minimum standards for small rural hospital emergency departments
December 2019	ACRRM	Recommended minimum standards for small rural hospital emergency departments
3 December 2019	IHPA	Independent Hospitals Pricing Authority publishes *Innovations in Health Funding – Global Horizon Scan*, which considers alternative approaches to health care funding that could be applied in Australia, including options focused on value-based health care, with models considered including regionally coordinated service responses.
24 December 2019	NRHA	*Climate change and rural health*
January 2020	Australian College of Rural and Remote Medicine	Rural Maternity Position Statement v2

Date	Organisation or entity	Title
February 2020	National Rural Health Commissioner	Review of rural allied health evidence to inform policy development for addressing access, distribution and quality
March 2020	National Rural Health Commissioner	Interim Report to the Minister for Regional Health, Regional Communications and Local Government Improvement of Access, Quality and Distribution of Allied Health Services in Regional, Rural and Remote Australia
March 2020	National Rural Health Commissioner	National Rural Health Commissioner Annual Report 2019
March 2020	Australian Rural Health Education Network	ARHEN Position Paper: *Rural Generalist Pathways for Allied Health Professionals*
June 2020	National Rural Health Commissioner	Final report
June 2020	National Rural Health Commissioner	Report for the Minister for Regional Health, Regional Communications and Local Government on the Improvement of Access, Quality and Distribution of Allied Health Services in Regional, Rural and Remote Australia
16 July 2020	NRHA	Government support for individuals and communities affected by the COVID-19 pandemic
28 January 2021	National Rural Health Alliance	Position paper: *Rural health policy in a changing climate: three key issues*
June 2021	Australian Healthcare and Hospitals Association	Rural and Remote Health position statement

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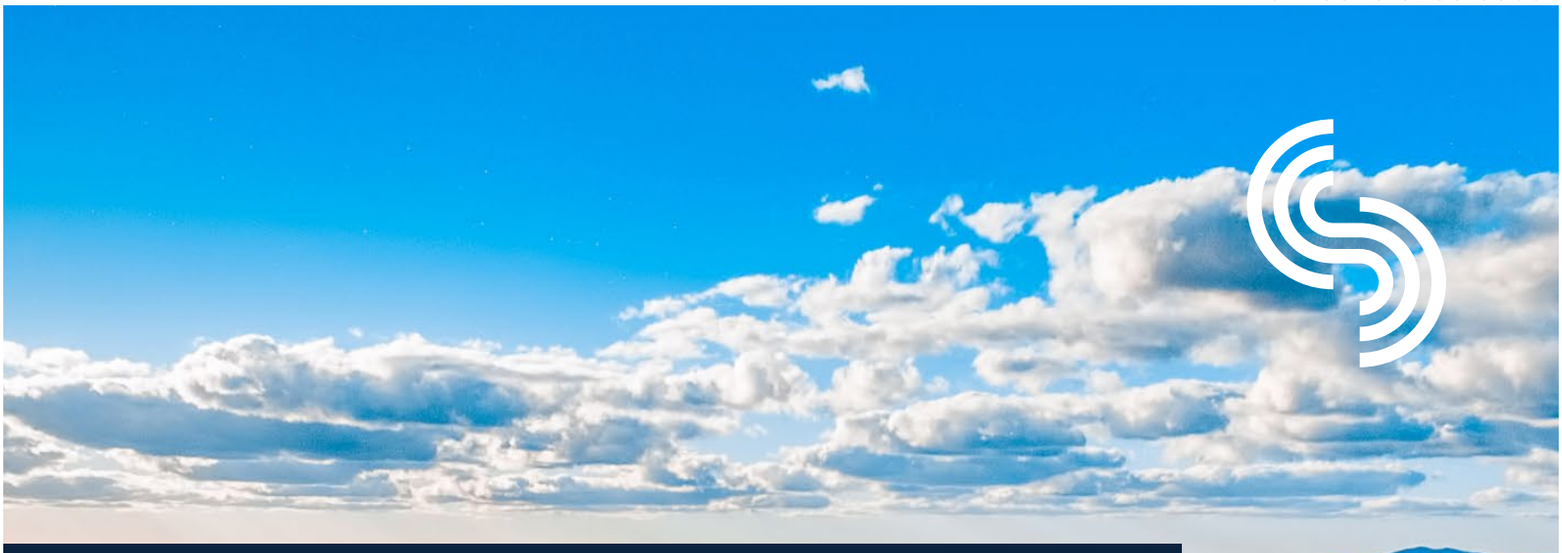

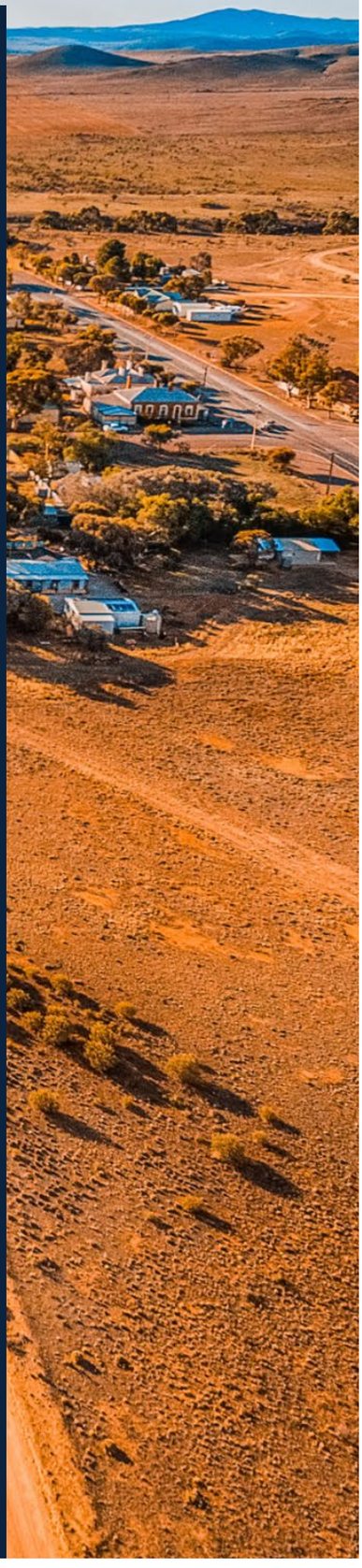

Rural health care: Paper 2

Strategies for sustainable rural health care

A report to the NSW Ministry of Health

SaxInstitute

December 2021

Enquiries regarding this report may be directed to:

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Contents

Executive summary

This paper addresses the following question:

What international, Queensland and NSW Health strategies and initiatives have been effective in supporting the development of a sustainable rural health workforce that supports the delivery of primary and secondary health care?

All countries with dispersed populations and large land mass have difficulty sustaining high-quality health care in rural and remote areas because of the difficulty sustaining the supply of a rural health workforce. No proven system-level solutions exist in Australia or anywhere else in the world, although some promising opportunities are emerging. System-level solutions would be required to take account of the following principles:

- Universal access to primary care is the foundational service requirement in rural and remote areas
- Connection of primary care with secondary and higher-level care is essential
- Primary care is increasingly multidisciplinary
- No one solution will meet the needs of all rural communities or will be acceptable in all locations across a large, diverse jurisdiction such as NSW.

The most promising system-level solutions for the future, as discussed in Paper 3, are likely to integrate primary care within multidisciplinary networks of health professionals serving subregional areas.

Since the 1990s, many different initiatives have been advanced in Australia and internationally to support rural health workforce development. Structural change to provide more integrated approaches in primary and secondary care for rural and remote areas is at the top of the list, but promising new models of health care delivery are still undergoing evaluation. Initiatives that have been shown to be effective include provision of more tailored working conditions for health professionals recruited to rural and remote locations; selection of health students and new graduates with rural backgrounds and clear aptitudes for rural careers; and embedding health professional education and training in rural locations.

Integrated approaches to providing health care

System-level change is needed to build and sustain a workforce capable of delivering reliable, safe, high-quality care to rural and remote communities. It is increasingly evident that integrated approaches, bringing together primary and secondary care and utilising health professionals from different disciplines, are likely to provide optimal care for rural and remote communities, make the

most efficient use of healthcare expertise, and provide support and job satisfaction for health professionals.

Currently, the constitutional boundaries between federal and state government responsibilities for health, and the co-existence of public and private sectors in health care, hinder the development of such an integrated approach.

In response, both in Australia and internationally, a variety of integrated, collaborative models have been developed. Their structure and governance varies, but they are all based on the pooling of expertise and resources and are funded from multiple income streams. Workforce retention is an important objective, and the models all include attractive conditions of engagement or employment. The longest-established examples in Australia are Aboriginal community-controlled health organisations. Other Australian examples include the Queensland Central West Single Practice Model and the '4Ts Project' in central western NSW, International examples include the Primary Care Networks established in Alberta, Canada, and the Transalpine Health Services in southern island of Aotearoa, New Zealand.

Information on these models is largely descriptive, and experience with those that have been in place for sufficient time suggests that they are effective and highly acceptable to patients and staff. Only the Primary Care Networks in Alberta, Canada, have been implemented at scale, although they have not been universally applied across the province. This reinforces the observation that no one solution will meet the needs of all rural communities or will be acceptable in all locations across a jurisdiction.

Expanded education and training

Since the mid-1990s, the training of health professionals to deliver high-quality primary and secondary care to rural and remote communities has been greatly strengthened.

Large investments have been made by the federal and state governments in education and training, and evidence consistently shows a substantial increase in the numbers of health students and postgraduate trainees aspiring to and preparing for rural careers. Improvements have also been made in educational methods and students' and trainees' learning experience.

In medicine, the imperative to provide safe, high-quality services has led to the evolution of the rural generalist, trained in general practice and in two or more other fields such as emergency medicine, obstetrics, anaesthetics, psychiatry, or paediatrics. Allied health and nursing disciplines are also taking up the rural generalist concept. Rural generalist medical practitioners are expected to provide both community and hospital services; the balance of these varies among Australian states and territories and in countries such as Canada and New Zealand.

More tailored working conditions

Internationally and in Australia, research has been done to understand the working conditions that encourage health professionals to choose and remain in practice in rural and remote areas. For example, evidence shows that rural doctors value the promise of support and backfill for study and

recreation leave and rostered off-duty weekends more than the level of pay. This highlights the importance of professional and social support for health professionals in rural environments as well as career arrangements for partners and schooling for children. Box 1 (below) summarises those strategies where there is evidence of benefit in strengthening the rural and remote workforce.

Paper 3 in this series looks to the future, building on the findings from this paper. It concludes with some strategies that the NSW Government might consider to ensure that rural and remote communities in the state have access to safe, high-quality health care.

Box 1—Evidence-based strategies for strengthening the rural and remote health workforce

- Selection of individuals for basic undergraduate/graduate entry who are interested in and have an aptitude for a rural career; especially those who have a rural origin, and in particular those who are 'home-grown', able to attend their university course close to their rural home[1,2]
- Extended rural exposure during basic undergraduate/graduate-entry programs[3]
- Opportunities to take junior rural jobs after graduation, e.g. as junior doctors, or as newly-graduated nurses or allied health professionals[4]
- Opportunities to undertake higher training in a rural environment, e.g. as an advanced trainee in a field of medicine within a regional hospital, or as a part of the training for nurse practitioner status[4,5]
- Higher training that equips trainees with the skills that they need for rural practice[6]
- Career opportunities that allow new and established full-qualified health professionals to use the range of skills that they have acquired[6]
- Rural positions that provide good practice infrastructure and obviate the need for practitioners to make an up-front financial investment in it when they move to the position[6]
- Working conditions that include paid study leave and recreation leave with organised, paid backfill[6]
- Partner and (where they exist) other close family members located with the health professional in the rural site[7]
- Professional opportunities for spouse[7]
- Local schooling for children[7]
- A social environment in which the health professional and their family can form a social network[7]
- Increased remuneration is only the solution in special circumstances.[6,8]

1 Introduction

The Australian and international strategies that have been successful in supporting the delivery of primary and secondary health for rural communities affect the health workforce at three levels:

- The health system level, through policies and funding mechanisms that drive rural healthcare delivery and determine the structure of rural health services, potentially enabling the development of new healthcare models that can be introduced at scale
- The institutional level (health service institutions, professional organisations, and universities), through education and training programs
- The individual practitioner level, through specific interventions designed to improve working conditions and job satisfaction.

At the **health system level**, strategies have been directed at structural change to provide more integrated primary care in rural and remote areas. Integrated approaches, bringing together primary and secondary care and utilising health professionals from different disciplines, will provide optimal care for rural and remote communities, make the most efficient use of healthcare expertise, and provide support and job satisfaction for health professionals. In Australia and internationally, a variety of integrated models have been developed and tested. Early information on these models is descriptive rather than evaluative. Those that have existed for long enough report good community acceptance.

Currently, the constitutional boundaries between federal and state government responsibilities for health, and the co-existence of a public and private sectors in health care, hinder the development of such integrated approaches.

At the **institutional level**, health services, hospitals, universities and professional organisations (colleges) have taken up large investments made by the federal and state governments in education and training. Evidence consistently shows a substantial increase in the numbers of health students and postgraduate trainees aspiring to and preparing for rural careers. The investments have responded to the imperative to supply health professionals who can provide safe, high-quality services, and this has led to the evolution of the rural generalist concept. In medicine, rural generalists are trained in general practice and in two or more other fields such as emergency medicine, obstetrics, anaesthetics, psychiatry, or paediatrics. Allied health and nursing disciplines are also taking up the rural generalist concept.

At the **individual practitioner level**, research has been done to understand the working conditions that encourage health professionals to choose and remain in practice in rural and remote areas. For example, evidence shows that rural doctors value the promise of support and backfill for study and recreation leave and rostered off-duty weekends more than the level of pay. This highlights the importance of professional and social support for health professionals in rural environments as well as career arrangements for partners and schooling for children. Box 1 (in the Executive Summary)

summarises the strategies for which there is evidence of benefit in strengthening the rural and remote workforce.

This second of three papers on the evolution and future development of rural and remote health in NSW examines Australian and international strategies and initiatives designed to sustain the supply of a multidisciplinary health workforce that delivers safe, high-quality primary and secondary care for rural and remote communities. Like all countries and jurisdictions with isolated rural communities, NSW has struggled to sustain high-quality health care in rural and remote areas because recruitment and retention of health professionals for these areas is difficult. No comprehensive, proven solutions have been found anywhere in the world, although promising solutions are emerging.

The focus of the rural and remote health workforce is on primary care – the care that people receive when they first consult a health professional or health care unit, without referral from another health professional. Primary care is universally recognised internationally as foundational for all populations, and access to primary care is the most important requirement for rural and remote communities. The scope of primary care encompasses prevention, acute health care for people with urgent problems, and continuing care for people who have ongoing problems (chronic conditions). Primary care teams or providers are connected to secondary care and higher-level services that together provide rural and remote communities with health services that aspire to be comparable with those in urban areas. Secondary care is provided by rural hospitals and by community-based medical, nursing and allied health specialists following referral from a primary care professional.

KEY POINT

Primary care – the first encounter care that people receive without need for referral – is foundational for all populations. Access to primary care is the most important health service requirement for rural and remote communities.

This paper is in eight sections, including this introduction:

- Section 2 lists the issues that rural workforce strategies need to address, including the federal/state division of responsibilities for health and health services
- Section 3 examines the innovations and developments in rural primary care, including rural generalism
- Section 4 outlines Australian Government and NSW Government strategies and initiatives.
- Section 5 describes integrated primary care models that have been introduced in rural Australia.
- Section 6 outlines developments in rural and remote health care in Canada and New Zealand, identifies integrated rural primary care models that might be applicable in NSW, and identifies a multinational rural workforce development framework that could be adopted in Australia.

- Section 7 reviews specific evidence-based initiatives that have been shown to promote recruitment and retention for rural health workforces.
- Section 8 concludes the paper, drawing together themes from Sections 2 to 7 that are the foundation for the proposed strategies in Paper 3.

2 What do the strategies need to address?

The strategies need to create a sustainable health workforce supply for rural and remote areas.

Implementation of workforce strategies depends on bridging the divisions between federal and state responsibilities for health and health care and the resolving the resultant separation of funding streams.

2.1 Essential requirements for the rural workforce

The objective of the workforce strategies is to ensure a supply of competent health professionals who are engaged with the rural and remote communities that they serve and understand their needs. The goal is to improve health and health outcomes for the rural population of NSW and reduce or remove urban-rural health differentials.

Evidence indicates that the essential conditions for an effective, sustainable rural health workforce are:

- Education and training across the entire career pathway
- Career opportunities that allow health professionals to make use of their specific skills and expertise while fulfilling local health service needs
- Employment and working arrangements that assure adequate infrastructure, backfill for study leave and recreation leave, and rostered free weekends
- A favourable professional and social environment
- Mechanisms to meet family requirements that provides collegiality and social engagement and helps to fulfil family members' needs, including employment opportunities for partners and schools for children
- Evidence also indicates financial resources and remuneration have only a limited effect on the retention of the rural workforce. Paid, backfilled study and recreation leave and rostered off-duty weekends are more important than the level of remuneration.[6,8]

KEY POINT

Strategies and investments promoting rural health workforce supply cover not only education and training, but also increasingly recognise the importance of professional and social support and working conditions. Evidence endorses the value of involving communities in the design and governance of their health services.

2.2 Relationships with communities

In addition to the essential requirements of health professionals listed in section 2.1, sustainability of the rural workforce depends on engagement with the communities that it serves. Each community has a unique ecology determined by history and geography, and this is recognised in successful workforce strategies.

Community engagement is achieved through the involvement of communities (or community members) in the planning, development and governance of their own local health services. This is important not only to ensure that health services meet the needs that reflect each community's unique ecology, but also to promote community members' understanding of how the health service works, and how to use it. The value of co-design – the creative participation of communities in the design of services – is increasingly recognised.[9,10]

Co-design feeds into social capital – defined as 'the norms and networks that bring about collective action for common benefit'.[11] The social capital of a community is often a buffer against some of the events that cause stress to communities. Social capital helps to sustain health services. Social networks, educational options, a viable and stable local economy, and adequate local amenity are as important in maintaining a local health workforce as professional opportunities, conditions and remuneration. Sustainable health care in rural towns and remote areas is a powerful driver of the social capital that keeps small communities alive. Without the elements that generate social capital, communities are at risk of entering a downward spiral.[11]

2.3 Overcoming barriers created by federal/ state divisions of responsibility

A major barrier to a sustainable health workforce supply for rural and remote areas results from the division between federal and state responsibilities for health and health care and the resultant dispersion of funding streams.

The Australian Government's contribution to health services is framed by the National Health Reform Agreement 2020–25.[12] Federal policy, regulatory and funding responsibility encompasses general practice, the Medicare Benefits Schedule, the Pharmaceutical Benefits Scheme, the registration of

medicines and therapeutic goods, and some aspects of public health, including quarantine. The states are responsible for hospitals and hospital- and community-based public-sector health services, including public-sector outreach services. This split responsibility has complicated the integration of public-sector hospital and other services with general practice, which at present dominates primary care in Australia and is mainly in the private sector. Initiatives over the last 30 years have been designed to bridge the division of federal and state responsibilities for health care. An example is the introduction of exemptions, codified in the Medicare legislation, that allow salaried health professionals to bill Medicare as well, enabling them to provide salaried hospital services as well as fee-for-service community-based primary care (see Appendix 1).

KEY POINT

The federal / state division of responsibilities for health has complicated many strategies and initiatives designed to improve rural and remote health and health services. Specific programs that bridge this division are needed to strengthen the rural health workforce and the financial viability of rural practice.

In the rural environment, most GPs are either self-employed in solo or group practices or work in corporate practices, including Aboriginal community-controlled health organisations (ACCHOs). As mentioned in Section 3, many NSW rural GPs are also engaged by Local Health Districts on a sessional basis to serve as VMOs in hospitals and MPSs, thus providing secondary as well as primary care. By virtue of its dependence on fee-for-service remuneration, rural general practice mostly operates as a multitude of independently run small businesses. The continued reliance on the Medicare fee-for service mechanism, and various provider-focused incentives, means success in creating a sustainable rural health workforce continues to hinge on attracting GPs to undertake private practice in rural locations, where they face considerable business and financial challenges as well as the challenges of isolation.

KEY POINT

To date, creating a sustainable rural health workforce has hinged on attracting GPs to undertake fee-for-service private practice in rural locations, where they face business and financial challenges as well as the challenges of isolation.

3 Primary care services and rural generalism

Primary care is increasingly multidisciplinary, and the roles and capacity of rural primary health teams are likely to expand.

3.1 New approaches to primary care

As mentioned in Section 1 of this report, the health workforce serving rural and remote communities concentrates on primary care. Section 3 reviews the major workforce-related themes in rural primary care and the connection of primary care to secondary and higher levels of health care.

Primary care is often equated with general practice, especially in urban areas, but this view is being superseded as primary care become increasingly multidisciplinary. Non-medical primary care is prevalent in remote settings, and professions not previously associated with primary care are likely to join primary care teams on an increasing scale.

Since 1996, general practice has been recognised as a medical specialty, and GPs have been required to be vocationally registered in order to be eligible for their patients to receive full Medicare rebates. Despite this recognition, many have reportedly been reluctant to serve as visiting medical officers (VMOs) at country hospitals and multipurpose services, preferring to concentrate on community general practice.

3.2 Rural generalism

Rural generalism has been a prominent theme in rural medical workforce development since the early 2000s, both in Australia and internationally. To date, most rural generalists have been doctors, but the concept has also been applied in nursing and allied health.[13]

The term ‘rural generalist’ is not used consistently, even within Australia. The common thread among definitions internationally is a doctor who provides a wide range of services as part of a health care team, and who meets the needs of a local population. Australian rural generalists are fully trained as GPs, and also have advanced training in fields likely to be important in independent rural practice – often procedural fields. Trainee rural generalists can choose at least two fields of interest from a list including emergency medicine, anaesthetics, child health, internal medicine, obstetrics, psychiatry,

and women's health. The intent is for rural generalists to practise in areas where their particular combinations of skills are needed.[14]

The distinction between a rural generalist and a country GP is not always clear. Many longstanding country GPs have diploma-level qualifications in fields such as obstetrics or anaesthetics, often delivered babies in the past (some still do), and often undertook a range of common surgical procedures. In some respects the rural generalist concept has brought back the practice of previous generations of country doctors. However, the rural generalist programs add a new layer of specified training with more formal certification of individual doctors' attainment of safety and quality standards.

In the 2019–20 Federal Budget, the Australian Government allocated $62.2 million to create the National Rural Generalist Pathway. Its goals[15] are to:

- Formally recognise the role and skills of rural generalists
- Improve the coordination of rural generalist training
- Increase support for rural generalists
- Increase opportunities for doctors to train and practise in both hospital and primary care settings in regional, rural or remote communities
- Keep doctors working in regional, rural or remote communities.

However, the actual roles of rural generalists in Australia vary, as the descriptions of the Queensland and NSW roles show.

In 2005 the Queensland Government introduced its model for rural generalists.[16] Queensland rural generalists are salaried in the public sector and do not rely on Medicare or fee-for-service for their main income. Community-based primary care is not their first responsibility: Queensland rural generalists are recruited and employed by Queensland Health to run country hospitals and provide secondary care. They also run outreach clinics in smaller satellite towns. In addition, they may, if they wish, also conduct limited fee-for-service general practice. One of the main objectives of the Queensland approach was (and is) to attract doctors to country towns. A generous salary has freed doctors from the financial uncertainty of setting up and running fee-for-service general practices in areas where they might be unviable. Importantly also, the provision of funded locums from a government-run pool guaranteed doctors the three things they most wanted – paid study leave, paid recreation leave, and a guarantee of at least one weekend off a month with backfill.

The Queensland rural generalist model has been successful in attracting doctors to country hospitals[17], but at least some of them have focused on being 'hospitalists' (general hospital doctors) rather than GPs. The generous remuneration for hospital work and the other desirable conditions of employment have removed some of the incentive to undertake part-time general practice. At the same time, the presence of hospital-based rural generalists who could, if they wished, also work as GPs reportedly tends to inhibit other GPs from setting up independent private practices in country towns, especially as these other practices would not be subsidised by Queensland Health. The contribution of Queensland rural generalists to primary care for their local communities is therefore variable.

Structurally the NSW concept of rural generalists is the opposite of the Queensland concept. NSW rural generalists are not employed by the state government. They are mostly private practitioners who

derive their main income from Medicare fee-fee-service billing, blended Medicare payments and patient co-payments. Most operate as independent businesses or are in group or corporate practices. In NSW, the Rural Doctors Network helps to identify localities with gaps in primary and secondary care capacity where rural generalists are likely to be able to establish viable general practices.[18] GPs with an interest and training in aspects of hospital medicine, such as obstetrics and emergency medicine, may be appointed as GP VMOs in local hospitals or MPSs. GP VMOs are remunerated on a fee-for-service basis under the Rural Doctors' Settlement Package.[19]

Internationally, concepts of rural generalism are analogous to those in NSW and Queensland. In Canada, where rural generalists are known as 'rural family physicians', roles are similar to those of their counterparts in NSW.[20] By contrast, in Aoteoroa New Zealand, rural generalists have mostly occupied positions as hospital doctors, and this has led to a shortage of rural community general practice capacity.[21]

KEY POINT

Rural generalist doctors are trained in general practice and have advanced training and skills in fields such as emergency medicine and obstetrics. Other health professions are moving towards adoption of the rural generalist concept. Successful rural generalist models have incorporated working conditions valued by rural generalists – paid study and recreation leave, and rostered weekends off.

3.3 Multidisciplinary teams in rural primary care

As noted in section 3.1, the primary care workforce is becoming increasingly multidisciplinary. Multidisciplinary services may be delivered simply by co-location of different types of health professionals, but integrated services depend on team structures with cross-referral of patients, handover of clinical information, and records accessible to all of the team members. A multidisciplinary team brings medical, nursing and allied health expertise to the patient and coordinates it.

Primary care may also be provided by other health professionals, including dentists, Aboriginal health workers and midwives. There is growing interest in the potential primary care role of community paramedics, who are particularly qualified to contribute to the management of patients with acute problems, including trauma.[22,23] Registered nurses and allied health professionals are in short supply in rural areas[24], and the capacity of the available nursing and allied health workforces could be expanded by engaging enrolled nurses and allied health assistants.[25] Recent political debates at the federal level suggest an increase in funding for the Vocational Education and Training (VET) sector and free VET places for health workers such as enrolled nurses and allied health assistants may be forthcoming.

3.4 Nurse-led primary care services

In many remote communities throughout Australia, primary care services are delivered by small nurse-led teams based in local clinical facilities.[26] In NSW these are funded by Local Health Districts and managed as satellites of regional health centres. They have telehealth links to the regional health centre, and regular general practice clinics are typically provided by outreach healthcare organisations such as the Royal Flying Doctor Service, which also provides medical or nurse-led retrieval. Typical examples are the health services in the Far West towns of Tibooburra (population 135) and Menindee (population 550), both of which are run by nurses with advanced training in remote-area health care. There is no suggestion of a need to change or develop these primary care arrangements[27], but in the future some of them could become affiliated with subregional multidisciplinary services described in Section 5.

3.5 Links to secondary and higher levels of care

Networking of primary to secondary care and more specialised higher-level services – allowing prompt and efficient identification of patients requiring higher-level advice and support, and transfer of patients where appropriate – is essential for the safety and effectiveness of primary care services. Higher-level services can never be located in small towns because the teams that deliver specialised care need to draw on larger populations, and hence larger numbers of patients, in order to maintain their skills, expertise, and specialist professional registration which are all necessary to practise safely and to the quality standards expected by the community and regulators.

Medical, nursing and allied health specialists from regional centres often provide outreach services on a ‘fly-in fly-out’ (‘fifo’) basis to small towns.[28] In many instances this is done on an *ad hoc* rather than a strategic basis, initiated by individual specialists. While these provide much-needed services, dedicated fifo arrangements with facilitated referral pathways are more likely to give rural and remote communities confidence that high-quality health care is as accessible to them as it is to people living in urban areas.

The alternative to fifo services is to transport patients who need specialist attention or investigations to a major centre. However, depending on the circumstances, it can be just as effective, and more efficient, to provide such healthcare from a distance in the form of online advice and instructions to locally based health staff, rather than in person following what may be a lengthy patient transfer.

4 Current Australian strategies and initiatives

While complications arising from the federal/state division of responsibilities for health persist, the Australian Government and state and territory governments have longstanding policy and budgetary commitments to rural health workforce development, particularly in education and training. The Australian Government has also introduced a range of specific policy and funding initiatives that support rural health services.

4.1 Federal initiatives to strengthen the rural health workforce

In recent years several Australian Government initiatives have been grouped under the Stronger Rural Health Strategy.[29] These include some of the education and training initiatives mentioned above. They also include:

- The Workforce Incentive Program
- Rural bulk-billing incentives
- Strengthening the role of the nursing workforce
- Initiatives relating to overseas-trained doctors
- Support for the Royal Flying Doctor Service
- Support for Aboriginal and Torres Strait Islander health professional organisations.

Summary information on the Stronger Rural Health Strategy is included in Appendix 2. Elements of the Stronger Rural Health Strategy have been successful in that they have achieved their operational objectives, but evidence of policy success is hard to find. Nevertheless, the Australian Government's consultation draft, *Future focused primary health care: Australia's Primary Health Care 10 Year Plan 2022–2032*, acknowledges the positive consequences of the Stronger Rural Health Strategy and forecasts continuing investments in it.[30]

In collaboration with state governments and local health services, the Australian Government has made major investments in rural health workforce development through the Rural Health

Multidisciplinary Training (RHMT) program[31] and its predecessor programs which began in the mid-1990s. The broad-ranging RHMT program, which contains several subprograms, is the main plank of the federal rural health professional education policy. Its continuation is supported by extensive Australian evidence showing that students of rural origin and students who have had exposure to rural and remote health practice are more likely to seek rural careers.[3,4,6] Over almost 30 years, the RHMT program has enabled very large numbers of students to have direct experience of rural health practice, and has also assured rural residents of places in medical schools. All universities that receive RHMT program funding are required to ensure that 25% of the students in each commencing cohort are of rural origin.

The full scope of the RHMT program is outlined in Appendix 2.

Throughout Australia, international medical graduates (IMGs) have made up an important component of the rural medical workforce, enabled and supported by Australian Government policies. Rural primary care services tend to consider recruiting IMGs when they have been unsuccessful in recruiting locally trained doctors, as recruitment of IMGs is a costly and lengthy process, and the supervision required for newly-arrived IMGs places a burden on the other GPs in a practice. Under the *Health Insurance Act 1973* (Cwlth), IMGs in general practice are required to work in an identified location classified as having a shortage of GPs, known as a Distribution Priority Area, for at least 10 years from the date of their Australian registration before they are eligible to obtain a Medicare provider number. In principle, when a provider number is issued, IMGs can work independently, and many move to urban or metropolitan areas thereafter.[32] Data on IMGs as a proportion of current rural GPs are not available, but data from 2020 shows that 49.8% of the full-time equivalent GP workforce in NSW had obtained basic medical qualifications in a country other than Australia or New Zealand.[33]

4.2 State initiatives to strengthen the rural health workforce

Alongside the Australian Government initiatives mentioned in Section 4.2 above, the NSW Government has given strong support to rural health workforce development. NSW Government initiatives include:

- Innovative employment arrangements to attract and retain rural generalist advanced trainees, exemplified by the Murrumbidgee Single Employer model, which allows advanced trainees to move across public- and private-sector-based training placements without loss of continuity of employment[34]
- Provision of 50 advanced skills training positions under the NSW Rural Generalist Training Program – supernumerary positions in areas such as anaesthetics and obstetrics for which rural generalist trainees do not need to compete with specialty trainees[18]
- Provision of support scholarships for NSW Rural Generalist Program trainees starting advanced skills training
- Provision of 16 funded cadetships each year for NSW medical students interested in a career in rural NSW. Cadets receive up to $15,000 per year for the last two years of their medical degree, in return for which they undertake to complete two of their first three postgraduate years in

hospitals west of the Great Dividing Range. The program is managed by the NSW Rural Doctors Network[35]

- Support through Local Health Districts for positions to employ advanced trainees in medical specialties (including rural generalists) in regional centres, in association with Australian Government RHMT program-funded rural training hubs (see Appendix 2)
- Increased numbers of positions for junior doctors undertaking their first two postgraduate years in a rural location, under the NSW Rural Preferential Recruitment Program – the number of intern positions doubled from 75 in 2012 to 150 in 2021[36]
- Provision of opportunities under the NSW Rural General Practice Procedural Training Program for rural GPs to acquire additional procedural skills.[37]

5 Innovative primary care models in Australia

The Australian Government and state governments have supported pilot-scale implementation of new integrated models of primary and secondary care delivery. Interest in the recently proposed rural area community-controlled health organisation (RACCHO) model suggests an appetite for revisiting the federal / state division of responsibilities for health.

5.1 Overview

Growing recognition of the market failure of Medicare fee-for-service health care in small towns and remote areas[38] has led to proposals for multidisciplinary rural collaborative groups of health professionals that provide for the communities within a circumscribed area. Significantly, the Australian Government's October 2021 consultation draft, *Future focused primary health care: Australia's Primary Health Care 10 Year Plan 2022–2032*[30] predicts that, over the next decade,

> Rural health will...be a major focus, with systematic scaling up of innovative approaches to supporting general practice and comprehensive primary care teams in areas of market failure. This will include the development of Rural Area Community Controlled Health Services (RACCHSs) providing primary health care for rural and remote communities...

The structure and governance of these collaborative groups vary, but they are all based on the pooling of expertise and resources and are funded from multiple income streams. Workforce retention is an important objective, and the models all include attractive conditions of engagement or employment. The longest-established examples are Aboriginal community-controlled health organisations. Sections 5.2 to 5.4 describe some of the leading examples. Parallel international developments are outlined in Section 6.

The National Rural Health Alliance has recently proposed a new locally based model of rural health service delivery, known as a rural area community controlled health organisation (RACCHO) or service (RACCHS)[39]. The RACCHO concept is described in Paper 3.

5.2 Collaborative planning for subregional primary health services in NSW

The NSW Rural Doctors Network, together with the Western NSW, Murrumbidgee, and Far West Local Health Districts, has embarked on a program to design, implement and evaluate new ways of delivering primary health care for defined geographic areas. The intent is to conduct the program in five small rural and remote communities, delivering primary healthcare services that are specific to each community's needs.[40]

The program component that is most advanced at the time of writing is the '4Ts Project', so named because it is located in the subregion that embraces the towns of Trangie, Tottenham, Tullamore and Trundle in Western NSW LHD. None of the four towns had been able to sustain their pre-existing general practices, and only two of the four could support a pharmacist. As the project leaders note[41]:

> Each of these four towns has an MPS with GP clinic space, an emergency department, limited acute care beds and residential aged care. The medical services for these LHD facilities have traditionally been provided by local GPs in private practice who have...VMO rights to the MPS. Informed by health needs data, the western NSW LHD has led the project since mid-2017, using a place-based approach to co-design services with community.

The 4Ts Project followed from a need to solve the problem that the GPs in all four towns had left and their practices had closed. This obviously created gaps in service delivery. Following stakeholder engagement, detailed planning was undertaken to investigate options for resolving the healthcare deficiencies. The establishment of collaborative subregional governance and the implementation of services then began.

New approaches to the integration of public- and private-sector primary care funding were needed, and it was recognised that this could occur only if existing inter-governmental funding boundaries could be restructured. The new approach has necessitated an application for exemption under section 19(2) of the *Health Insurance Act 1973* (see Appendix 1) so that health professionals could claim against Medicare for outpatient services provided in the MPSs. Recruitment of staff was in progress at the time of writing, with a new recruitment package for doctors and a tailored marketing strategy to attract the right health professionals to the subregion.[41]

The 4Ts project remains a bold experiment, but it does demonstrate the potential of a collaborative care framework with co-design and stakeholder engagement in bringing about major changes in service delivery models where market failure had caused existing models to founder.

5.3 Queensland Central West Single Practice Model

The Queensland Central West Single Practice Model is located within the Central West Health and Hospital Service district, which covers 22% of the area of Queensland. It has a resident population of approximately 12,500 (2015), and its largest health facility is Longreach Hospital, with 31 beds. Other than Longreach, the district contains four hospitals, located in Alpha, Barcaldine, Blackall, and Winton. General practices are also located in these five towns.

Two factors led to the establishment of the Single Practice Model. The first was a declining capacity of the existing workforce to sustain health service delivery for the district. The second was the recognition of the need for organisational, funding, service, education and clinical governance frameworks[42]. The main elements of the model are as follows:

- General practices in the five towns, owned by the Central West Health and Hospital Service owns the general practices in the five towns, with a single private-sector General Practice Management Company running the practices and responsible for service delivery
- A shared medical workforce across the district covering the hospitals and the general practices, with flexible deployment dependent on service requirements and individual doctors' skills.
- A contract between the General Practice Management Company and Queensland Health for the medical workforce to provide services in both the private sector (general practices) and the public sector (hospitals) with an agreed revenue split between the Company and the Central West Health and Hospital Service
- Approval under section 19(2) of the *Health Insurance Act 1973* for hospital services to be billed to Medicare (see Appendix 1)
- Unified clinical governance operating across the full range of public and private services
- An integrated care model across primary and secondary health services to enable continuity of care, effective clinical communication, a simple funding model, and enhancement of patients' experience
- An education and training strategy underpinning service provision, in order to promote the sustainability of the workforce.

The Central West Single Practice Service Model has been successful in that it has ensured the resilience and viability of the Central West Health and Hospital Service, and it has demonstrated a capacity to evolve and adapt in response to emerging problems.

5.4 Aboriginal community controlled health services: integrated primary care

Since the establishment of the Redfern Aboriginal Medical Service in 1971, Aboriginal community controlled health services (ACCHSs) have proliferated. More than 140 ACCHSs throughout Australia are now linked with the National Aboriginal Community Controlled Health Organisation (NACCHO).[43]

ACCHSs are major contributors to the delivery of primary care in rural and remote areas. Each ACCHSs is an incorporated Aboriginal organisation that serves and is managed by the local Aboriginal population. ACCHSs provide a broad range of integrated multidisciplinary clinical and prevention services with an emphasis on cultural safety and community engagement. They have been shown to be effective in improving outcomes for individuals in areas such as sexual health, maternal and child health, smoking cessation, dental health, and cardiovascular programs, and to deliver care for Aboriginal people that is equal to or better than that provided in traditional general practice.[44]

ACCHSs are described as ‘a practical expression of Aboriginal self-determination in Aboriginal health’.[45]

ACCHSs have great potential to serve as a model for integrated primary care services in rural and remote settings, with reference to community engagement, governance, and the range and quality of services that they offer. Indeed, they have inspired the new, more generalised concept of rural area community-controlled health organisations (RACCHOs),[39] mentioned above and described below.

KEY POINT

A valuable lesson from New Zealand is the importance of ensuring that generalist health professionals have the training and are credentialled to traverse primary and secondary care.

7.3 Multinational workforce framework

A multi-national, multi-professional partnership in the Northern Periphery and Arctic Region has developed a holistic, comprehensive framework for rural and remote workforce development. It can be implemented it in any rural or remote setting.

Starting in 2011, a multi-professional partnership of health service and other experts from seven countries in the Northern Periphery and Arctic Region (Canada, Greenland, Iceland, Ireland, Scotland, Norway and Sweden) worked to identify and test strategies and initiatives to recruit and retain health professionals in rural and remote areas. The outcome of the project was entitled ‘Making it Work: A Framework for Remote Rural Workforce Stability’. This framework is potentially applicable in all rural and remote settings. In the course of developing the framework, the partners reached the following conclusions[53]:

1. Commonalities: Rural and remote communities have much in common with each other across international boundaries. In many cases, rural communities have more in common with rural communities in other countries than they do with urban centres within their own national boundaries. Through transnational collaboration, we can learn from each other, and develop evidence-based strategies that make a difference in rural and remote environments.
2. Transience: Health, education and other service providers in remote/rural communities who stay for short bouts of time significantly limits the quality and cultural relevance of services.

3. Learning and Training: Investing in training of rural and remote residents, in rural and remote locations, for rural and remote jobs, leads to successful recruitment and stability of services in these locations.
4. Community Engagement: Every remote/rural community is unique. Initiatives targeting remote/rural communities should involve effective community engagement if they are going to be successful.

The Framework has three sections headed 'Plan', 'Recruit' and 'Retain'. Each section has three elements, as follows[54]:

'Plan': Planning may occur at local, regional or national level. It involves:

- Assessing, and regularly re-assessing, population service needs, and changing needs
- Identifying or developing an appropriate service model aligned with the needs
- Developing a profile of the most appropriate recruits and targeting them.

'Recruit': Recruitment is conducted at the local or regional level.

1. Potential recruits are given the information and support they need to make the decision to relocate.
2. The community is engaged so that recruits are integrated and welcomed when they arrive.
3. Support is provided to the recruits and, importantly, their families and partners or spouses.

'Retain': Retention focuses on support needed for:

- Training people for rural and remote health careers
- Professional development
- Team cohesion.

The partners identified five ingredients for success:

- Recognition of unique rural and remote issues
- Active community participation
- Adequate, targeted investments and dedicated resources
- An annual cycle of recruitment and retention activities
- Continuous monitoring, evaluation and learning from experience.

The Framework is likely to be very helpful in health workforce planning and development in NSW.

7 Specific initiatives applicable to different models

Specific interventions that affect the selection and training of students and junior health professionals have been shown to affect recruitment and retention in the rural and remote health workforce. Professional and social factors have also been shown to be influential. Financial incentives appear to improve recruitment and retention only of new graduates who are considering positions that have not previously been eligible for such support.

The Australian, Canadian and New Zealand initiatives described in Sections 6 and 7 above refer to the development of holistic, comprehensive models of rural and remote primary and secondary health care services. In addition to these comprehensive approaches, many evaluations of specific initiatives or interventions are available. The findings of the evaluations are consistent across different sites, and they are therefore likely to be widely applicable. All of these specific initiatives have been mentioned in the context of descriptions of comprehensive models given above. They are summarised below.[6]

- Evidence shows that financial incentives such as remuneration are less important in the recruitment and retention of the rural health workforce than a favourable social and working environment and conditions such as the availability of study and recreation leave with guaranteed backfill. A rigorous evaluation of the effect of financial incentives suggests that, while these incentives promote the recruitment of new graduates to locations that become newly eligible for financial incentives, they do not affect recruitment in any other group or situation, and do not affect retention.[8]
- The recruitment and maintenance of a sustainable rural or remote health workforce should involve a workforce supply ‘pipeline’ beginning with the recruitment of students who have an interest in and/or aptitude for rural careers.
- Strong evidence exists to support the recruitment of individuals who have a rural origin, and evidence also supports the value of rural placements in educational courses.[3] Recently it has been shown that training rural-origin students for extended periods in their home regions improves local retention.[2]
- The pipeline should provide secure rural employment for graduates (e.g. junior doctors) who plan to pursue a rural or remote career, with clear remuneration arrangements[34] and conditions that

enable graduates to pursue advanced training in areas in which they have an interest and which are relevant to their likely career location.

- Career opportunities should be matched to the training and experience that trainees have gained.[3] These career opportunities should be aligned with local health service needs and aim to fill identified service gaps.
- With regard to rural workplace retention, evidence suggests that place-based social engagement has important effects. Four social engagement themes have been identified: rural familiarity and/or interest; social connection and place integration; community participation and dissatisfaction; and fulfilment of life aspirations.[7] These are outlined in Box 2. Based on it, a framework – the Whole-of-Person Retention Improvement Framework – has been developed as a resource for rural health services and communities to use in addressing local workforce attrition.[55]

Box 2—Social processes influencing rural workforce retention[7]

Rural familiarity and/or interest includes

- Pre-existing social networks
- Liking for outdoor activities
- Personal circumstances such as a partner in or from a rural area.

Social connection and place integration include:

- A positive initial adjustment for non-locals
- Having a partner or family present, which reduces isolation and extends the social network
- Characteristics and/or culture of the town that support the connection and integration of non-locals
- Avoidance of continuing social dependence in non-locals

Community participation and satisfaction factors include:

- Sense of belonging to the community
- Attachment to place
- Enjoyment of rural lifestyle
- Attractiveness of the town and its environs
- Proximity to major centre

Fulfilment of life aspiration factors include:

- Merging of personal identity with place favours long-term stay
- Life stage, rather than rural origin, is the major determinant of retention for medium- to long-term stay (3+ years) – local or non-local health professionals in their middle years, partnered, and with pre-school or primary school aged children
- Town or community can meet the needs of the health professional and their significant others
- (Life course events such as children entering secondary school militate against retention.)
- (Health professionals in early adulthood generally also have a short duration of stay.)

KEY POINT

Research evidence supports several approaches that promote the recruitment and retention of health professionals in rural locations. These include the selection of students with interest and/or background in rural life; rural placements, both in university courses and for postgraduate vocational training; and detailed attention to working conditions and social and family support.

8 Conclusions

Safe, high-quality primary and secondary health services are fundamentally important for rural and remote communities. An appropriately trained and skilled supply of health professionals is essential to deliver these services. Both internationally and in Australia, new evidence has led to the development of integrated, comprehensive, multidisciplinary workforce models that have great prospects of success because they engage local communities in their design and governance, take account of local needs (and changing needs), and fulfil the professional and social needs and preferences of the rural health workforce. They also recognise the fact that no two rural communities are alike, and effective primary care can only occur where sufficient flexibility exists to configure services in ways that are compatible with local community preferences and behaviour.

These workforce models are mostly still being developed or evaluated. Their implementation at scale will be challenging because they invariably depend on the union of health services that that have not come together before. These different services are variously the responsibility of the federal government and state governments and variously operate in the public and private sectors. The federal/state and public/private sector boundaries are a major complicating factor militating against health service integration.

The workforce models that are most likely to be of interest for adoption in NSW include the '4Ts Project' model in Western NSW, the Queensland Central West Single Practice model, the proposed Rural Area Community Controlled Health Organisation concept derived from the experience of Aboriginal community controlled health services, and the Primary Care Networks that have been established in Alberta, Canada. Rural generalism is firmly entrenched in Australian, Canadian and New Zealand medical services and vocational training, and it is likely to be adopted by other health professions for rural career structures. Rural generalists have different roles in different places, but by virtue of the range of their skills, they are likely to be pre-eminent in any future upscaling of integrated rural primary and secondary care models.

In addition to the holistic models, numerous interventions have been proposed and/or studied with the aim of enhancing recruitment and retention of personnel for the rural and remote health workforce. It is now clear that educational programs should give preference to individuals who have a rural origin, and if possible, health professional students should have the opportunity of training in their locations of origin. An extended rural experience during the training period is also contributory. Graduates considering a rural career need to be able to pursue both their basic and their advanced training in rural environments – a fact recognised in Australia's rural training hubs.

Beyond the training stage, recruitment and retention are greatly influenced by professional and social satisfaction with the job and the place. Factors that enhance professional satisfaction include the opportunity to utilise skills and expertise acquired during training, a favourable work environment, good working conditions, and a supportive and consistent remuneration framework that allows for study leave and recreation leave and does not impose undue financial risk on individuals. Factors that enhance social satisfaction include a welcoming civic environment, formation of a local social

network, presence of family or a partner, mechanisms to enable partners to pursue their careers, schooling for children, and an enjoyment of the rural environment and lifestyle. The level of remuneration and other financial incentives seem to be less important than professional and social satisfaction. An internationally devised framework from the Northern Periphery and Arctic region gives a comprehension guide to the elements of primary and secondary care workforce recruitment and retention. In addition, an Australian framework is available to help determine whether individuals are likely to find social satisfaction in the rural setting where they plan to live.

Many examples of effective primary care services currently exist throughout NSW, so the need to consider new models of service delivery does not apply everywhere. Many small communities have excellent GP- or nurse-led local health services, often supported by community pharmacy and ambulance services, and well connected with higher-level services delivered through Local Health Districts and medical retrieval provided by organisations such as the Royal Flying Doctor Service and the Helicopter Emergency Medical Service.

Paper 3 takes up the themes that have been identified in this paper, and proposes strategies that might be considered for adoption in NSW. It should be recognised that the NSW health system, with the backing of Australian Government policies and investments, has been as close to the forefront of health workforce innovation as any other country that has a developed health system and a dispersed rural population.

Appendix 1: Exemptions under section 19(2) of the Health Insurance Act 1973 (Cwlth)

Appendix 1 gives an example of an exemption to legislation introduced specifically to enable health professionals working in rural and remote locations to be remunerated on a fee-for-service basis through Medicare while also being paid a salary from a state- or territory-run health service, or other government source. This exemption has been of widespread significance in supporting rural and remote clinical practice.

Section 19(2) of the *Health Insurance Act 1973* (Cwlth) prohibits the payment of Medicare benefits for a service where other government funding is provided for that service. Conditional exemptions overcome this.

> The Initiative provides for exemptions under s19(2) of the Act to allow exempted eligible sites to claim against the Medicare Benefits Schedule (MBS) for non-admitted, non-referred professional services (including nursing, midwifery, allied and dental services) provided in emergency departments and outpatient clinic settings. Queensland, Western Australia, New South Wales, South Australia, Northern Territory and Victoria all participate in the Initiative through a bilateral Memoranda of Understanding... with the Commonwealth which are currently active until 31 December 2021... The Initiative recognises that many patients in small rural and remote towns have limited access to primary health care services and that in response to a lack of private practices, many rural and remote public hospitals have employed medical officers to make traditional GP services available.

To be eligible for section (19)2 exemption, the practice site must be located within an area categorised 5-7 (outer rural, remote or very remote) under the Modified Monash Model (MMM) remoteness classification system.[56,57]

Appendix 2: Australian Government and NSW Government programs supporting rural workforce development

A2.1 Australian Government strategies

The 2019–20 Federal Budget committed $62.2 million to create the National Rural Generalist Pathway. This includes, *inter alia*: the John Flynn Prevocational Doctor Training Program, which supports year 1 and year 2 junior doctors to undertake rotations in rural primary care settings; the Rural Generalist Training Scheme, which funds training positions for rural generalist trainees under the auspices of ACCRM; and funding support for state-wide coordination units that coordinate the training pipeline for rural generalists and assists trainees in their transitions between hospital- and primary care-based training.[14,15]

Since the mid-1990s, the Australian Government's Rural Health Multidisciplinary Training (RHMT) program[31] and its predecessor programs have enabled metropolitan universities' health faculties to give health students high-quality short and extended rural placements and to deliver entire medical courses in regional centres. The placements involve terms in public-sector regional and local hospitals and attachments in general practices and other community-based clinical services; allied health students undertake placements in various community settings in which they deliver services under supervision. For example, speech pathology students undertake screening for abnormal speech development in primary schools in remote areas.

In addition, since 2018, the RHMT program has funded universities to establish regional training hubs in collaboration with regional health services (rural Local Health Districts in NSW). The hubs have a range of functions, from advising on rural medical careers to providing postgraduate teaching facilities in Schools of Rural Health and University Departments of Rural Health. The intent is to support state-funded specialist trainees, helping to give aspiring rural practitioners the opportunity to undertake advanced training in specialist fields in rural environments, thereby discouraging them from drifting to metropolitan centres and losing their impetus to stay in the country. It is too early to gauge the effectiveness of the regional training hubs or their ability to respond to local workforce needs; most rural specialist training posts in NSW depend more on input from Local Health Districts, and the contribution of the hubs appears to be variable. It is likely that the role of the hubs will extend to support for allied health professional development.

In recent years the Australian Government has bundled several initiatives under the Stronger Rural Health Strategy. It incorporates the following programs:

- The Workforce Incentive Program (WIP): This provides targeted financial incentives to eligible doctors and general practices to enable them to improve access to quality medical, nursing and

allied health services in regional, rural and remote areas and support multidisciplinary teams in general practice. It also supports primary health care practices across Australia to engage nurses, Aboriginal and Torres Strait Islander health workers and health practitioners, and eligible allied health practitioners. Within the WIP, a Doctor Stream pays incentives based on activity levels directly to doctors, and a Practice Stream pays incentives to practices to engage nurses, allied health professionals, and Aboriginal and Torres Strait Islander health workers and health practitioners across all locations.[58]

- Rural bulk billing incentives
- Strengthening the role of the nursing workforce: This includes the Nursing in Primary Health Care program, which aims to support the frontline role of nurses in primary care, and a project to raise awareness of nurse practitioners[59]
- Overseas-trained doctors in areas of doctor shortage[32]
- The Royal Flying Doctor Service (RFDS): Increased Australian Government funding committed for the period 2019–2023 will sustain current RFDS commitments to deliver emergency aeromedical evacuations, primary health clinics, medical chests, remote (telephone) consultations and dental outreach services to patients in rural and remote areas, and introduce a new mental health outreach clinic program[60]
- Support for Aboriginal and Torres Strait Islander health professional organisations. Funding is provided to four health professional organisations – the Australian Indigenous Doctors' Association, the Congress of Aboriginal and Torres Strait Islander Nurses and Midwives, Indigenous Allied Health Australia, and the National Association of Aboriginal and Torres Strait Islander Health Workers and Practitioners. Collectively, these organisations help to increase Indigenous participation in the health workforce by improving recruitment and retention of Indigenous health professionals in clinical and non-clinical roles, improving the skills and capacity of the Indigenous workforce, promoting culturally safe and responsive environments for Indigenous patients and health professionals, improving the completion, graduation, and improving employment rates for Aboriginal and Torres Strait Islander health students.[61]

A2.2 NSW Government strategies

NSW Government strategies and initiatives include the following:

- The NSW Rural Preferential Recruitment (RPR) pathway[36] supports junior doctors to spend their first two years based in a rural hospital. The NSW Health Education & Training Institute (HETI), which manages the intern (year 1 doctor) recruitment process in NSW, reports that the number of RPR positions has grown from 75 in 2012 to 150 in 2012.
- The NSW Rural Generalist Training Program[18] provides supported training pathways both for the four-year span of rural generalist training (starting in postgraduate year 2) and for advanced trainees seeking advanced skills. The latter are supernumerary positions at rural or regional hospitals, and they ensure that rural generalist trainees do not need to compete with specialist trainees for sought-after training positions. The Rural Generalist Training Program also offers $3,000 scholarships to each Rural Generalist trainee who starts advanced skills training.

- The NSW Rural General Practice Procedural Training[37] provides opportunities for rural GPs to acquire additional procedural skills, with 15 full-time positions available each year in anaesthetics, obstetrics, emergency medicine, mental health and palliative care medicine, as well as other fields.

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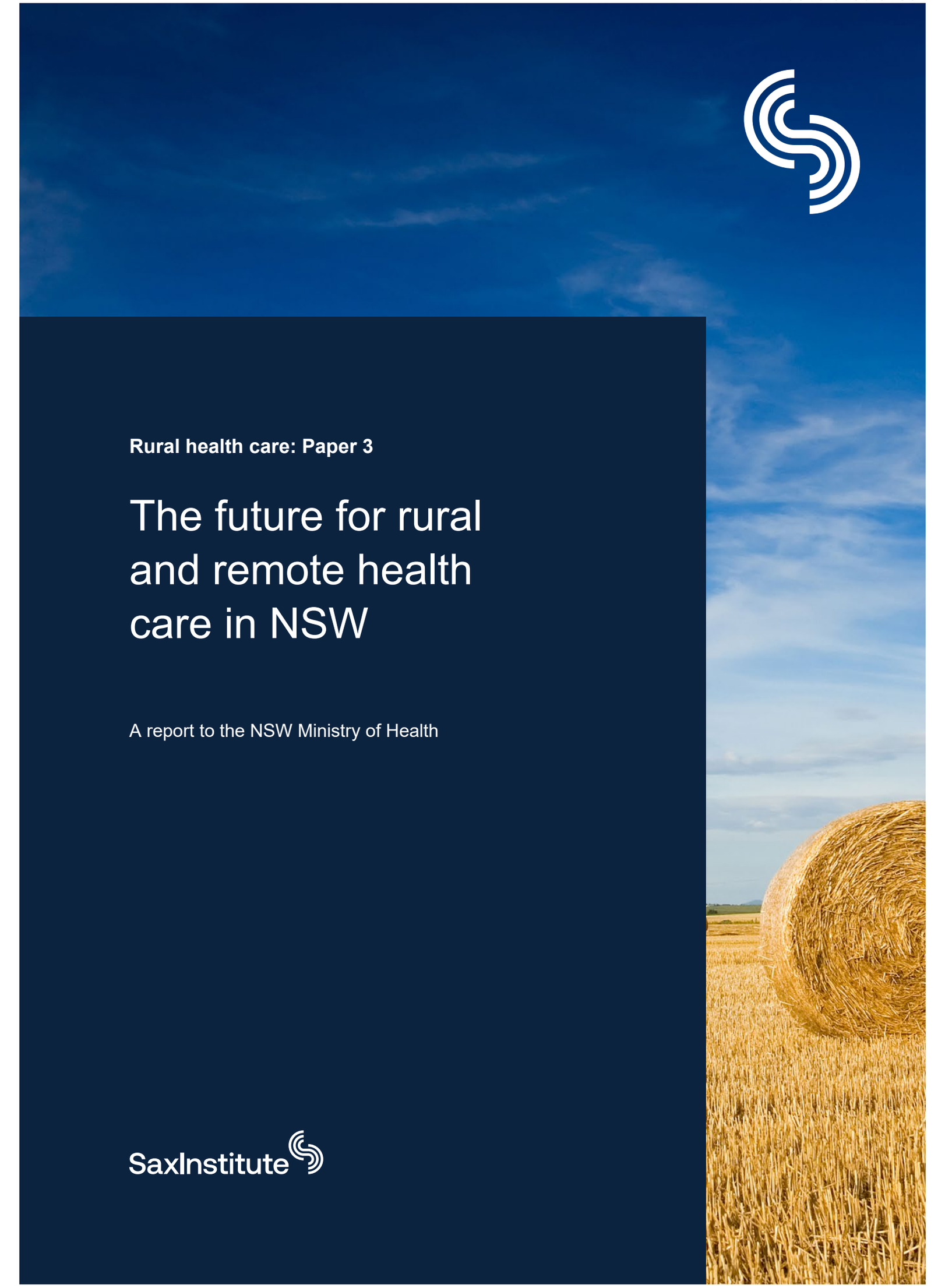

Rural health care: Paper 3

The future for rural and remote health care in NSW

A report to the NSW Ministry of Health

SaxInstitute

December 2021

Enquiries regarding this report may be directed to:

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Contents

Executive summary

This paper addresses the following questions:

Where have we come from and where are we going? What will rural health care and service delivery look like in 5 or 10 years from now? How do we take community with us on this journey? What are key components of successful engagement/ communication strategies? What can we do better?

Paper 1 in this series traced the development of rural and remote health care in NSW over the last 20–30 years and showed that many of the changes in Australia and internationally had evolved to accommodate improvements in safety and quality. Paper 2 examined strategies and initiatives that have been introduced to improve rural health services in NSW, elsewhere in Australia and internationally. This third and final paper projects 5–10 years into the future and suggests strategies for achieving sustainable high-quality rural and remote health care in diverse communities across NSW.

Papers 1 and 2 demonstrate that **primary care** is the key to safe, achievable, cost-effective health services for rural and remote communities. The focus is on multidisciplinary primary care with patients receiving **high-quality care from a *health service* rather than an *individual doctor*.**

The most visible outcome of the Australian and international strategies and initiatives described in Paper 2 has been **a widespread awareness of rural health workforce deficiencies** and **a great expansion of rural health professional education** along the entire length of the training pipeline from the commencing health student stage to the mature practitioner stage. Over the next five years we anticipate that this will continue to be strengthened.

A less visible outcome – one which now assumes great importance – has been the establishment (on a pilot scale) of area-based collaborations that bridge over the public/private and federal/state boundaries of the Australian health system to create **integrated multidisciplinary primary and secondary care services for localised communities.** Over the next 5–10 years we can expect to see a proliferation of these area-based collaborations, and policy initiatives, federal and state, to secure their continuation. The emphasis will be on multidisciplinary primary care networked to higher levels of care and reinforced by strong community engagement.

A prerequisite for this is a coalescence of Australian Government and NSW Government interests. The fact that **health services need to cross existing federal and state boundaries** is well known. The market failure of the Medicare fee-for-service system in small towns and remote areas is also well known. Many attempts have been made to patch the system with special Medicare items, subsidies and exemptions. While the patching has been helpful, it has not solved the problems due to the underlying market failure. No amount of patching will solve these problems.

KEY POINT

Many attempts have been made to patch the Medicare fee-for-service system for rural and remote service needs. The patching has helped, but it has not solved the problems.in rural and remote areas. It is time to call for new solutions.

Rural and remote communities often report difficulties in accessing health care and navigating health services. Health professionals may sometimes overestimate patients' understanding of how health services work, and patients may sometimes overestimate health professionals' capacity to recognise and manage patients' uncertainties. Communication is the core of these problems, and community engagement in the design, development and management of health services is a powerful way to promote understanding, improve the patient experience, and avoid problems.

The evidence reviewed in Papers 1 and 2 indicates that four strategies will assist in delivering high quality health services for rural and remote communities into the future:

Strategy 1: Lead processes to reduce divisions of responsibility for primary care across federal / state boundaries

A rebalancing of federal / state responsibilities for primary care is an essential prerequisite for sustainable high-quality rural health care. The task of integrating the many components of multidisciplinary primary care is made more complicated in Australia by the constitutional split between federal and state responsibilities for health and the involvement of both the private and the public sectors. Progress towards the goal of access to integrated multidisciplinary primary care for rural and remote communities depends on harmonising or unifying multiple policies and funding streams, rather than the present patchwork of partial solutions. While current partial solutions may have positive effects, they remain fragmented and lack the solid policy foundation that guarantees organisational stability and longevity. If governments do not have an appetite for aligning priorities and coordinated leadership across the federal / state divide, rural and remote health services will remain in their present patchy condition.

Evidence or expert opinion suggest the following will be of value:

- Clarify the roles of the Australian Government and the states and territories in relation to primary care and ensure that funding is aligned with these responsibilities
- Take initiatives towards a national policy process to support a collaborative approach to the delivery of primary care that rebalances responsibilities and funding for primary care
- Develop plans for sustainable funding and operation of integrated rural health services such as the proposed rural area community controlled health organisation (RACCHO) model.

Strategy 2: Identify and implement an integrated primary care model

Primary care is the key to safe, achievable, cost-effective health services for rural and remote communities.

The current emphasis on primary care as the foundation of rural and remote health services can be expected to intensify, and primary care services will be increasingly multidisciplinary. The focus will be on access, and communities will perceive the benefits of receiving high-quality care from a *health service* rather than an *individual doctor*. The health service team, rather than an individual practitioner, will provide continuity of care, supported by electronic systems for handover and clinical data entry. Team members will include doctors, nurses, midwives, allied health professionals, and others, each practising to the extent of their skills and competence. Teams may also contain community-based paramedics, and support may be provided by enrolled nurses and allied health assistants. Facilitated pathways to secondary and higher-level services will give rural and remote communities confidence that their access to all levels of high-quality health care is as close as possible to that of people who live in major centres.

No single model will work for all rural and remote communities. Some communities are served well by existing healthcare arrangements; models that have been shown to work will often have to be configured for local conditions; and some communities may need different model. A ‘one-size-fits-all’ approach is not feasible.

Evidence or expert opinion suggest the following will be of value:

- Reaffirm the goal of ensuring that all rural and remote residents of NSW should have access to safe, high-quality health care comparable to that available for urban residents
- Design rural health services that link primary care with higher levels of care, so that communities experience an integrated local healthcare service
- Select a health service model, such as the RACCHO model, that can be adapted for implementation in rural NSW sites where Medicare fee-for-service health care has failed
- Implement the model initially on a pilot scale, evaluate and refine it, and then introduce it at scale in all the parts of NSW where existing rural health services do not meet community needs, recognising this transition may take several years.

Strategy 3: Engage communities in local health service development

Community engagement in the design, development and governance of rural health services ensures that communities understand the structure of healthcare arrangements and know how to use the services available to them. It will also help ensure that health care is configured appropriately for local conditions and is accepted and supported.

The sustainability of health services also depends on community acceptance of changing modes of healthcare delivery. This requires an adequate level of health literacy in the population so that community members understand that the rationale for changes in their health service is to improve safety and quality.

Evidence and expert opinion suggest the following will be of value:

- Enable local health care providers to apply co-design principles, engaging local communities in the creative design and development of new rural health services, and in changes to health services
- Through active and appropriate communication, promote community understanding and acceptance of new models of care and clarity about how integrated service delivery works in their own area
- Actively involve communities in ongoing priority-setting and in the governance and management of their own local health services.

Strategy 4: Strengthen the rural health workforce, aligning training and education with health needs

Good health care depends on a strong, sustainable health workforce, composed of health professionals who have the necessary skills to serve their communities. Continued Australian Government and state government investment in education and training for the rural workforce is critical.

High-quality rural health care depends on a reliable supply of well-trained, appropriately skilled health professionals committed to rural service. Investment in a range of factors that promote the recruitment and retention of health professionals in rural areas is essential.

Evidence or expert opinion suggest the following will be of value:

- Sustain and strengthen education and training focused on health workforce development. A coordinated approach will be needed with action by the Australian Government, states and territories, colleges and universities
- Align investments in health workforce development with identified gaps in service delivery and skill shortages
- Advocate for Australian Government investment in the Vocational Education and Training sector to provide specific rural training opportunities for enrolled nurses and allied health assistants
- Enhance multidisciplinary primary health care by expanding the roles of health professionals whose potential contribution may be under-recognised at present; these include advanced nurses and nurse practitioners and community paramedics
- Promote rural generalism for nursing and allied health professionals as well as doctors delivering primary and secondary care in rural and remote settings

- Devise employment arrangements within the new health service model (Strategy 2) that attract and retain skilled and committed rural generalists, incorporating conditions that have been shown to attract and retain high-quality candidates (as set out in Box 1).

1 Introduction

This is the third and final paper in the series on the evolution of rural and remote health services. It projects 5-10 years into the future for rural health care, and proposes strategies for achieving sustainable high-quality rural and remote health care in diverse communities across NSW.

The proposed developments in rural and remote health services are consistent with longstanding policy aspirations to overcome rural-urban health differentials and improve rural health. The Australian and NSW Governments have made substantial investments and led effective programs towards this aspiration[1-5], but some bold decisions and changes, rather than continued adjustments, are now needed to bring together disparate components of the health system.

The current emphasis on primary care as the foundation of rural and remote health services can be expected to intensify, and primary care services will be increasingly multidisciplinary. The focus will be on access, and communities will perceive the benefits of receiving high-quality care from a *health service* rather than an *individual doctor*. The health service team, rather than an individual practitioner, will provide continuity of care, supported by electronic systems for handover and clinical data entry. Facilitated pathways to secondary and higher-level services will give rural and remote communities confidence that their access to all necessary health care is as close as possible to that of people who live in major centres.

High-quality rural health care depends on a reliable supply of well-trained, appropriately skilled health professionals committed to rural service. Investment in a range of factors that promote the recruitment and retention of health professionals in rural areas is essential. The sustainability of health services also depends on community acceptance of changing modes of healthcare delivery. This requires an adequate level of health literacy in the population so that community members understand that the rationale for changes in their health service is to improve safety and quality.

Community engagement in the design, development, and governance of local health services ensures that health care is configured appropriately for local conditions and is accepted and supported.

This report is in five sections including this Introduction:

- Section 2 depicts what rural health care might look like in 5–10 years in order to achieve the goal of accessible, safe, high-quality primary care, responsive to community needs and linked with secondary and higher-level services
- Section 3 examines the how the public / private and federal / state divisions in the Australian health system impede rural health care, and identifies what can be done to overcome these divisions
- Section 4 outlines three further key ingredients of high-quality rural health services: a well-trained workforce with a stable supply of health professionals; community understanding of how local services meet local needs; and engagement of communities in the design, development and governance of their health services

- Section 5 concludes the paper with some strategies for the NSW Government to consider, in collaboration with the Australian Government and health professional agencies, to achieve the envisaged outcomes.

2 What might rural health care might look like?

The policy imperative is, and must remain, to provide access to health care that meets the needs of rural and remote communities. Access does not just mean accessibility, which refers to location, specifically the distance between a patient's homes and the health care facility (or the time taken to travel to the facility). Access also encompasses availability (e.g. not having to wait long to be seen), acceptability (e.g. cultural and gender appropriateness of services), affordability, and organisation (e.g. times when open for appointment-based or walk-in attention, and physical amenity).[6]

Future rural health care will continue to be built on strengthened primary care services, linked efficiently to secondary and higher-level services. The emphasis on primary care is universally supported by governments, health service experts and rural health professionals throughout Australia and internationally. Based on evidence and experience internationally and across Australia, we anticipate that:

- Primary care services will be increasingly multidisciplinary. Effective community input and engagement will help to ensure that communities recognise and value the benefits of receiving high-quality care from a *health service* rather than an *individual doctor*. The health service team, rather than an individual practitioner, will provide continuity of care. Team members will include doctors, nurses, midwives, and allied health professionals. Teams may also contain community-based paramedics, Aboriginal health workers, enrolled nurses, and allied health assistants
- Facilitated pathways to secondary and higher-level services will give rural and remote communities confidence that their access to sophisticated health care is as close as possible to that of people who live in major centres
- Health services in regional centres will continue to become more advanced as regional hospitals are redeveloped, attract more specialists, and acquire more technological capacity. The need for patients from regional populations to travel to metropolitan centres for specialist care will continue to diminish
- The facilitated pathways from primary care to higher levels of care will depend on well-organised networks of health professionals. This will involve a rebalancing away from the current reliance, in many locations, on services provided by doctors, when evidence indicates that safe, high-quality primary health care can be delivered through multidisciplinary teams with improved access. The goal is to form, and maintain, an integrated service in each locality. Practically, integration means active and effective communication among the local health professionals, and between them and their colleagues in higher-level regional or urban services to whom they might refer patients. It also means active and effective communication between the health services and community members, so that patients and their families find their health service easy to approach and easy to understand.

KEY POINT

The policy imperative is to provide health care that meets the needs of rural and remote communities, through integrated services, that include multidisciplinary primary care linked to secondary and higher-level health services. Box 1 provides an example of how this might be achieved.

Box 1—Integrated Care: Rural Area Community Controlled Health Organisations

Paper 2[7] describes a range of models for integrated care internationally and across Australia. We anticipate that agreement on the common components of an appropriate model is likely, with flexibility to ensure that it is configured to meet the local context. The model will need to support strong local primary care.

The integrated model is likely to draw on international and local experience, and may look somewhat like the locally-based model of rural health service delivery proposed by the National Rural Health Alliance (NRHA), known as rural area community controlled health organisations (RACCHOs) or services (RACCHSs).[8] The NHRA describes RACCHOs as multidisciplinary community-based health service organisations that will employ GPs, nurses, midwives and allied health professionals. They will have strong local governance, management, and leadership, with service planning based on local needs. They will combine existing Australian Government and state government funding, presumably drawing together income from reimbursement of clinical and other eligible Medicare services and from state government payments for VMO services in small hospitals and MPSs.

While the overall RACCHO concept is likely to be consistent across each jurisdiction, the model will be adaptable to local needs and circumstances, recognising that no two rural communities are the same. In addition to their clinical services, RACCHOs could provide clinical training for the full range of health professionals and might be linked to universities and colleges to facilitate rural placements and training opportunities.

As yet, no example of a RACCHO exists. However, the model does resemble Aboriginal community-controlled health services in many respects, and has similarities with the subregional collaborative model in NSW (the '4Ts Project')[9] and the Queensland Central West Single Practice model[10] described in Paper 2. The four-phase collaborative care development process applied in the 4Ts Project could be invoked in establishing a RACCHO to provide a pathway for the engagement of communities in design, planning and governance.

Like the 4Ts Project, the RACCHO model has the greatest chance of success where there has been market failure of traditional Medicare-based fee-for-service general practice. The challenge in developing the RACCHO concept is to reach whole-of-government agreement on a stable funding approach. The fact that the RACCHO model is mentioned in the Australian Government's consultation draft *Future focused primary health care: Australia's Primary Health Care 10 Year Plan*

2022–2032[11] suggests that governments will have an appetite for the health system changes needed to make the RACCHO concept a viable option in at least some rural locations.

3 Health system issues

The primary care-centred approach described in Section 2 depends on people working together and understanding each other, and communities understanding how to use their health services.

The task of integrating the many components of multidisciplinary primary care is made more complicated by the constitutional split between federal and state/territory responsibilities for health and the involvement of both the private and the public sectors. Progress towards the goal of access to integrated multidisciplinary primary care for rural and remote communities depends on harmonising or unifying multiple policies and funding streams, rather than the present patchwork of partial solutions.

3.1 The current arrangements

As outlined in Papers 1[12] and 2[7], the definition of federal powers in Australia has resulted in a split of responsibilities for health between two levels of government, federal and state. The evolution of the health system has also led to the development of a strong private sector alongside the public sector. These divisions create inconsistent arrangements regarding reporting, accountability, funding and regulation, and inhibit the coordination and integration of services.

- In rural NSW, most general practitioners (GPs), who currently dominate primary care services, are (with a few exceptions) in the private sector. They operate on a fee-for-service basis; GPs may either bulk-bill Medicare or their patients may claim Medicare reimbursements. The same applies to most out-of-hospital specialist medical care. Through Medicare, general practice is largely funded by the Australian Government, which has some levers to influence the distribution of GPs*
- Other than in regional centres, where there are a few private hospitals, all rural hospital services and associated outreach activities are in the public sector. They are funded and regulated by state governments. They are funded and managed by Local Health Districts, which also employ or contract their specialist and non-specialist medical, nursing and allied health staff
- Most community-based allied health professionals and a few midwives and nurse practitioners are in private practice, and they also have very limited fee-for-service Medicare billing rights
- Other important rural services, such as some medical retrieval services (e.g., the Royal Flying Doctor Service) are directly funded by the Australian Government, but ambulance services are run by state governments. Aboriginal community-controlled health organisations operate as

* These levers include requiring international medical graduates to work in areas of need in order to be eligible to access Medicare; the Bulk Billing Incentives Program; the Practice Incentives Program; and the Bonded Medical Program requiring bonded medical graduates to work in areas of need.

independent not-for-profit corporations. They usually have multiple income streams that include grants from the Australian and state/territory governments and Medicare billing.

KEY POINT

Australia's health system is divided, with GPs, who are mostly private practitioners, funded predominantly through Medicare on a fee-for-service basis, while rural hospitals, which are mostly in the public sector, are run by state and territory governments (through, in NSW, Local Health Districts).

3.2 What is needed

A comprehensive rural and remote health service involves doctors, nurses, midwives and allied health professionals; Aboriginal health workers; ambulance services; medical retrieval services; health services management and administration; and infrastructure. With a medley of different lines of reporting, funding and infrastructure ownership, how would a service be integrated? How would all of these components engage with communities? Who would lead the service? How would reporting lines work? How would the different funding streams mesh with each other? The greatest challenge lies in bringing service components together across the public/private and federal/state boundaries in a way that complies with legislation, aligns with state government and Australian Government policies, and is acceptable to health professionals and communities.

The Australian models described in Paper 2[7] and in Box 1 are potential models for the future. However, most existing integrated models are corporates, with independent governance, but responsive to local needs. They combine multiple income streams and rely on the breadth of their funding base for the financial stability needed to keep their business going – that is, to employ staff, maintain infrastructure, obtain supplies, and deliver services. The multiple income streams include billing for activity (federal funds) and specific purpose grants (federal and state funds), and they usually receive in-kind support from Local Health Districts or their interstate equivalents (often reciprocated by service provision for the Local Health District).

While these arrangements have positive effects, they remain piecemeal and lack the solid policy foundation that guarantees organisational stability and longevity. Furthermore, they depend on specially invoked conditions, such as the exemptions under section 19(2) of the *Health Insurance Act 1973* (Cwlth) (described in Appendix 1 of Paper 2[7]), and also on the personal commitment and energy of individuals. The Australian examples of locally integrated primary care services are currently run as pilot-scale one-off models. To adopt them more widely, the divisions in the Australian health system would need to be overcome. This would require a policy framework developed by the Australian Government and state governments working together and incorporating the following:

- The Australian Government and state governments would have to agree to pool resources in ways that have not been attempted at scale before. This pooling could take many possible forms,

such as a more flexible use of fee-for-service remuneration than the present Medicare Benefits Schedule allows, or ‘cashing out’ equivalent sums to those currently being spent by government agencies and reallocating them. The case for such a step would best be supported by an expenditure analysis that estimates the likely impact on overall costs caused by a cashing-out approach, and that quantifies likely population health gains, particularly if direct healthcare costs were forecast to rise

- Governments would have to align their priorities and agree on the core components of acceptable approaches and models for rural and remote health care. This would require some risk-taking with change and coordinated leadership. Governments would also have to bring the health professions and rural communities along with them, in full understanding and support of new local service delivery models.

If governments do not have an appetite for aligning priorities and coordinated leadership across the federal / state divide, rural and remote health services will remain in their present patchy condition. The investigations undertaken by the NSW Legislative Council Inquiry into Rural and Remote Health provide an impetus for the NSW Government to exert leadership in establishing mechanisms to build and sustain safe, high-quality rural and remote health services. The NSW Government is well positioned to invite the Australian Government to discuss options, which could then be canvassed with the health professions and rural communities.

KEY POINT

Integrated multidisciplinary health services will require a solid policy foundation with the Australian and state governments working together to align priorities, agree models and pool resources at scale.

4 Other essentials for high-quality rural health care

4.1 Workforce

4.1.1 Ensuring a stable remote and rural workforce

A stable supply of well-trained health professionals is essential for the delivery of high-quality health services. 'Stable' means that the appropriately skilled workforce is committed to the rural environment and that the rate of turnover of personnel is sufficiently low for health professionals and administrators to get to know and become embedded in the communities in which they live and work, and for the numbers of healthcare professionals at the local level to remain roughly constant. Throughout Australia and in comparable countries overseas, rural and remote health services have had difficulty recruiting and retaining a committed workforce. Services are therefore often held together by high-cost *ad hoc* solutions that fill an immediate gap but do not build a workforce.[12]

As noted in Paper 2[7], a substantial investment has already been made by governments in the rural workforce over many years. Several longstanding programs of funding have made and are continuing to make a major difference to the rural medical workforce, and successful initiatives from medicine are being adopted in rural allied health training.

Much research has been done on the factors that influence the recruitment and retention of rural doctors and there is consistent evidence on what works (Box 2). The implementation of an evidence informed approach consistent with the factors listed in Box 2 requires deliberate and careful planning for each new position, and preparation, induction and follow-up of each new entrant into a rural position. An investment must be made in this, and responsibility for it must be identified and appropriately delegated.

The 'Making it Work' model, developed jointly by health services and academic groups in Canada, Iceland, Ireland, Scotland, Norway, Denmark and Sweden, provides a useful guide for building a stable rural and remote workforce.[13] Its major features are outlined in Paper 2.[7] We suggest that a similar approach will be needed in Australia (an Australian version of 'Making it Work') with a clear plan agreed by the Australian government, states and territories, colleges and universities.

Box 2—Evidence-based contributors to a stable rural and remote health workforce

- Selection of individuals for basic undergraduate/graduate entry who are interested in and have an aptitude for a rural career; especially those who have a rural origin, and in particular those who are 'home-grown', able to attend their university course close to their rural home[14,15]

- Extended rural exposure during basic undergraduate/graduate-entry programs[16]
- Opportunities to take junior rural jobs after graduation, e.g., as junior doctors, or as newly-graduated nurses or allied health professionals[17]
- Opportunities to undertake higher training in a rural environment, e.g., as an advanced trainee in a field of medicine within a regional hospital, or as a part of the training for nurse practitioner status[17,18]
- Higher training that equips trainees with the skills that they need for rural practice[19]
- Career opportunities that allow new and established full-qualified health professionals to use the range of skills that they have acquired[19]
- Rural positions that provide good practice infrastructure and obviate the need for practitioners to make an up-front financial investment in it when they move to the position[19]
- Working conditions that include paid study leave and recreation leave with organised, paid backfill[19]
- Partner and (where they exist) other close family members located with the health professional in the rural site[20]
- Professional opportunities for spouse[20]
- Local schooling for children[20]
- A social environment in which the health professional and their family can form a social network[20]
- Increased remuneration is only the solution in special circumstances.[19,21]

Reproduced from Paper 2[7]

KEY POINT

A stable supply of health professionals for rural and remote areas depends on a strategic approach to recruitment and retention and an investment in the factors that have been shown internationally to favour rural health workforce retention.

4.1.2 Rural generalists

In Australia, Canada and New Zealand, rural generalists have been designated as the leaders of clinical services. A ‘rural generalist’ is a doctor who has trained as a GP and has advanced training in specialty fields that are important for rural practice, but the term is now also being applied to allied

health professionals.[22] In medical circles, the roles of rural generalists continue to be debated, and there are differences in the assigned roles in different places, as also discussed in Paper 2.

In considering the future of primary and secondary care in NSW, it is important to maintain the focus on developing and sustaining integrated multidisciplinary teams that meet community needs, rather than potential variations in roles of individual professions. Within the context of community needs, multidisciplinary teams in NSW will need doctors who have the expertise of rural generalists. Their main role will be to deliver community-based primary medical care and to support their colleagues in other disciplines. This reflects their present roles in NSW[23] and Canada.[24] It differs from their main present roles in Queensland[25] and New Zealand[26], where the emphasis is on hospital-based employment and hospital-based medical services. Rural generalist doctors in NSW will also provide medical services in small hospitals and multipurpose services, but this will be a subsidiary role. Present questions about the employment and remuneration of rural generalists in NSW will inevitably be absorbed into the broader changes proposed in Section 3, creating new models that bridge the public/private and federal/state divides.

KEY POINT

Rural generalists are likely to have an important role in rural health care in the future. The nature of this role will depend on the models of practice that are adopted in rural primary and secondary care.

4.1.3 Multidisciplinary teams

While the rural multidisciplinary primary care team conventionally embraces doctors, nurses, and allied health professionals, a broader range of health professionals is likely to contribute significantly in future. The possibility of paramedics working in the community is currently receiving attention[27], and it is easy to see how their expertise might be valued in emergency and other acute care situations. Aboriginal health workers have long been essential members of Indigenous health teams and prominent within Aboriginal medical services, but their inclusion in population-wide integrated primary care teams has been less widespread. An expanded presence of enrolled nurses and allied health assistants would enhance primary care capacity and expand the engagement of the vocational education and training sector in rural health. Last and most importantly, the enhancement of rural primary care is likely to call for a bigger and more prominent role for nurse practitioners and other advanced nurses, and for the closer linkage of nurse practitioner training programs with gaps in rural health service provision.[28]

KEY POINT

Multidisciplinary primary health care will be enhanced by making the best use of all the available expertise in rural and remote communities,

embracing health professions such as paramedics, Aboriginal health workers, enrolled nurses and allied health assistants.

4.2 Community engagement and effective communication

Abundant evidence exists to show that collective creativity of community involvement in the planning, governance and organisation of health services helps to make them work.[29] This is partly because community involvement helps to convey community needs clearly and comprehensively, partly because it generates a sense of participation and ownership, and partly because shared development and management of services results in community members having an understanding of how health services work, and why they work the way they do.

While much has already been done in Local Health Districts across NSW to enhance community engagement, opportunities remain to strengthen community engagement to ensure that the envisaged new models of care meet the needs of local communities.

Given the size of NSW and its geographic, demographic and economic diversity, the configuration of health services will inevitably vary across the state. 'One size fits all' is not feasible for rural and remote health services. However, fundamental characteristics of service delivery models can be constant while allowing operational aspects to be adjusted for local needs. Community engagement is clearly essential to get these operational aspects right. It is also important for identifying important gaps in service delivery and formulating solutions, and of course for setting priorities. An engaged community is likely to appreciate and accept the rationale for changes in an evolving health service, and embrace rather than object to the changes.

Just as service model design should acknowledge that each community is unique, so too should engagement strategies. Various theoretical models support resources being assigned to effective community engagement, and practices can fall anywhere along a five-point gradient, starting with 'inform' (a one-way engagement in which information is presented with little to no opportunity for input or engagement), and progressing to 'consult', 'involve', 'collaborate' and 'empower'. The latter is considered to involve the highest level of participation (and, under theories of self-determination, potentially the highest level of community acceptance), but consideration should be given to the likely level of community participation when designing a community engagement strategy.[30]

An Australian literature review indicates some common features of effective community engagement practice: leadership by community and health service figures; trust; external links and networks; a shared vision for community health; use and value of community resources; and evaluation and reflective learning.[31] Trust is particularly important and building trust should start early, with open and transparent communication and the creation of supportive environments where input and feedback is encouraged and respectfully considered. The form in which information is shared is also important; accessibility is the key, and the needs of the community must be prioritised in terms of when and how they prefer to receive, digest and discuss information (for example, arrangements made for linguistic groups and relevant cultural considerations.[30]

Communication forms the core of community engagement, but a detailed and structured approach is essential in considering the identification of opinion leaders, the composition of groups, mechanisms for listening to what people have to say, mechanisms for setting aside vexatious input with grace and tact, and processes for the direct and continuing involvement of those who have much to contribute. Where the makeup of communities is diverse, coverage of the diversity is highly important. Aboriginal and Torres Strait Islander perspectives are of course essential, and Indigenous interests add dimensions of history, past and present culture, relationships, and place. Above all, services must meet the needs of local Indigenous communities.

KEY POINT

Community engagement in the design, development, and governance of local health services ensures that health care is configured appropriately for local conditions and is accepted and supported.

As health care changes, it will be important to ensure effective communication and enhanced health literacy, so that communities understand the new arrangements, including the rationale and benefits. It will be critical that all members of the community understand how to optimise their access to services. As it evolves, primary and secondary health care in country areas will look different to patients. The idea of an on-site doctor in every country town has been superseded – and in many cases rendered unnecessary – by advances in medical and communications technology, improved ways of working, shifting lifestyle and professional expectations, and new systems, processes and expectations regarding safety and quality. As outlined in Section 2, future rural health care will be provided by a *health service* rather than an *individual doctor*. Health care will be multidisciplinary; the multidisciplinary team will contain at least one doctor, but will not necessarily be doctor-led.

The gains for communities will be an assurance of safe, high-quality primary and secondary care services, and good access to the local healthcare team. In some towns, team members will have an onsite presence, but those who are based elsewhere are likely to visit nearby towns frequently. Patients in more remote or sparsely populated communities will have options: appointments to see healthcare professionals when they visit patients' hometowns, appointments to see healthcare professionals in nearby towns, and telehealth appointments. With enhanced health literacy, communities will be able to recognise the benefits of a shift from an on-site doctor-only or doctor-led service to a high-quality multidisciplinary service bringing together several different modes of prevention and care, including telehealth.

Sometimes patients will need to travel to a regional centre, particularly for higher-level care. This is nothing new: rural and remote communities have always accepted the need to travel to a larger town for higher-level care. Country people generally recognise that a high-level hospital can exist only where the population size (and hence the patient load) is sufficient. The growth of health services in regional centres means that patients will continue to have reduced need to travel to metropolitan centres. It also means that regional centres will have a stronger outreach capacity to support the multidisciplinary teams that provide care in for the more remote locations.

As new types of health services are considered, designed and implemented, community-wide explanations of why they are designed as they are, and how they work, will be paramount, and time, energy and other resources must be put into this aspect of communication. In addition, the engagement of communities in the design and governance of local health services will enhance their acceptance.

KEY POINT

Effective communication and enhanced health literacy will assist communities to recognise the benefits of a shift from an on-site doctor-only or doctor-led service to a high-quality multidisciplinary service.

5 Conclusions: where are we now, and what can we do better?

5.1 Where are we now?

The three papers in this series have outlined the evolution of rural and remote health care and opportunities to improve rural health services in NSW in the context of developments in Australia and internationally.

The most visible outcome of the strategies and initiatives described in Paper 2[7] has been a widespread awareness of rural health workforce deficiencies and a great expansion of rural health professional education along the entire length of the training pipeline from the commencing health student stage to the mature practitioner stage. A less visible outcome – one which now assumes great importance – is the establishment (on a pilot scale) of area-based collaborations that bridge over the public/private and federal/state boundaries of the Australian health system to create integrated multidisciplinary primary and secondary care services for localised communities.

Over the next 5–10 years we can expect to see a proliferation of these subregional collaborations, and policy initiatives, federal and state, to secure their continuation. The emphasis will be on multidisciplinary primary care networked to higher levels of care and reinforced by strong community engagement.

A prerequisite for this is a coalescence of Australian Government and NSW Government interests. The fact that health services need to cross existing federal and state boundaries is well known. The market failure of the Medicare fee-for-service system in small towns and remote areas is also well known. Many attempts have been made to patch the system with special items, subsidies and exemptions, and while the patching has been helpful, it has not solved the problems due to the underlying market failure. No amount of patching will solve these problems. It is time to stop thinking of rural health care as a smaller and more spartan version of urban health care, and to adopt one or more of the new designs outlined in Paper 2.[7]

KEY POINT

Many attempts have been made to patch the fee-for-service system, and while the patching has been helpful, it has not solved the problems of health care in rural and remote areas. It is time to call for new solutions.

5.2 What can we do better?

The trends and analysis presented in this paper and Papers 1[12] and 2[7] suggest strategies that will strengthen and sustain rural and remote health care. Over-arching the strategies is a clear imperative for change. Approaches taken to date to resolve deficiencies in rural health care do not go far enough. These approaches have tended to take the form of adjustments to current paradigms, such as additional subsidies and exemptions to Medicare billing rules, and will not achieve the necessary sustainable effects. More fundamental change is essential. It will depend on innovation, collaboration, and objectives shared across jurisdictions, professions, institutions, and communities.

The evidence reviewed in Papers 1[12] and 2[7] indicates that four strategies will assist in delivering high quality health services for rural and remote communities into the future.

Strategy 1: Lead processes to reduce divisions of responsibility for primary care across federal / state boundaries

A rebalancing of federal / state responsibilities for primary care is an essential prerequisite for sustainable high-quality rural health care. The task of integrating the many components of multidisciplinary primary care is made more complicated in Australia by the constitutional split between federal and state responsibilities for health and the involvement of both the private and the public sectors. Progress towards the goal of access to integrated multidisciplinary primary care for rural and remote communities depends on harmonising or unifying multiple policies and funding streams, rather than the present patchwork of partial solutions. While current partial solutions may have positive effects, they remain fragmented and lack the solid policy foundation that guarantees organisational stability and longevity. If governments do not have an appetite for aligning priorities and coordinated leadership across the federal / state divide, rural and remote health services will remain in their present patchy condition.

Evidence or expert opinion suggest the following will be of value:

- Clarify the roles of the Australian Government and the states in relation to primary care and ensure that funding is aligned with these responsibilities
- Take initiatives towards a national policy process to support a collaborative approach to the delivery of primary care that rebalances responsibilities and funding for primary care
- Develop plans for sustainable funding and operation of integrated rural health services such as the proposed Rural Area Community Controlled Health Organisation (RACCHO) model.

Strategy 2: Identify and implement an integrated primary care model

Primary care is the key to safe, achievable, cost-effective health services for rural and remote communities.

The current emphasis on primary care as the foundation of rural and remote health services can be expected to intensify, and primary care services will be increasingly multidisciplinary. The focus will be on access, and communities will perceive the benefits of receiving high-quality care from a *health service* rather than an *individual doctor*. The health service team, rather than an individual

practitioner, will provide continuity of care, supported by electronic systems for handover and clinical data entry. Team members will include doctors, nurses, midwives, allied health professionals, and others, each practising to the extent of their skills and competence. Teams may also contain community-based paramedics, and support may be provided by enrolled nurses and allied health assistants. Facilitated pathways to secondary and higher-level services will give rural and remote communities confidence that their access to all levels of high-quality health care is as close as possible to that of people who live in major centres.

No single model will work for all rural and remote communities. Some communities are served well by existing healthcare arrangements; models that have been shown to work will often have to be configured for local conditions; and some communities may need different model. A 'one-size-fits-all' approach is not feasible.

Evidence or expert opinion suggest the following will be of value:

- Reaffirm the goal of ensuring that all rural and remote residents of NSW should have access to safe, high-quality health care comparable to that available for urban residents
- Design rural health services that link primary care with higher levels of care, so that communities experience an integrated local healthcare service
- Select a health service model, such as the RACCHO model, that can be adapted for implementation in rural NSW sites where Medicare fee-for-service health care has failed
- Implement the model initially on a pilot scale, evaluate and refine it, and then introduce it at scale in all the parts of NSW where existing rural health services do not meet community needs, recognising this transition may take several years.

Strategy 3: Engage communities in local health service development

Community engagement in the design, development and governance of rural health services ensures that communities understand the structure of healthcare arrangements and know how to use the services available to them. It will also help ensure that health care is configured appropriately for local conditions and is accepted and supported.

The sustainability of health services also depends on community acceptance of changing modes of healthcare delivery. This requires an adequate level of health literacy in the population so that community members understand that the rationale for changes in their health service is to improve safety and quality.

Evidence and expert opinion suggest the following will be of value:

- Enable local health care providers to apply co-design principles, engaging local communities in the creative design and development of new rural health services, and in changes to health services
- Through active and appropriate communication, promote community understanding and acceptance of new models of care and clarity about how integrated service delivery works in their own area

- Actively involve communities in ongoing priority-setting and in the governance and management of their own local health services.

Strategy 4: Strengthen the rural health workforce, aligning training and education with health needs

Good health care depends on a strong, sustainable health workforce, composed of health professionals who have the necessary skills to serve their communities. Continued Australian Government and state government investment in education and training for the rural workforce is critical.

High-quality rural health care depends on a reliable supply of well-trained, appropriately skilled health professionals committed to rural service. Investment in a range of factors that promote the recruitment and retention of health professionals in rural areas is essential.

Evidence or expert opinion suggest the following will be of value:

- Sustain and strengthen education and training focused on health workforce development. A coordinated approach will be needed with action by the Australian Government, states and territories, colleges and universities
- Align investments in health workforce development with identified gaps in service delivery and skill shortages
- Advocate for Australian Government investment in the Vocational Education and Training sector to provide specific rural training opportunities for enrolled nurses and allied health assistants
- Enhance multidisciplinary primary health care by expanding the roles of health professionals whose potential contribution may be under-recognised at present; these include advanced nurses and nurse practitioners and community paramedics
- Promote rural generalism for nursing and allied health professionals as well as doctors delivering primary and secondary care in rural and remote settings
- Devise employment arrangements within the new health service model (Strategy 2) that attract and retain skilled and committed rural generalists, incorporating conditions that have been shown to attract and retain high-quality candidates (as set out in Box 1).

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