



A TEXTBOOK OF

Australian Rural Health

Editors Siaw-Teng Liaw and Sue Kilpatrick



ARHEN
Australian Rural Health Education Network

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australian rural health

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Introduction

Siaw-Teng Liaw

Objectives and purpose

Australia is a highly urbanised society with about 70% of its population living in capital or major cities. Of the remaining 30%, 45% live in regional cities or large country or coastal towns and surrounding areas, 45% in small country or coastal towns and surrounding areas and about 10% in remote areas (AIHW 2002). Australian society has evolved in line with the environmental, infrastructural, economic and political changes over the decades. However, rural Australians, especially Indigenous Australians, have not gained as many benefits as their urban counterparts. While Australians enjoy one of the highest living standards in the developed world (AIHW 2005a), there are health differentials between metropolitan and rural Australia. The reasons for these differentials are multifactorial, but key factors are distance from health services, the fact that two-thirds of Indigenous Australians live in rural Australia, and the 20-year difference in average life expectancy between non-Indigenous (80 years) and Indigenous Australians (60 years).

Rural health in Australia is defined by the shared experiences, understandings and actions of rural health professionals in a range of service settings and in social and physical environments.

The primary objective of rural health and rural health professionals is to facilitate the transformation of rural society towards vibrant healthy communities, which will form an integral part of an urban–rural continuum of healthy Australian communities. The urban–rural continuum in all sectors of society, from commerce to education to health, should be supported by reliable and sustained infrastructure such as transport and telecommunications. There will be little difference between rural and urban communities in terms of social capital and built environment. Like any health service, rural health services should match the needs of their communities, with community development and sustainability as key principles.

In this book, ‘rural’ is defined very generally as non-metropolitan. Case studies will flesh out this general meaning with more specific details. These cases are selected to highlight the uniqueness and large variety of individual rural communities in rural Australia and reflect the range of physical, economic, social and cultural environments. Indigenous is defined as including Aboriginal and Torres Straits Islanders. When ‘Aboriginal’ is used, it is usually in a local context, in specific situations or as a proper noun in names such as Aboriginal Community Controlled Health Organisations.

To prosper, rural communities require resources, services and people. While rural communities differ, they all share similar issues of geographical and social isolation,

relative lack of resources and infrastructure, relative lack of services, and an ageing community. Community-specific factors that will determine the nature of rural health services include: ageing and feminisation of the health workforce; changing expectations of health care providers concerning the balance between their personal and professional lives; increasing consumer expectations for more varied and more complex services (eg genetics testing and counselling); and increasing emphasis on the safety and quality of care.

Supportive government policies which transcend politics, and a credible and funded workforce and employment strategy are essential to ensure rural communities receive much-needed resources and services, and a quality workforce to provide and maintain these services. A cultural change in health services and government to emphasise capacity building, education, training and support is a key factor in recruiting and retaining a high-quality workforce. Resources include transport and infrastructure, good information and communication technology, and support. eHealth will become increasingly important in ensuring the effective delivery of quality health care to residents of the many small rural and remote communities dispersed across Australia. In the words of the European Information Society (2007), eHealth is ‘... today’s tool for substantial productivity gains, while providing tomorrow’s instrument for restructured, citizen-centred health care systems and, at the same time, respecting the diversity of our multicultural health care traditions’.

As a rural health professional and academic community committed to the mission of healthy and vibrant rural communities, we can align ourselves with and be guided by a key strategy of the 2007 National Health and Medical Research Council (NHMRC) Strategic Plan, the *Virtuous Cycle* (NHMRC 2007). The *Virtuous Cycle* emphasises the central role of the academic sector as the driving force for a mutually reinforcing partnership between the academic sector, industry and government. This approach facilitates evidence-based practice and policy, and is also consistent with the community engagement and development aims of the University Departments of Rural Health (UDRH) and Rural Clinical Schools (RCS) programs. It requires good data and information, clear policy directions and priorities, and an implementation plan with a budget.

It is important to recognise the limitations of the data and information available to describe the health patterns of rural Australians. The AIHW (2005a) has recommended that these data should be used with caution, mainly because of the small population size, limited amount of data available and methods of data collection. In addition, because approximately two-thirds of Indigenous Australians live in rural Australia, some regional data may be a reflection of the health of Indigenous rather than rural Australians (AIHW 2005a).

Policies and fiscal priorities set by governments should be guided by ongoing consultations with rural consumers, professionals, academics, communities and industries. An information-enhanced and evidence-based approach is essential to plan, implement and evaluate innovative programs to contribute to healthy rural communities.

The implementation of current rural policies will require well-trained and supported professionals recruited to, and retained in, rural communities. While there is still a significant shortage of personnel, the numerous health rural programs in the past decade such as Rural Health Support, Education and Training (RHSET), Rural Undergraduate Support and Coordination (RUSC), UDRH and RCS programs are beginning to show results.

A Textbook of Australian Rural Health describes how rural health professionals and rural communities are currently working towards healthy rural communities. The conceptual framework used to describe these activities includes population capacity and health in the urban-rural continuum, access and equity, cultural security, privacy and confidentiality in small rural communities with numerous overlapping relationships, and interprofessional team practice and systems. It draws on the experience and practical wisdom of educators, students, service providers and communities involved in health and health-related activities — clinical or academic — in rural and Indigenous settings.

In addition, significant rural issues are analysed with regard to relevant and contemporary conceptual frameworks, professional practice and personal lifestyles. Issues included are common or topical, have international implications, address innovative future practice or present challenges for learning or teaching. Analyses are accompanied by a comprehensive collection of case studies that describe the interaction of activities in rural health education with rural health services and rural communities within the geopolitical framework of rural and Indigenous settings.

A Textbook of Australian Rural Health is intended to be a national resource for all students, educators and professionals with an interest in rural health or a commitment to working in the rural setting. All health professionals, be they teachers or students, should find this resource useful for highlighting practical and important areas within a conceptual framework of rural health. We encourage all health educators to use it in constructing rural health curricula, interventions and assessments across professions and disciplines. The book is designed to be used by students and educators in both teaching university and rural placement facilities. The book is not intended as a tool for training students in areas of core competencies for their professions.

How the book is organised

This book uses case-based teaching and learning and promotes self-directed learning to guide readers in their explorations and encounters with rural Australia. The approach is that of a workbook based on case studies, key points and learning activities. Where indicated, practical protocols and instructions will be provided. All author contributions are based on the theory, practice and narratives of educators, students, rural health service providers and rural communities. Some of the case studies are based on real situations with names of towns and people changed to preserve confidentiality in some circumstances.

The book is divided into three parts. Part A addresses the underlying terminology, policies and conceptual framework currently used and applied in rural health in Australia.

Part B addresses the key concepts in practice, focusing on population health, access and equity, and competencies. It also examines the pros and cons of the proposition that eHealth will address many of the issues of rural health. Part C identifies some current learning resources available.

To improve the usefulness of this book and to promote self-directed learning, each individual chapter includes recommended readings or resources. All other references are listed in Part C in alphabetical order.

Part A — Terminology, policies and conceptual framework

Part A describes the underlying conceptual framework, including:

- the terminology used at local, state and federal levels, and government policy and priorities in rural and Indigenous health (Chapter 1)
- a generic conceptual framework for rural health issues, key concepts in rural health and the different ways in which these concepts interact in practice (Chapter 2).

Part B — Key concepts in practice

The main body of the textbook, Part B, describes the key concepts in practice. It is divided into four sections:

- Section 1 — Population health and capacity (Chapters 3–6)
- Section 2 — Access, equity and support for rural health professionals (Chapters 7–9)
- Section 3 — Competencies for rural health practice (Chapters 10–13)
- Section 4 — Is the future eHealth? (Chapters 14–15).

The content of each of these sections is described below.

Section 1 *Population health and capacity*

This section covers health, culture and community capital and capacity, community capacity building programs and performance measures, population health programs and performance measures, and population health and epidemiology.

Chapter 3 uses the diversity of cultures, social characteristics and physical environments of rural and remote Australia to help the reader understand the influences of sociocultural factors on rural practice, health-related behaviour and outcomes. It emphasises the cultural and social dimensions of the relationships between individual and collective health and wellbeing. It examines how community cohesiveness and collaboration, accompanied by capable local leadership and links to external networks and resources, may strengthen the position of isolated rural communities in political and policy processes and therefore improve access to a range of health services.

Chapter 4 introduces the community of place and of interest as a basis for understanding cohesiveness, capacity and social capital within communities that have inherent inequalities and divisions. It shows how community capacity is appraised and measured and how it supports community health development in rural Australia.

Chapter 5 explains the principles of a population perspective of rural health, the varying distribution of disease across rural areas, and some of the sociodemographic pressures on the health of rural populations. This chapter also examines national and state data collections, key issues and priorities.

Chapter 6 examines the development, implementation and evaluation of population health programs, with a focus on Indigenous health. It describes a number of approaches to the evaluation of population health programs including mixed methods and some of the challenges to mounting population-based interventions in rural areas.

Section 2 Access, equity and support for rural health professionals

This section covers health service models or programs and performance, and workforce issues such as recruitment, retention and re-entry programs and performance.

Chapter 7 explores how new primary care practice models shape the relationships between medical, nursing and allied health care professionals working in regional, rural and remote settings. It emphasises the need for innovation to deliver health care in remote settings, and discusses the different types of health service buildings required to meet the needs of smaller communities. This chapter also compares specialist medical care and workforce requirements in rural and major metropolitan settings. Chronic disease self-management in rural settings is examined by looking at primary and secondary disease prevention.

Chapter 8 examines the place and impact of health service planning and development for rural health workforce recruitment and retention.

Chapter 9 discusses the challenges of building and maintaining a rural health workforce, exploring professional and personal factors such as ageing, feminisation, lifestyle factors, dysfunctional models of service provision and the political environment. Political and economic issues such as withdrawal of services in smaller rural communities resulting in fewer opportunities for education, training and employment are highlighted. Health service delivery is examined in the context of: market forces such as competition, cost-effectiveness and increased accountability; social, cultural, professional and geographic isolation; and class and socioeconomic status. The effectiveness of support programs in the successful recruitment and retention of health professionals is examined. The roles (and their overlap) and relationships of health professionals in diverse rural communities, from a regional centre to a remote bush-nursing post, are examined.

Section 3 Competencies for rural health practice

This section considers the competencies important to professional rural practice and clinical decision making. It takes an interprofessional approach to health care,

emphasising the individual variations among rural Australians from different cultural backgrounds. Chapters 10 and 13 emphasise that cultural identity is very individual and evolves with time and place as the individual adapts to the physical and cultural environment.

The Indigenous health sector specifically uses the term ‘cultural security’ in an all-encompassing context, covering the individual, family, community, health services organisation, government and environment. In a culturally secure environment, the individual feels ‘culturally safe’, the health professional is ‘culturally competent’ and the service provided is ‘culturally appropriate’. The health services organisation that meets the benchmarks for cultural safety, cultural competence and cultural appropriateness is ‘culturally secure’.

Chapter 10 considers the cultural skills and competencies appropriate for health professionals working with Indigenous peoples, and the need for appropriate cultural training of future health professionals. It also explores the levels of cultural security for Indigenous staff working in mainstream organisations. The diversity of the Indigenous population is emphasised to highlight the complex issues associated with achieving cultural security for Indigenous peoples in Australia.

Chapter 11 describes a population model of rural health practice, from clinical consultation to community intervention, in the context of the tyranny of distance. It examines how different health workers play out their complementary roles and form service networks. This chapter also illustrates how rural health workers access information for decision making at point of care.

Chapter 12 makes the case for the need for effective team-based, interprofessional approaches to health care in the rural and remote environments. It explores the knowledge, skills and attitudes required for working effectively in rural health care teams and how effective interprofessional practice can be supported and improved. Intersectoral collaboration in the provision of patient-focused health care may be the most efficient and effective way forward for rural Australia.

Chapter 13 examines issues concerning an increasingly important population group in rural Australia — migrants, refugees, asylum seekers and internally-displaced persons. It explores how the cultural identity of a migrant or refugee varies over time and place, as well as how ‘settlement’ and ‘self-reliance’ fit into the process of cultural adaptation. This chapter also looks at the need for a framework for culturally and developmentally responsive services in rural settings. The concept and practice of duty of care is made more complex by the multiple perspectives of the individual, host community and settler’s community. An examination of posttraumatic stress disorder, in the context of shifting international and national settlement guidelines, policies and practices, is included.

Section 4 *Is the future eHealth?*

This section looks at current innovations and the future, with a focus on new models of health care and the current and potential use of information and communication technology (ICT) to support health care, learning and research in the rural environment — eHealth, eLearning and eResearch.

Chapter 14 discusses how eHealth, eLearning and eResearch can improve rural health care and support the rural workforce and community. It examines how the existing structures and processes of rural health care in Australia can evolve into eHealth and what contributions they can make to emerging and innovative models of rural health care. Infrastructure and implementation issues are examined from the sociotechnical perspective in rural and remote settings.

Chapter 15 draws on the experience and expertise of academics and clinicians to describe current and leading-edge professional practice, and the balance between lifestyle and professional demands. The horizon is scanned for future trends, innovations and risks to rural health services.

Part C — Resources

Part C brings together the learning and teaching resources used in this textbook. It includes:

- glossary and definitions
- learning activities, listed by chapter
- other reading, teaching and learning resources including official reports, websites, CDs, DVDs and films, listed alphabetically
- references, listed alphabetically.

How to use this book

This book uses case-based learning and teaching to demonstrate the commonality and diversity of rural health in Australia. It promotes self-directed learning and provides key reading and a comprehensive bibliography to assist the teacher and learner.

It is important that you read chapters 1 and 2 to get a clear idea of the definitions and conceptual framework underpinning this book. The glossary and table of definitions are also quick references to assist your understanding of rural health and its attendant issues.

A comprehensive catalogue of recommended readings and resources and learning activities is provided to guide and support the self-directed learning and teaching. Preceptors and clinical supervisors may find this useful in planning educational activities. The case studies and learning activities may also be used to guide the assessment of learning during placements in the field.

Students will find in this book useful exemplars of the richness of their personal and professional experiences on placement as well as in the city. Suggestions of relevant and effective ways of engaging with rural people when they have to come to the city for health-related reasons are included.

The Australian Rural Health Education Network (ARHEN), comprising all the UDRH, has sponsored and supported the development of this book with funding support from the Australian Government.

ARHEN and the University Departments of Rural Health

The eleven University Departments of Rural Health are an integral and successful component of the Australian Government's rural health strategy. The UDRH national body, ARHEN, provides leadership in rural health education, research and innovation.

ARHEN's aim is 'Achievement of better rural and remote health through learning'. The ARHEN and UDRH mission is to improve rural health by increasing the rural health workforce, supporting and training health professionals in rural areas, undertaking solution-focused research and developing innovative and interprofessional health models.

The UDRH form an academic, population health and community infrastructure, strategically placed to meet future challenges in improving rural and remote health, and allow rapid delivery of education and training, workforce support and innovative models of care. The UDRH have been successful change agents in increasing recruitment and retention of the rural workforce and have created a network of centres of academic excellence across rural Australia. These academic centres generate the growth of 'intellectual capital' in the bush and provide a base for ongoing research and education. The UDRH are located in the following locations:

- Alice Springs — Centre for Remote Health (a joint Centre of Flinders University and Charles Darwin University)
- Broken Hill — Broken Hill University Department of Rural Health (University of Sydney)
- Geraldton — Combined Universities Centre for Rural Health (a consortium of Curtin University of Technology, Edith Cowan University and The University of Western Australia)
- Launceston — University Department of Rural Health, Tasmania
- Lismore — Northern Rivers University Department of Rural Health (University of Sydney and Southern Cross University)
- Moe — Monash University Department of Rural and Indigenous Health
- Mount Isa — Mount Isa Centre for Rural and Remote Health (James Cook University)
- Shepparton — University of Melbourne Department of Rural Health

- Tamworth — Northern New South Wales Department of Rural Health (University of Newcastle and University of New England)
- Warrnambool — Greater Green Triangle University Department of Rural Health (a partnership between Flinders University and Deakin University)
- Whyalla — Spencer Gulf Rural Health School (a joint initiative of The University of Adelaide and the University of South Australia).

The interprofessional UDRH provide undergraduate and postgraduate education as well as vocational training with the existing health and health-related workforce. The UDRH have over 35 recognised learning sites, with academic staff in the fields of medicine, nursing, allied health, pharmacy and mental health, providing an infrastructure for workforce recruitment and support in targeted health disciplines.

ARHEN and the UDRH provide the government with a national network of academic centres, ICT and infrastructure to implement innovative solutions to health workforce education and training, creating and driving solutions to meet different levels of health service demand. The UDRH also drive and support eHealth, eLearning and eResearch through a number of training opportunities and programs.

ARHEN and the UDRH see this book as a tool to support and enhance the role of the UDRH as an academic and population health organisation and community infrastructure to enable the efficient delivery of education and training, workforce support and innovative models of care.



Part A

**Terminology, policies and
conceptual framework**



Chapter 1

Rural and remote health — definitions, policy and priorities

John Wakerman and John Humphreys



Learning objectives

- Explain what is meant by rural and remote health practice.
- Outline the main geographical classification systems in use in Australia, and understand their significance in health decision making.
- Identify important aspects of Australian rural health policies from the 1970s to the present.
- Identify the main challenges to improving rural health in Australia.

Introduction

There are important differences between metropolitan, rural and remote Australia. As one moves away from the major cities on the edge of our vast continent, population dispersion increases, health outcomes decline, access to services becomes more difficult, prices rise and the wherewithal to meet these costs declines. At the same time, rural and remote Australia is also an incubator of new ideas, like the Royal Flying Doctor Service. In this highly urbanised country, the outback still helps to define our national identity.

In response to some of these inequalities, there have been substantial developments in rural health policy and rural and remote academic infrastructure and health services in Australia in recent decades. This new wave of rural and remote health developments commenced with the first National Rural Health Conference in Toowoomba in 1991 and was manifest in the first National Rural Health Strategy, launched in 1994. It is important for any student of rural health to understand this policy context, and what we mean by terms such as ‘rural’, ‘remote’, ‘rural health’ and ‘remote health’.

This chapter discusses the methods used to characterise areas or populations as rural and remote, summarises the main policy developments since the 1970s, and identifies the main challenges in improving rural health in Australia.

Geographical classification systems

Many rural–urban classification systems have been developed in Australia and overseas. These systems define rurality predominantly in terms of environmental parameters that influence access to services or in terms of physical remoteness from population centres. Some classification systems include sociodemographic indicators of varying complexity. These taxonomies are used in determining differences between rural and urban health or as the basis for resource allocation and health care planning; however, none incorporate any measure of need for health care.

Classification systems used in Australia have included the:

- Faulkner and French Index of Remoteness (Faulkner and French 1983)
- Griffith Service Access Frame (Griffith 1996)
- Rural and Remote Area classification (RARA) (DHS 1994)
- Rural Remote and Metropolitan Areas classification (RRMA) (DPIE and DHS 1994)
- Accessibility/Remoteness Index of Australia (ARIA) (DHAC 1999)
- Australian Standard Geographical Classification (ASGC) (ABS 2002).

The last three of these taxonomies — RRMA, ARIA and ASGC — are currently commonly used in Australia.

The RRMA, developed in 1994, is still used for research, policy and funding purposes. This taxonomy uses population size and calculated direct distance from the nearest service centre to determine seven discrete categories: capital cities, other metropolitan centres, large rural centres, small rural centres, other rural areas, remote centres and other remote areas.

ARIA uses a geographical information system (GIS) database to define road distance (in km) to 201 service centres with a population of more than 5000, to produce a sliding scale of remoteness. This continuous scale has also been divided into five classes: highly accessible (0–1.84), accessible (>1.84–3.51), moderately accessible (>3.51–5.80), remote (>5.80–9.08) and very remote (>9.08–12). ARIA overcomes some of the shortcomings of the RRMA by using a continuous rather than a discrete variable, based on road distance (not straight-line distance) and providing a weighting for island communities. However, this purely geographical method can result in the grouping of quite dissimilar localities.

The ASGC is based on ARIA+, a refinement of ARIA, which consists of five discrete categories: major cities, inner regional, outer regional, remote and very remote.

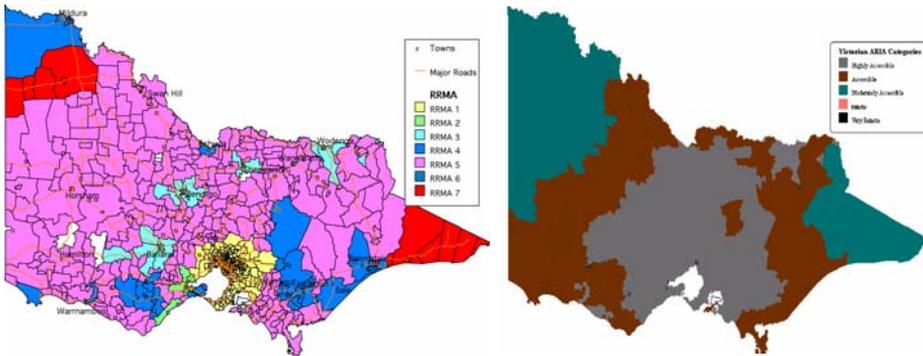
The choice of rural–urban classification used to underpin health decision making is significant. Table 1.1 compares RRMA classification with the ARIA categories. The geographical delimitation resulting from the two methods has major implications in terms of assessing health and workforce needs, and the resources allocated to meet them.

Table 1.1 Comparison of the Rural Remote and Metropolitan Areas classification and the Accessibility/Remoteness Index of Australia

RRMA classification	ARIA categories
Metropolitan zone	
RRMA 1 — Capital cities	Highly accessible (ARIA score, 0–1.84) — relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction
RRMA 2 — Other metropolitan centres (urban population >100 000)	
Rural zone	
RRMA 3 — Large rural centre (urban centre population 25 000–99 000)	Accessible (ARIA score, 1.84–3.51) — some restrictions to accessibility of some goods, services and opportunities for social interaction
RRMA 4 — Small rural centre (urban centre population 10 000–24 999)	
RRMA 5 — Other rural area (urban centre population <10 000)	Moderately accessible (ARIA score, >3.51–5.80) — significantly restricted accessibility to goods, services and opportunities for social interaction
Remote zone	
RRMA 6 — Remote centre (urban centre population 5000 or more)	Remote (ARIA score, >5.80–9.08) — very restricted accessibility of goods, services and opportunities for social interaction
RRMA 7 — Other remote area (urban centre population <5000)	
	Very remote (ARIA score, >9.08–12) very little accessibility of goods, services and opportunities for social interaction

The RRMA, ARIA and ASCG systems have different strengths and weaknesses. The RRMA's three zones — metropolitan, rural and remote — are logical groupings. All localities within a statistical local area (SLA) are given the same classification, therefore making it a simple tool for research or funding allocation. However, some SLAs are heterogenous in relation to access to services. The RRMA uses straight-line distances to urban centres, which may be quite different to road distances. The RRMA also fails to distinguish between access for those living in inner suburbs of capital cities and those on the fringes who often experience difficulty with access to services.

ARIA is a better measure of accessibility than the RRMA. It uses road distance to service centres. Unlike RRMA values, ARIA values are also less likely to change over time as they are independent of SLA boundary changes, but may change with significant population change. Dissimilar areas may, however, be given the same remoteness scores. Figure 1.1 shows the impact and differences of RRMA and ARIA for Victoria.



Source: RWAV (2002)

Figure 1.1 Rural, Remote and Metropolitan Area classification (left) and Accessibility/Remoteness Index of Australia classification (right) applied to Victoria

The ASGC tends to better group areas with similar characteristics. It defines the least remote areas more ‘tightly’ than ARIA, identifying those on the outskirts of major cities as ‘inner regional’. It also distinguishes between capital cities. For example, areas in Darwin are classified as ‘outer regional’ because Darwin is not a category A service centre (population of 250 000 or more). All geographical classificatory systems are subject to limitations such as population and boundary changes over time (AIHW 2004). Using geographical classificatory systems alone for funding purposes can lead to problems, as they also do not take into account factors such as morbidity levels or the nature of the physical and social environment (AIHW 2004).

As well as geographical measures, various other quantitative and qualitative sociodemographic indicators are used to characterise metropolitan, rural and remote populations; for example, population, population density, Indigenous proportion of population, environmental considerations, health ‘need’, community resources, transport and communication (Humphreys 1998a). Other potential indicators, particularly in the remote context, include mobility (Warchivker et al 2000) and access to information (d’Plesse 1993).

Definitions and characterisation of rural health and remote health

Rural health and remote health are often subsumed in the term ‘rural and remote health’, but doing so fails to distinguish the differences in practice in these two settings.

The Royal Australian College of General Practitioners (RACGP) has defined rural health as (RACGP 1993):

... medical practice outside of urban areas where the location of practice obliges general/family practitioners to have or acquire procedural or other skills not usually required in urban practice.

Remote rural practice is practice in communities more than 80 km or one hour by road from a centre with no less than a continuous specialist service in anaesthesia, obstetrics and surgery and a fully functional operating theatre.

Hays and colleagues (Hays et al 1994) surveyed rural doctors in Australia and defined rural medical practice as:

... that which occurs in an environment where a full complement of medical, other health professional and community services is at least 80 km or 1 hour away by road, resulting in the need for a wide range of clinical skills.

In the same paper, remote medical practitioners are characterised as more than 300 kilometres or 3 hours from support services (Hays et al 1994).

Bourke et al describe five salient aspects that characterise rural health practice (Bourke et al 2004). These characteristics, which are discussed in Chapter 2, are:

- rural–urban health differentials
- access
- confidentiality
- cultural safety (cultural security)
- team practice.

The economic and demographic nature of rural communities, their greater disease burden, fewer services, dispersed populations and higher cost of living result in patient needs and a type of practice that is quite different to urban or metropolitan practice in Australia. These are explored in some detail in Chapter 2.

Wakerman (2004) distinguishes between ‘rural’ and ‘remote’ practice. In particular, he highlights some of the distinct features of the remote context. The population is sicker and more dispersed, the workforce is sparser, costs are higher and a greater proportion of the population is Indigenous. Remote health practice also differs from that in rural areas.

Wakerman (2004) defines remote health as:

... an emerging discipline with distinct sociological, historical and practice characteristics. Its practice in Australia is characterised by geographical, professional and, often, social isolation of practitioners; a strong multidisciplinary approach; overlapping and changing roles of team members; a relatively high degree of GP substitution; and practitioners requiring public health, emergency and extended clinical skills. These skills and remote health systems need to be suited to working in a cross-cultural context; serving small, dispersed and often highly mobile populations; serving populations with relatively high health needs; a physical environment of climatic extremes; and a communications environment of rapid technological change.

Parkes et al (1985) distinguish between isolation and remoteness. Isolation is essentially a construction of the senses: a pathological or undesirable component of human ecosystems. Remoteness, on the other hand, is a fundamentally geographic state that is derived from a measure of distance.

Classification systems used overseas

In the United Kingdom, Cloke and colleagues developed an index of rurality based on multivariate analysis of a range of demographic indicators (Cloke 1977, Cloke and Edwards 1986). The United States has a plethora of classification systems. Rurality is generally defined by either the Bureau of the Census, Urban–Rural Classification of Areas and Population or the Office of Management and Budget Metropolitan and Non-Metropolitan Classification of Counties (Ricketts et al 1998). Rural is fundamentally defined as ‘not urban’.

In the United States, the equivalent to a remote area is the concept of frontier; a frontier area being based on one or more of the following characteristics (Ricketts et al 1998):

- population density (six or fewer persons per square mile)
- distance (45 miles) and/or time (60 minutes) from primary care to the next level of care
- service area (500–3000 residents within a 25-mile radius of a health service site or within a logical trade area).

Definitions of ‘rural’ and ‘remote’ can also be descriptive and health practice-based, in which case they are largely medico-centric. For example, the Rural Committee of the Canadian Association of Emergency Physicians offers the following definitions (CAEP 1997):

- Rural remote — rural communities about 80–400 km or about 1 to 4 hours transport in good weather from a major regional hospital.
- Rural isolated — rural communities greater than 400 km or about 4 hours transport in good weather from a major regional hospital.

There are various other indices used in Canada and New Zealand. For example, in Ontario, isolated or specified communities qualify for additional incentives for doctors. ‘Isolated’ communities are those with fewer than 10 000 people, more than 80 km from a regional centre of more than 50 000 people (Rourke 1994).

The General Practice Rurality Index of Canada (GPRI) scores six factors — remoteness from a basic referral centre, remoteness from an advanced referral centre, population size, number of general practitioners, number of specialists and presence of an acute care hospital (Ludec 1997). The New Zealand GP Network Rural Ranking Scale uses concrete practice factors such as travel time for GP from office to hospital, while on call, geographically to discuss with nearest colleague or visit the most distant patient and consult at a number of regular peripheral clinics (Rourke 1997).

Australian rural and remote health policies

Rural and remote areas in Australia are characterised by poorer health status than metropolitan areas (AIHW 2005a). In seeking to ensure optimal health for all, programs and initiatives are unlikely to significantly affect many health outcomes unless they are part of a strategic approach to address the environmental (both physical and social) and behavioural determinants underpinning these health differentials. Policy is thus important in setting the principles, the overarching strategic framework and the guidelines for programs designed to address those health differentials characterising rural and remote Australia that are considered to be unnecessary, avoidable, unfair and unjust (Humphreys et al 2002a).

Winston Churchill once said ‘the further backward you look, the further forward you can see’ (Kamien 1997). What follows in this section is a brief excursion through the ‘macro-scale’ policies that have set the national rural health agenda over recent decades, and have underpinned the decisions relating to resource allocation, service provision, workforce supply and collaborative arrangements relating to rural and remote health. Table 1.2 outlines a broad chronology of periods during which rural health issues were the subject of different priorities and responses by the Australian Government.

The 1970s

Australia experienced significant changes following the election of the Whitlam Labor government in 1972. Driven by a fundamental belief that ‘Increasingly, a citizen's real standard of living, the health of himself and his family ... are determined not by his income, not by the hours he works, but by where he lives’ (Whitlam 1972), Whitlam’s urban and regional development policies focused on geographical inequalities characterising rural and remote regions. The policies were also developed in response to disadvantaged areas in inner city suburbs and the outer western suburbs of capital cities. In conjunction with the introduction of Medibank, a universal health insurance scheme designed to provide equality of access to health care regardless of where one lived, the Whitlam government funded a program of community health centres to increase the geographical access of socioeconomically and ethnically disadvantaged groups to primary care services. This strong public sector response was designed to redress the inherent failure of the marketplace, and ensure equality of access to health services based on need.

The dismissal of the Whitlam government in 1975 saw the end of Medibank and stringent economic cutbacks as the Fraser government expenditure review committee (commonly referred to as the ‘razor gang’) attempted to dismantle many of the Whitlam initiatives. In these circumstances, the outcomes of a landmark national review of the state of rural health in Australia went largely unnoticed, despite the findings that:

Many country people find it difficult to obtain adequate health care. There is a shortage of doctors, dentists and other health personnel, and difficulties in maintaining health facilities in many districts ... even where an adequate range of services is available, access may be impeded by lack of public transport or poor roads. (HHSC 1976)

These conclusions were reinforced at the first ever major rural doctors' conference held in Australia (Walpole 1979), but it would be another decade before there was any significant policy response.

The 1980s

The election of the Hawke Labor government in 1982 brought a renewed emphasis on access and equity to national policy. During this decade, the Commonwealth Grants Commission was used as a mechanism for ensuring that funding was distributed to the states in a way that took account of differences in their ability to service the needs of their inhabitants for similar level and quality of services, including health. Nonetheless, it was during the 1980s that rural health issues in particular came to the fore in a more explosive way than ever before. Following several key government reports on the medical workforce in Australia (Doherty 1988) and the country doctors' dispute in NSW, the Australian Government Department of Health set up a rural health care task force to 'consider the problems of provision of health care services to rural and remote areas', and report to the Australian Health Ministers' Advisory Committee (ARHCTF 1990). It was the outcomes of this report that laid the foundations for a major national conference in Toowoomba to consider a national strategy and program of initiatives designed to meet specific health needs.



Table 1.2 Chronology of policy approaches to rural health issues in Australia

Time period	Nature of the problem				Policy and program activity		
	Key rural health issue	Locus of the problem	Explanation	Key concept	Drivers of change	Type of change sought	Method of change
1970s	Social and geographical disadvantage	Disadvantaged subgroups and regions	Market-generated inequalities	Inequitable life-chances	Australian Government	Community and regional development	Regional development
			Poor access to mainstream services and high level of health needs	Human rights and equity of access	Aboriginal communities and organisations	Equity of access; Aboriginal Community Controlled Health Services	Universal health coverage (Medibank); community health centres; Aboriginal Community Controlled Health Services
1980s	Funding of rural services	Grants Commission	Inequitable fiscal distribution; service closures	Equity of access	States	Redistribution of funding	Commonwealth –state forums; fiscal equalisation
	Rural workforce issues	Failure to recognise workforce needs	Rural practice not properly recognised	Recognition and remuneration	Professional Associations (RDAA, AMA)	Remuneration and support for rural doctors	Alternative funding arrangements
1990s	Unmet rural health needs	Inadequate focus on specific rural issues	Failure of mainstream policy to address specific rural issues	Social justice; Indigenous health	Ministers; doctors; Royal Commissions (eg Burdekin, Aboriginal Deaths in Custody); peak bodies such as NRHA	Community empowerment	Specific rural health policies and programs to target rural, remote and populations subgroups
	Workforce shortages and maldistribution	Universities; professional colleges	Education and training failures	Workforce	Australian Government	Enhanced rural training programs	Positive discrimination policies and incentives

Time period	Nature of the problem				Policy and program activity		
	Key rural health issue	Locus of the problem	Explanation	Key concept	Drivers of change	Type of change sought	Method of change
2000–present	Unmet rural health needs	Service centralisation and rationalisation	Demise of rural communities; inadequate service models	Service access	Australian Government	Improved local service models	New models of delivery; telehealth
		Ageing of population	Demographic changes	Ageing, chronic diseases	National health priorities; Inter-generational Report	Primary health approach	Care coordination and service integration
	Rural workforce issues	Supply, recruitment and retention	Problem with existing training programs	Workforce	Australian Government; universities	Multidisciplinary, rural-based training	Rural clinical schools; IPE; IMGs
	Health system/ service failures	Federalism arrangements	Commonwealth –State relationships	Health financing arrangements	Escalating health costs; health reform groups; Productivity Commission and COAG	Health system reform; changing practice arrangements and models of care	Primary health approach; health system reform

AMA = Australian Medical Association; COAG = Council of Australian Governments; IMG = international medical graduates; IPE = interprofessional education; NRHA = National Rural Health Alliance; RDA = Rural Doctors Association of Australia

The 1990s

The 1990s were characterised by the most significant program of rural health reforms ever seen in Australia. In 1994, the Australian Health Ministers Council endorsed a National Rural Health Strategy. The declared purpose of this strategy was to provide a coordinated framework for ensuring equitable access to effective health care for rural and remote communities. The strategy would achieve its aims through the provision of appropriate health services, the promotion of measures designed to maximise the health status of rural and remote residents, and the adoption of strategies that minimise barriers and problems that impede the delivery of effective health care (AHMC 1994). This strategy represented the first systematic attempt to effectively target the specific health needs of residents of rural and remote Australia. It was, in effect, a public acknowledgment that, up until this time, mainstream health policies and programs had failed to adequately address rural health requirements. Central among the principles underpinning the National Rural Health Strategy were that rural health services should be

accessible, needs-based, accepted by the community, comprehensive, multidisciplinary, integrated and coordinated, able to provide continuity of care and sufficiently flexible to respond to changing needs.

Driven by the National Rural Health Strategy, numerous Commonwealth, state and territory rural and remote initiatives followed. In recognition that states and territories were largely responsible for the funding and provision of non-medical health providers, Australian Government programs such as the RHSET Program and the Rural Incentives Program focused largely on doctors in the first instance. Other initiatives included the setting up of a network of divisions of general practice and the introduction of retention grants for rural doctors. These Australian Government initiatives were led and embraced by health ministers and ‘champions’ working within the health department. At this time too, a number of peak rural and remote health professional bodies became more active professional groups lobbying on behalf of their constituents. These were the Rural Doctors Association of Australia (RDAA), the Association for Australian Rural Nurses (AARN), Services for Australian Rural and Remote Allied Health (SARRAH), the Council of Remote Area Nurses of Australia (CRANA) and the National Aboriginal Community Controlled Health Organisation (NACCHO). The peak non-government rural health body, the National Rural Health Alliance, was also active (Chater 1993).

Many of these rural and remote health program initiatives were maintained by the Howard Coalition government under the ‘rebadged’ General Practice Rural and Remote Program. In addition, a rural health stocktake was undertaken in the late 1990s (Best 2000), and the University Departments of Rural Health (UDRH) were established in regional centres of all states and the Northern Territory. At the same time, in response to evidence showing that rural and remote doctors warranted increased remuneration to obtain parity in terms of the relative value of their work, the government funded several major consultancies to further investigate workforce supply, alternative sustainable models of health services for small rural and remote communities, and the role of Divisions of General Practice.

The Australian National Audit Office 1998 review highlighted the failure of mainstream health programs to meet the health needs of rural Australians adequately, noting in particular the failure of many Australian Government health programs to have a specific rural focus, the absence of rural health as a key priority within its programs, the meagre financial resources allocated to rural health and the lack of performance indicators for the measurement of outcomes as all contributing to shortcomings in addressing the health needs of rural Australians (Auditor General 1998). The response from the Australian Government has been a plethora of program initiatives targeting some aspect of rural, remote or indigenous health — more than 60 at the time of writing this chapter.

Many commentators have argued that the real impetus behind any significant government response to the health needs of rural and remote communities, however, resulted from the emergence of Pauline Hanson and the One Nation party as a real political threat (Tonts and Haslam McKenzie 2005). The then deputy prime minister convened a Regional Australia Summit in Canberra, following which the health minister announced the largest ever Regional Health Services program with a budget in excess of \$500 million to

address some of the outstanding issues relating to the rural health workforce supply, needs for education and training, and alternative models of service provision. Funding was provided to establish rural clinical schools throughout all states and territories. Although this response did not achieve the major health system reforms being advocated by the Australian Health Care Reform Alliance, it did result in significant changes to university medical education and training, with a view to ensuring a sufficient workforce supply to meet the shortfall in rural and remote areas.

The present decade

In 1999, the Australian, state and territory governments developed Healthy Horizons (NRHPF and NRHA 1999) with the National Rural Health Alliance (NRHA) as the national framework to guide rural and remote health activity for the following five years, a policy framework that has been reaffirmed through to 2008. As a result, there is now general agreement across governments on the need for a specific policy response to rural health issues and the guiding principles that should underpin planning for the provision of health care services:

- The Primary Health Care approach is supported as it provides the opportunity to keep people healthy within the community setting and to intervene at the earliest possible stage to support and maintain good health.
- Public health forms the basis of improvements in health outcomes and is essentially about activities and programs directed towards prevention. In recent years, the term ‘population health’ has been used to more clearly describe prevention at the population level and encompass broader determinants of health. The population health approach is important as a basis for a range of actions, such as deciding the location and number of services, informing and educating people about changes needed in their services to meet changing health priorities, and fostering innovation in service delivery and facilities to achieve optimum health outcomes.
- Social capability and the physical capacity to plan and implement local programs are required for communities to improve and maintain their health.
- Community participation by individuals, communities and special groups in determining their health priorities should be pursued as a basis for successful programs and services to maintain and improve their health.
- Ensuring appropriate access to comprehensive health services that are culturally sensitive is fundamental for all people in rural, regional and remote Australia.
- The ability to sustain good health and a system of care is a necessary part of sustaining rural, regional and remote communities.
- The establishment of effective partnerships in the delivery of services, and collaboration for the benefit of communities are essential ingredients in successful implementation of health improvement programs.
- There will be no compromise on the safety and quality of health services provided to people living in rural, regional and remote Australia. Safety and quality are paramount in the development and implementation of health services and programs

(AHMAC, NRHPS and NRHA 2003).

Healthy Horizons identified seven interdependent goals as the focus of the national framework for rural and remote health care activity. These goals are to:

- improve the highest health priorities first
- improve the health of Aboriginal and Torres Strait Islander peoples living in rural, regional and remote Australia
- undertake research and provide better information to rural, regional and remote Australians
- develop flexible and coordinated services
- maintain a skilled and responsive health workforce
- develop needs-based flexible funding arrangements for rural, regional and remote Australia
- achieve recognition of rural, regional and remote health as an important component of the Australian health care system.

Since 2000 there has been a significant emphasis at all levels of governments on recruitment and retention measures to ensure an adequate supply of all health professionals — doctors (including national endorsement of international medical graduates to take up practice in Australia), nurses and allied health practitioners. The significance of workforce problems was highlighted by submissions to, and the response of, the Productivity Commission's *Australia's Health Workforce* study (Productivity Commission 2005). However, this report, which is responsible for driving the Council of Australian Governments (COAG) response, did not situate the problems of rural and remote health within the broader political and economic arena that largely determines the attractiveness and economic fortunes of rural and remote communities. Nor is it likely to tackle the key inhibitors to health system reforms so forcefully advocated by the Australian Health Care Reform Alliance. No longer 'flavour of the month', rural and remote health issues are in danger of becoming subsumed within mainstream primary health care programs that seek to tackle the problem of how to prevent and manage the escalating chronic disease burden. Indeed, it appears that rural and remote health is becoming marginalised in an agenda dominated by economic management of the broader health care system.

The health and wellbeing of all Australians living in rural and remote communities is influenced by a wide range of policies that cut across many Commonwealth, state and local government functional areas and departments. However, the need to maintain and review a specific national strategy to target the health needs of rural and remote Australians is unequivocal. Academic research has long advocated the need for specific rural measures (Humphreys 1998b, Humphreys et al 2002a) and the distinctiveness of rural and remote practice (Strasser 1995, Wakerman 2004).

The key question is whether the policy-led initiatives and programs will ensure an adequate workforce supply and access to appropriate, sustainable health care services, to

increase the health status of non-metropolitan Australians. ‘Those who cannot remember the past are condemned to repeat it’ (Santayana 1905). At the peak of the rural health policies and programs in the mid-1990s, Clark and Martini (1998) noted seven ‘foundation issues of fundamental concern’ relating to rural and remote health: workforce, local management, service delivery, research, public health, Indigenous health, and organisation. Ten years later, these are still central issues accounting for the poorer health status of rural and remote communities throughout Australia.

Challenges to improving rural and remote health

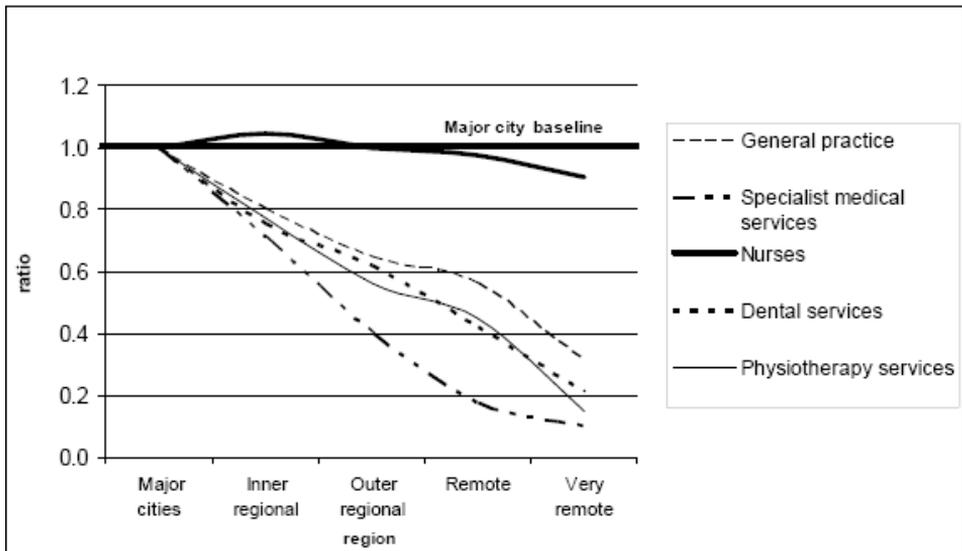
Despite the many workforce initiatives over the past decade, particularly medical workforce initiatives, there are still outstanding social, economic and demographic issues, including broader health service issues, that have characterised the health and health care problems facing rural communities.

Rural and remote communities, particularly those smaller and more remote, have been subject over the past decade to social and economic drivers that to a large extent work against improving health and wellbeing, and therefore fail to close the gap in health outcomes between the city and the bush. Global economic forces and re-adjustment by the rural sector have put economic pressure on rural areas for some decades. The neoliberal policy orientation of many western governments over recent years has resulted in a diminished role for government and greater emphasis on the marketplace for allocating resources. It has been suggested that this has resulted in central agencies in Australia, such as Treasury, viewing health and education as an expenditure rather than investment in the human and social capital of rural Australia (Tonts and Haslam McKenzie 2005). There has also been a policy momentum away from supporting very remote communities. Drought and the ongoing impact of climate change have added to the pressure on many rural communities. These have all resulted in continued population movement away from smaller rural and remote communities to regional and coastal centres, and made the job of closing the health differential and economic gap more difficult. ‘Sustainable health services depend on sustainable communities’ (Humphreys 2005a).

In relation to specific health sector issues, institutional capacity has grown significantly since 1991, with a range of organisations, including RCS and UDRH, the NRHA and various rural and remote professional groups. The Australian Government in particular has focused on workforce policies and programs, particularly the medical workforce.

In the face of a global health workforce shortage, an ageing population and an ageing health workforce, significant workforce problems remain. The overall health workforce shortage in Australia is worse in rural and remote areas (see Figure 1.2, Productivity Commission 2005). The maldistribution of the medical workforce appears to be worsening. Between 2000 and 2004, the supply of medical practitioners increased in metropolitan areas but fell in non-metropolitan areas (AIHW 2006a). Remote areas have been particularly affected. In ASGC ‘very remote’ areas, the number of GPs fell alarmingly — by 33% — from 100 per 100 000 people in 2000, to 67 per 100 000 in 2004 (AIHW 2006a). At the same time, nurses, who make up the largest element of the

workforce, showed a much more even distribution across metropolitan, rural and remote areas (AIHW 2006b). International graduates form 25% of the medical workforce, and Australia's rural and remote communities now rely particularly on these and other overseas-trained health professionals (Productivity Commission 2005).



Source: Productivity Commission (2005)

Figure 1.2 Practitioner to population ratios by ASGC area

In light of global pressures, an ageing workforce and an ageing population, addressing workforce disparities alone will not be sufficient to improve access. Effective, sustainable services will increasingly depend on developing appropriate service models that take into account a range of issues that include, but are not limited to, workforce. A number of environmental enabling factors and essential requirements, summarised below, will need to be addressed in a comprehensive and systematic fashion (Wakerman et al 2006).

Environmental enablers

Environmental enablers include the following:

Supportive policy: Effective, sustainable health services in rural and remote communities require an explicit rural and remote health services policy that specifically takes account of the unique rural and remote considerations that distinguish this context.

Improved Commonwealth–state relations: Given the scarcity of health resources and the need to allocate them across widely divergent geographical settings, it is important to

avoid inefficiencies and duplication of activities, as well as the complex funding, reporting and accountability requirements that characterise existing Commonwealth and state arrangements (Productivity Commission 2005).

Community readiness: Central to primary health care services is an appropriate level of community involvement in the identification of health needs, planning and governance of the health service.

Essential requirements

Essential requirements include the following:

Workforce organisation and supply: Adequate workforce supply, appropriate staffing mix and effective working relationships are all important. Multidisciplinary practice using the combined skills of doctors, nurses, allied health, Indigenous health workers and newer categories of workers will be an increasingly urgent necessity. Strategies need to include recruitment, retention and succession planning.

Funding: Funding should be adequate to meet the identified health needs of the community; it should also be appropriate, sustainable and clearly identified within program budgets. Appropriate financing relates closely to streamlining of Commonwealth–state relations, such as with a ‘pooled funding’ or ‘block funding’ model (Productivity Commission 2005).

Governance, management and leadership: Appropriate governance structures, adequate management skills and systems, and champions, are all hallmarks of successful services.

Linkages: Linkages are critical within the health service and with external agencies and services relevant to patient care.

Infrastructure: Infrastructure should be adequate and include physical infrastructure such as clinics, accommodation, equipment and vehicles, and ICT systems appropriate to the service.

In addition to these specific health service issues, the evidence base and literature that evaluates the effectiveness of different health service models is sparse (Productivity Commission 2005, Wakerman et al 2006). A recent systematic review highlighted the paucity of rigorous evaluations of the impact and sustainability of innovative rural health services, many of which were set up as pilots or demonstration models (Wakerman et al 2006). In the absence of a comprehensive understanding of what programs work well where and why, government ability to respond effectively to the rural–urban health differential will continue to remain limited.

Finally, we need an effective, coordinated, evidence-informed rural and remote health policy that addresses all of these areas. The policy needs to be comprehensive, coordinated and supported by different levels of government and key rural organisations.

Through the development and implementation of such a policy, improved access to health services in rural and remote Australia should contribute to decreasing health inequalities.

Conclusion

There is no doubt that residents of rural and remote communities have poorer health than their metropolitan counterparts. Overcoming this rural–urban differential will require several things. First, better agreement is required on the classification schemes employed to identify the rural–urban health differential, and should be used as the basis for appropriate resource allocation and planning responses. Second, it is vital that governments understand the nature of the rural–urban differential and its underlying aetiology (including the role of social and economic determinants). Further research is required to determine to what extent rural and remote health problems are due specifically to the nature of rural and remote environments (both physical and human), or to what extent they are manifestations of broader-based societal issues. That is, to what extent is the ‘rural’ and ‘remote’ in the health problem causal or symptomatic (Humphreys 2005b)? In the absence of a specific rural or remote aetiology, the question emerges, why not address these health issues through a mainstream assault on the relevant determinants of health status — particularly the socioeconomic system responsible for poverty and inequality, the inefficiencies and inequities in resource allocation, and the paradox of contradictions and gerrymanders inherent in the current market-driven system? Third, comprehensive program evaluation is necessary to determine which policies, service models and programs are most effective at addressing the rural–urban health divide (Tonts and Haslam McKenzie 2005). Only with such knowledge will governments be able to respond efficiently and effectively within their constrained budgets.



Recommended readings and resources

- AIHW (Australian Institute of Health and Welfare) (2004). *Rural, Regional and Remote Health: A Guide to Remoteness Classifications*, AIHW, Canberra. <http://www.aihw.gov.au/publications/index.cfm/title/9993>

This is a useful monograph which describes how commonly used geographical classification systems in Australia have been developed, and their relative strengths and weaknesses.

- AIHW (Australian Institute of Health and Welfare) (2005a). *Rural, Regional and Remote Health Indicators of Health*, Rural Health Series 5, AIHW, Canberra. <http://www.aihw.gov.au/publications/index.cfm/title/10123>

This monograph provides a comparative overview of health, social, economic and service indicators across geographical regions in Australia.

- Bourke L, Sheridan C, Russell U, Jones G, DeWitt D and Liaw S-T (2004). Developing a conceptual understanding of rural health practice. *Australian Journal of Rural Health* 1:181–186.

The authors provide a conceptual framework for considering rural health issues in Australia and describe five salient aspects that characterise rural health practice: rural–urban health differentials, access, confidentiality, cultural security and team practice.

- Humphreys JS, Hegney D, Lipscombe J, Gregory G and Chater B (2002). Whither rural health? — Reviewing a decade of progress in rural health. *Australian Journal of Rural Health* 10:2–14.

This paper reviews rural health policy and developments in the latest wave of rural health activity in Australia, and discusses measures required for overcoming outstanding impediments to improving rural health. It is written by rural health leaders from different disciplines.

- Wakerman J, Humphreys J, Wells R, Kuipers P, Entwistle P and Jones J (2006). *A Systematic Review of Primary Health Care Delivery Models in Rural and Remote Australia 1993–2006*, Australian Primary Health Care Research Institute, Canberra. http://www.anu.edu.au/aphcri/Domain/RuralRemote/Final_25_Wakerman.pdf

This systematic review documents a conceptual model of rural and remote primary health care (PHC) delivery in Australia. It defines a number of environmental enablers and essential requirements of rural and remote PHC services that are useful to policymakers, service deliverers and students. It also documents a number of exemplary remote and rural PHC services.



Learning activities

1. Examine a state government health initiative (eg a Victorian stroke management plan) for any evidence of how the rural health issues are addressed. In particular, describe how the main Australian geographical classification systems have been applied.
2. Examine the rural health policy relevant to your profession and how it may affect you. Compare and contrast any differences between federal and state or territory governments, and between the major political parties.
3. List the main challenges to reducing the rural–urban health differentials in Australia.

Chapter 2

Understanding rural health — key concepts

Lisa Bourke and Collette Sheridan



Learning objectives

- Describe some of the key concepts to understanding rural health.
- Identify some of the main differences between health practice in rural and urban settings.

Introduction

Rural health is a challenging and complex discipline. Care providers in rural settings need to understand some of the key concepts that underpin rural practice. These concepts relate to the context of care rather than the care itself, and impact on the quality of care, the use of care and the decision-making processes of clinicians.

This chapter provides some background to each of the sections of Part B (Chapters 3–15), introducing the key concepts of rural health used throughout this book: population health and capacity (Section 1); access, equity and support for rural health professionals (Section 2); competencies for rural health practice (Section 3); and eHealth (Section 4). Some details are also provided about the overlapping roles and relationships that a rural clinician inevitably has to deal with.

We begin this chapter with a case study — a story of two young men — that illustrates some of the key concepts. Although anecdotes of this type are a useful introduction, rural health needs to move beyond anecdotes, to be based on empirical evidence and theoretical understanding. Therefore the goal of this chapter is to outline some of the evidence and theory crucial to understanding rural health.

The term ‘rural’ is used throughout this chapter to refer to areas with small population centres that are distanced from metropolitan centres. Most definitions are based on population size, such as the five levels of the Australian Standard Geographical Classification (ASGC), while others, such as the Accessibility/Remoteness Index of

Australia (ARIA) (Hugo 2002), incorporate access and distance to metropolitan areas. Generally, researchers distinguish between urban areas (eg capital cities), regional centres (eg Port Hedland or Bendigo), rural areas (eg small communities in much of Victoria, Tasmania and eastern parts of Queensland and New South Wales), and remote areas (typical in much of Western Australia, South Australia and the Northern Territory). Such geographical definitions of ‘rural’ are common, but definitions have also been based on cultural distinctions and the level of dependence on primary industry. Rural communities differ in many ways.



Case study 2.1 Johno’s story

Shaun had showered and changed after footy practice. The shower had felt good after a long training session where he played on Smitty, known to be one of the best in town and four inches taller than him. His body was tired so he thought he would cut through the hole in the back fence, a short-cut home. As he walked around the back of the old club rooms and past the big old gum trees, he saw his friend Johno, sitting at the base of a tree. He then noticed that Johno had a gun in his mouth.

Shaun ran over to Johno, threw his bag down and said repeatedly, ‘This is not the answer, mate’. He crouched on his knees in front of Johno, concern across his face as he shook his head and repeated, ‘This is not the answer, mate’. Both of Johno’s hands were on the gun and he looked ready to pull the trigger. ‘Don’t do this, no, no, don’t do this’, Shaun said. Although Johno had obviously been crying, his face was now blank, staring through Shaun with a numb, cold look.

Johno and Shaun had known each other for a long time. Both 17, they had been friends since primary school, and had continued this friendship through Aussie rules football. The two young men were good players and consistently made the local team, sometimes even playing in the senior teams when players were short. Although they acknowledged each other at school, their respective groups of friends did not mix, so Johno tended to hang out with his non-Indigenous mates, and Shaun with his Indigenous mates. Shaun didn’t feel comfortable at school and preferred to work for his community when work was available. However, the boys liked one another, and Johno had visited Shaun in his community a few times and enjoyed fishing with his family. He had not invited Shaun to the family farm, remarking that his parents ‘wouldn’t approve of me hanging around with you, nothing personal’.

Now, faced with this crisis, Shaun felt panicked but he tried to relax. He sat down in front of Johno and said, ‘You know, mate, I know life’s a bitch, but this isn’t the answer. Think of how we’ll all miss you — your friends, your parents. And we need you on the footy field’. Johno’s eyes moved and he looked at Shaun, then at the ground, his head between his knees. ‘Tell me what’s goin’ on, Johno’, Shaun said. Johno said nothing, but after a few minutes he let the gun fall to the ground as tears ran down his face. Shaun felt better but didn’t move. They sat there for over an hour, talking a little, mostly in silence.

Eventually Shaun said, ‘I’m not much good at talking, but my Aunty Mary’s a really good listener. She works at the Aboriginal health centre here’. He suggested that they go and chat to her. Johno took some convincing, but it was clear to Shaun that Johno did not want to go home and he didn’t know what else to suggest, so he persevered and at last Johno agreed.

They walked to the edge of town and found Aunty Mary's house. Shaun asked her if she could talk to Johno. Aunty Mary took them inside, made them a cup of tea and sat Johno at the kitchen table. After a while, Shaun went off to watch TV, leaving Aunty Mary with Johno. The young man told her of his feelings of hopelessness and how trapped he felt: 'There's no other way out'.

Mary listened and counselled Johno, pushing her own family out of the kitchen and sending her husband for fish and chips 'to keep everyone quiet'. After a couple of hours, Mary suggested that she ring Johno's parents. He did not want this to happen but eventually agreed when she suggested meeting them at the local hospital with the doctor present. Reluctantly, Johno got in Mary's car and was driven to the hospital, knowing his parents would be there and be upset. Mary had also arranged for one of the local general practitioners (GPs) to be there to conduct a mental health assessment.

At the hospital, Johno's mother pushed past Mary to fuss over him, while his father shook his head in disbelief: 'What's wrong with the boy?' he kept saying. Johno did not want to talk with his parents present, so the doctor spoke to Mary and Johno together, and then to Johno alone, at which point Mary slipped away, feeling uncomfortable with Johno's parents. The GP decided to admit Johno overnight as he did not feel he was safe at home or unmonitored. He prescribed antidepressants, admitted him and then spoke to his parents.

The following day, the GP, Mary and the hospital social worker (who worked half-time at the hospital and half-time at the school) met with Johno to discuss his situation. Johno said he felt better, but 'a bit embarrassed'. When asked about whom he would like ongoing professional support from, he was clear that the person he wanted was Mary. Mary agreed to provide this support as long as Johno agreed to have contact with the GP, take antidepressant medication and use the social worker if Mary was not available. She also asked that the social worker, who would see Johno regularly at school, have permission to ring her or the GP if she had concerns about Johno. For Johno's part, he was concerned that all his school friends would find out and he begged the social worker to 'keep this on the quiet'. When this plan was discussed with Johno's parents, they were surprised, but eventually accepted the arrangement as Johno's decision.

Mary talked to Shaun; she asked him not to say anything about the incident with the gun and explained that Johno needed support from friends. The social worker kept an eye on Johno's attendance and participation in school, sport and social activities. Johno's mother became more willing to drive him into town for sporting and social activities, and used her church friends for her own support. In this way the community supported Johno and his family, developed a team approach to his care, kept the incident confidential and crossed cultural divides. This is one way in which the community can be a site of health care and prevention.

Population health and capacity

Population health identifies:

- patterns of health across and among the population (eg the poor health status of Aboriginal and Torres Strait Islanders)
- differences between rural and urban health status
- health needs and issues for particular age groups

- disease priorities
- wellbeing and quality of life (including health behaviours, prevention and promotion, as well as attention to stress, and emotional and psychosocial health) (AIHW 2002, 2006c; Thomson 2003; JD Smith 2004).

The goal of population health is to develop targeted interventions to improve health outcomes (AIHW 2006c), and includes the social contexts in which people live (JD Smith 2004).

Rural–urban differentials

Understanding the rural and remote population in Australia can assist health professionals to understand their clients. Between 10 and 30% of Australians live in rural and remote areas, depending on how these areas are defined (Bourke and Lockard 2000). This figure includes approximately two-thirds of the Indigenous population (Anderson and Thomson 2001). Compared to their urban counterparts, slightly more rural Australians are men, proportionally more are married and more are likely to have poorer health status (Dixon and Welch 2000, AIHW 2002). The rural population is also ageing (Bourke and Lockard 2000).

In rural and remote Australia, men, particularly young men, have higher rates of suicide than those living in urban areas. Rural and remote residents also have higher rates of injury mortality (especially road accidents), homicide, smoking, alcohol consumption, communicable diseases and disability (AIHW 2002, 2005a). Babies from regional, rural and remote areas tend to have a lower birthweight, and children living in rural and remote areas have poorer teeth quality (AIHW 2005a). These and other risk factors result in a reduced life expectancy overall (Brown et al 1999; Humphreys 1999; Dixon and Welch 2000; AIHW 2002, 2005a).

Indigenous Australians have much poorer health status than non-Indigenous Australians, with lower birthweights; higher levels of infant mortality, chronic illness, infectious disease and mental illness; and higher rates of injury and suicide (Thomson 2003). These factors result in a life expectancy 20 years lower than that of non-Indigenous Australians (AIHW 2005a).

Compared to their urban colleagues, rural health professionals usually have more Indigenous patients and are more likely to treat trauma or injury, communicable illnesses, and health problems related to ageing and alcohol and tobacco use. Other conditions relate specifically to rural occupations and environments, such as farm injuries and snake bites. Understanding these and other characteristics of the rural population helps practitioners to be more prepared for the clients, families and communities that they work with.

The local community context can promote and improve health and health behaviours but can also undermine them. Examples of factors that can affect the health of individuals include a local culture of drinking, availability of fresh fruit and vegetables, the local economy and the role of sport. Local health professionals need to know about the

community, its support networks and any planned healthy activities. They can identify patterns in health and be proactive in addressing health problems (eg recognising that drought may lead to high rates of depression). One of the benefits of rural practice is that health professionals can usually see the results of their efforts.

Access, equity and support for rural health professionals

Access to equitable health care continues to be one of the key issues in rural health; the practicalities involved in achieving this are the subject of debate. Discussions usually focus on distance to health services in rural areas, and the lack of services and health professionals; however, the situation is much more complex than this. Access issues also include the choice of services, the cost, the nature of the presenting health issue, the confidence in, and quality of, the health care provided, and the geographical, social, political and cultural isolation. The ways in which these issues affect consumers and health professionals differ, depending on the degree of isolation, the health service, the health issue and the consumer.

It is useful to consider the discussion of access by Penchansky and Thomas (1981), which included the five ‘A’s’.

Affordability of health care, which includes not only the cost of the health service but also the associated costs of travel, time off work and child care, which can be prohibitive. Many rural GPs do not provide bulk-billing, and costs of other services can be substantial.

Availability of health services, which includes the services available locally, and their staffing, waiting lists and hours of service. A major problem facing rural health is the shortage of medical, nursing and allied health practitioners across rural Australia (Hays 2002a, Larson 2002, AIHW 2005b).

Accessibility refers to how easily consumers can access the service. Given the lack of public transport in most rural areas, accessing a health service can involve substantial travel, particularly when specialist care in metropolitan areas is needed. When travel is required, social support is often affected.

Accommodation refers to how well the service accommodates the needs of consumers.

Acceptability is the degree to which consumers find the service acceptable. Services that are not culturally appropriate or acceptable to the consumer are usually not used by the consumer, despite need. This relates to cultural security, see page 37 and Chapter 10.

In the case study given above, Johno was limited to the type of services available to him, but the flexibility of the local rural health services and systems allowed them to respond to his individual needs. The informal after-hours access, coupled with good clinical skills, were crucial in preventing Johno’s suicide.

Support for health professionals — overlapping roles and relationships

Patterns of interaction among residents of rural communities differ from those in urban communities. Because there are fewer residents in more isolated regions, most residents in a rural community know or know about other individuals (Wilkinson 1991, Bourke 2001b). This means that most patients and practitioners have relationships prior to and external to the health care consultation, resulting in a lack of anonymity and a blurring of boundaries (Bourke et al 2004). For a health practitioner, privacy is more difficult to maintain because receptionists, patients, nurses and doctors know each other outside the health care consultation. For example, sensitive issues (eg sexual health, HIV, mental illness) may be difficult to discuss with a consumer who is also a friend or neighbour, or consumers may not want to make an appointment about such issues if they know the receptionist well (Purtilo and Sorrell 1986, Doherty 2000, Ullrich et al 2002).

The lack of anonymity also means that information flows quickly and word of mouth is a very powerful medium. In the case study, Johnno is clearly worried that a session with the school social worker will not be confidential. Confidentiality can be broken just by someone observing another patient in the waiting room, a medical file on a desk or by someone entering the office of a mental health professional. Rural residents may be stigmatised and socially excluded from every part of the community if some health conditions become known (eg mental illness, brain injury, pregnancy).

People often have multiple roles in rural communities (Scopelliti et al 2004). For example, it is difficult to separate the role of a GP from other community roles, such as being a Rotarian, a player in a sports team or a parent. Multiple roles can provide a health practitioner with additional information about a consumer (Hays 2002a, Scopelliti et al 2004), and although this can be useful, assumptions based on this knowledge may be problematic. Some rural health professionals enjoy this aspect of practice as they feel that they know their patients better (Hays 2002a) but others struggle with separating professional and personal boundaries. Some have developed innovative ways of separating their roles: for example, by informing the community that they are a health professional available for consultation when dressed professionally, but at other times they are another resident and health consultations are not appropriate.

In Johnno's story, the team response and the liaison between different models of care (Indigenous health, hospital care and community care) provided Johnno with medical and counselling support and a choice of practitioners, while providing effective care and efficient use of specific skills. Key to the team was the sharing of care, understanding and respect of each professional's role, and communication between team members and the consumer (McCallin 2001). Johnno's case demonstrates the importance of confidentiality to rural consumers; he preferred a health professional not located at his school because he was concerned about people knowing his business and about town gossip. However, Johnno's case also stresses the importance of relationships. His relationship with Shaun initiated intervention and Shaun's relationship with Mary was crucial in resolving Johnno's suicidal ideation. Social relationships were crucial to the health outcome — saving Johnno's life.

Competencies for rural health practice

1. Cultural security

Cultural awareness training (ie training that teaches about another culture) has been found to be relatively ineffective (WA DoH 2006); in part, because it focuses on other cultures rather than on our own and so reinforces difference. In consultations with clients, both the practitioner's and the patient's cultural positions are present — it is the interaction between these positions that is important as each interaction differs. To improve health services to Indigenous and other cultural groups, it is crucial to acknowledge the presence and diversity of culture. It is also important not to assume that all members of cultural groups and all practitioners are the same.

The term 'cultural security' has been developed and embraced by Indigenous Australians (AHMAC 2004, Henry 2005, WA DoH 2006).

Cultural security represents:

A commitment that the construct and provision of services offered by the health system will not compromise the legitimate cultural rights, views, values and expectations of Indigenous people. It is a recognition and appreciation of and response to the impact of cultural diversity on the use and provision of effective clinical care, public health and health systems administration. (WA DoH 2006)

Cultural security requires the marrying of cultural positions with science and technical knowledge.

Cultural security extends the health professional–consumer interaction to the entire health service to ensure that the type of service, the way it is delivered, and the environment it is delivered in are culturally secure. For example, the way people enter the service, the waiting areas and even the presentation of service information must be culturally appropriate.

Cultural security means:

- providing quality health care to all
- respecting and promoting self-esteem
- addressing language barriers
- respecting differences
- respecting the identities of clients, families and communities
- understanding what is valued in and what works in Indigenous health
- developing efficient and effective health care systems.

Cultural security is the responsibility of all health professionals to ensure that all consumers feel secure in their culture, identity and self when using, accessing and visiting the health service. Creating an environment that is inviting and nonjudgmental and where

clients and their family and friends feel comfortable and able to express their cultural traditions and identities can be achieved in a number of ways. For example, it may require translating information, allowing large groups of visitors, and having big print for older consumers. Because the health practitioner is usually in a position of power, it is their responsibility to act on a situation where a consumer is uncomfortable, intimidated or overwhelmed. This may be as simple as asking a patient how they feel about a procedure, if they want more time or information or asking about their cultural beliefs surrounding a procedure (Browne and Fiske 2001).

Cultural security is further discussed in *Ways forward in Indigenous health* (Chapter 10) and *Cycles of settlement: generating responsive health services for refugees in rural Australia* (Chapter 13).

The case study given in this chapter suggests that the Indigenous health service and its workers were able to provide a secure service for Johnno that included confidentiality and trust in a health professional. Importantly, cultural security applies both to distinct cultural groups and to identity groups based on such differences as age, gender, medical condition and sexual orientation.

2. Rural clinical practice and health systems

Rural clinical practice means working in a health system that differs from those commonly found in urban areas. The system of health care is the way in which the health service is structured, organised and operates as a result of management, planning, funding, policies and staff. In rural areas, there is an increasing trend away from urban-designed models of health care, and a move towards innovative models that meet the needs of local communities and populations. For example, most small town hospitals are staffed by local GPs rather than salaried doctors, with fly-in/fly-out specialist care; this means that local GPs have both a community and hospital role, and that nurses and some allied health staff have a stronger role in clinical care and the operation of the hospital. In most rural health practices, there is greater attention to primary care, community health and prevention. Many rural models place significant decision making and ownership with the local community, where the community (rather than government funding) drives the model of care through boards, consumer groups and other forms of consultation and decision making. Some rural models of health care include:

- Aboriginal Community Controlled Health Organisations (ACCHOs)
- multipurpose services
- community or consumer designed/controlled services based on local needs and consultation
- GP-based hospitals
- fly-in/fly-out services
- rotating care where practitioners fly in for several days/weeks and then out for several days/weeks or who deliver care on a rotation basis to numerous remote communities

- rural-based practitioners who spend time in urban centres to develop specialist clinical skills
- eHealth, the use of computer, digital and interactive technologies for health care and support.

Practitioners' awareness of the local health system they are working in is crucial if they are to work effectively in their specific context. The expectation that a rural GP-based hospital will operate like a major metropolitan hospital will lead to ineffective practice and care for both the practitioner and the consumer. In order to evaluate the quality and effectiveness of a specific model of care, it is also important to understand how the care system meets the needs of the local community. For example, assumptions that care is poor because a particular service is not provided or does not equate to urban care may not be correct. However, this is often how rural services are assessed.

3. *Interprofessional team practice*

It has been shown that interprofessional team approaches can improve health outcomes through better planning and identification of problems, less duplication, and more innovative strategies (Gair and Hartery 2001, AMC 2002). In particular, primary health care teams can meet the needs of the community more effectively because they not only focus on treatment and prevention, but also provide better continuity of care (van Weel 1994). Effective team practice is often viewed as a positive feature of rural health practice because it can be developed more easily in smaller health care settings (ACRRM 2002). With large patient caseloads coupled to a low number of health services and providers, rural practitioners know other local practitioners and work together frequently. However, rural professionals usually cannot choose their referrals or other team members, but must work with whoever is available, whenever they are available. There is pressure for the local medical practitioners, nursing, allied health and consumer representatives to work together, as local options are limited. Another key factor is the permeability of organisational boundaries which support team practice.

Team practice does not fit a single template; rather it is best seen as incorporating an adaptable approach that can be modified by users to suit their unique rural health care setting (Hays 2002a). The composition of the team will depend on the degree of autonomy and range of practice skills desired, as well as on the location, patient profile and professional supports, all of which vary widely across rural settings. Working as part of a team and showing leadership as well as collaboration is vital for rural health professionals (Sturmberg et al 2001). This does not mean that interprofessional practice is inherently cohesive, collaborative and harmonious; tension between practitioners working in a team is common. Issues of power, knowledge, control, gender and status are important to team functioning (McCallin 2001).

Horizon scanning

Johno went on to finish Year 12 and then went to university with the support of his parents. He visits Shaun whenever he is home and considers Shaun ‘a mate for life’. Shaun says he’ll ‘never leave his country’. He has found steady work as a cultural officer, has respect throughout his community and is planning on marrying his long-term girlfriend. About Johno, he says, ‘not a bad bloke for a gubba!’

As demonstrated, rural practice can be challenging and complex but can have positive outcomes. More systematic research and evaluation of current and innovative models of rural health care is being done.

Much attention has recently been focused on the problems of rural health care, particularly access issues and workforce shortages, yet some practitioners have had a passionate commitment to rural communities for decades. Perhaps this is because practitioners can more easily observe the outcomes of their work, or because they have more personal and committed relationships with their patients and clients, or because they have the autonomy to develop flexible and workable solutions to rural challenges. Some practitioners have an easier connection with the community as a place of care.

Whatever the reason for their commitment, more empirical and theoretical research is needed to understand rural practitioners, rural practice and the quality of health care in rural areas. If such research focuses on the positive as well as the negative aspects of rural health, it is more likely to contribute to addressing some of the problems.



Key points

- Rural populations tend to have poorer health, including higher rates of morbidity and mortality, poorer health behaviours and shorter life expectancy (particularly Indigenous populations).
- Rural Australians have less access to health care and resources, and practitioners have fewer opportunities for training.
- Because rural Australians have less choice, it is vital that health services are culturally secure, so that all consumers feel safe in all aspects of their care.
- Because rural health professionals often have overlapping roles and relationships, extra care must be taken with privacy and confidentiality in the professional and personal domains.
- An interprofessional team approach to health care in rural practice is important, given high workloads, fewer service providers and the nature of primary care. It is also important to understand the health system in which a practitioner is working, as models vary across rural Australia.

As emphasised by the Australian College of Rural and Remote Medicine (ACRRM), rural practice is often generalist, holistic and unpredictable, with fewer services to rely on (ACRRM 2002). Good rural practitioners are:

- clinically competent and able to provide appropriate care
- culturally competent and informed about the context and people
- resourceful and able to seek innovative, appropriate, practical and flexible strategies
- able to create opportunities for improved health and wellbeing
- thoughtful, reflective and critical of their own practice
- skilled in needs assessment and problem solving
- informed of the rural health literature
- critically aware of the key concepts underpinning rural health.

In other words, it is an ability to develop health care solutions matched to the unique circumstances of each rural setting that is critical to successful rural health care practice (Bourke et al 2004). Johnno's story demonstrates that the interaction of an awareness of suicide risk among young males, access to after-hours care, social relationships, confidentiality, cultural security and a team approach can lead to good clinical care and the prevention of suicide.

Rural practice has the potential to offer exciting, challenging and meaningful work if the local context and population is understood, access issues are addressed, an innovative model of health care is developed and the service is culturally secure for all members of the local population. Rural health care provides practitioners with the opportunity to be autonomous problem-solvers for a wide variety of health issues.



Recommended readings and resources

- Bourke L, Sheridan C, Russell U, Jones G, DeWitt D and Liaw S-T (2004). Developing a conceptual understanding of rural health practice. *Australian Journal of Rural Health* 1:181–186.

This paper outlines five concepts that are key to understanding rural health and engaging in rural practice: health differentials, access, confidentiality, cultural safety and team practice. It lays the foundation for this chapter and the teaching of rural health at The University of Melbourne Department of Rural Health. It highlights the need to understand the rural context in order to be an effective rural practitioner by demonstrating how local community, environment and social patterns impact on clinical practice.

- Hays R (2002a). *Practising Rural Medicine in Australia*, Eruditions Publishing, Melbourne.

Hays, a rural GP, outlines some of the key issues, challenges and rewards of being a rural GP and engaging in rural practice. The author's insights and experience identify a range of practical and useful approaches to rural practice. His experiences provide detailed examples of how the concepts discussed in this chapter manifest themselves in rural clinical care. Importantly, his approach also demonstrates many of the positive aspects of rural practice, rarely acknowledged elsewhere.

- Thomson N (ed) (2003). *The Health of Indigenous Australians*, Oxford University Press, Melbourne.

This book presents the most thorough discussion of the state of Indigenous health and sickness in Australia. It documents the high occurrence rates of specific conditions and the extent of the health needs of Indigenous Australians across the country. The book is a particularly useful reference for facts and figures about Indigenous health and a good introduction to some of its major issues.

- Wilkinson D and Blue I (eds) (2002). *The New Rural Health*, Oxford University Press, Melbourne.

This is the first book to identify rural health as a separate specialist field in Australia. It presents many of the major issues in rural health and is a compilation of many different perspectives within the interdisciplinary field of rural health. It contains discussions of key issues, and gives examples and evidence of some of the major needs in rural health across Australia, including rural population health, Indigenous health, access to care and workforce recruitment and retention.

- Smith JD (2007). *Australia's Rural and Remote Health, A Social Justice Perspective*, 2nd edition, Tertiary Press, Melbourne.

This book discusses rural health from a primary health care perspective, drawing on public health and related approaches. In this way, it connects the rural environment, population and social issues with health in rural Australia, and demonstrates why rural practice is not limited to the clinical. The book gives attention to Indigenous health, issues of access and equity, culture, workforce and rural health service delivery.



Learning activities

1. Identify three positive aspects of rural health practice and three challenges or difficulties of rural health practice. Which of these would you particularly like, and which would you find most difficult?
2. Talk to a rural or an Aboriginal or Torres Strait Islander health practitioner about their experiences of the differences between rural and urban practice.

3. Identify some of the aspects of rural health practice that you have experienced or think you would experience as challenging and explain how you might overcome them.
4. For one hour, use the Internet to gather as much information as you can about a rural community. What does this information tell you about health needs and health care in the community? How might a practitioner use this information?
5. Get together in a group and play the roles of the different people described in the case study. Explain what you feel to the group and how you might address some of the problems facing you.
6. Stage a debate on the topic: 'Every Australian has the right to health care'.



Part B
Key concepts in practice



Section 1

Population health and capacity

Sue Kilpatrick

Health and wellness are influenced by our genetic make-up, our behaviour (diet, exercise, drug use) and environmental factors (work environment, climate, pollution). Education, income and culture all impact on our behaviour. Where we live has a powerful influence on our behaviour as well as on the environmental factors that may affect our health outcomes. Rural Australia has a diversity of cultures, social networks, community cohesion, access to health, transport and other services, availability of fresh food, electricity and clean water, all of which impact on physical and mental health. Many jobs in rural Australia, especially in primary industry and mining, carry significant occupational health and safety risks. Climatic conditions can impose stress; drought impacts on farmers' mental health as well as on their economic viability. It is the combination of these factors that makes rural health distinctive.

A key reason for understanding the differences in health outcomes and determinants between groups of people is to inform the design of programs to improve health outcomes. Contemporary health programs should be participatory and involve community as well as health service staff in their design. Qualitative methods are particularly relevant in researching the design and effectiveness of programs as they can explore the processes people use when accessing services and their health-related behaviours. Evaluation of public health initiatives and services must take account of rural context. There is a paucity of good quality evaluations of rural health initiatives; such evaluations are needed to build the evidence base for rural practice and service models.

The health of rural populations can be examined using epidemiology, which studies the pattern of distribution and determinants of disease. Epidemiology allows us to see various risk factors and health outcomes, where they cluster and how they differ according to geographical location. It is used in public health policy and decision-making to assist in developing and evaluating responses to public health issues. Maps of disease distribution and socioeconomic factors can illustrate rural health issues, suggest possible determinants, and so assist with making decisions about health promotion programs and activities, and the placement of health services.

This section discusses the varying capacity of rural communities to involve themselves in debates about health and to influence health care, including programs and infrastructure for wellbeing. The related concepts of social capital and community capacity building are explained. An important message is that partnerships between communities and a whole range of professionals, governments at all levels, and others can address some health outcome differentials.

Chapter 3

Diversity, culture and place

Sue Kilpatrick, Quynh Lê and Janice Chesters



Learning objectives

- Recognise and describe the diversity of cultures, social characteristics and physical environments of rural/remote Australia.
- Develop awareness of sociocultural factors in a rural health discourse, particularly in terms of social and cultural capital.
- Identify the implications of various sociocultural characteristics for rural practice.
- Describe relevant relationships between individual and collective/community health and wellbeing.

Introduction

Health and wellness are deeply connected to society, culture and community. Mental and physical health promotion and illness prevention, early disease detection and evidence-based care are important to individual and collective health. To live up to the challenging World Health Organization definition of health as ‘a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity’ (WHO 2006), we need to be aware of, and responsive to, social and cultural concerns. Social relationships and the support of others affect our health and wellbeing, through what can be termed our social capital resources (NRHA 2006). Where we live certainly matters, but so do a lot of other elements, including who we are as people (Pickett and Pearl 2001, Macintyre et al 2002).

The following case studies illustrate aspects of the social and cultural diversity of rural Australia, and the influence of social and cultural factors on rural health and wellbeing.



Case study 3.1 Diversity: challenges and benefits — a Vietnamese doctor’s perspective of rural life

Dzung Thi Nguyen is a Vietnamese-born doctor, married with three children, working in a rural town in northwest Tasmania. Her journey of cultural adaptation has evoked a range of emotions since she arrived in Australia. Her name was the first problem. She had to change her name to ‘Dzung’ from ‘Dung’ to avoid embarrassment.

Dzung came to Tasmania with her parents as a refugee from Saigon, sponsored by her uncle, a well-established medical practitioner in Hobart. He was a key source of support and guidance, especially in the early days. Hobart has a small and close Vietnamese community, which plays an important role in maintaining Vietnamese language and culture. A church group helped the family integrate into the community. Dzung won a scholarship to a private school and then a place in medicine at university.

Her rural placement during her final year in a small town very different from Hobart was a cultural shock for Dzung. She missed city shopping and Asian foods. The shock was gradually dispelled by the fresh air, tranquillity and friendliness of the town. The local pharmacist introduced her to golf, a sport she enjoyed. The people were friendlier than in Saigon or Hobart. She started to feel at home.

After graduation, Dzung decides to work for a rural health clinic in northwest Tasmania and brings her parents along. She joins the golf club and several community service clubs where she meets other members of the small professional community. The Internet keeps her in touch with relatives, friends and other parts of the world.

Living in a rural town is not all smooth sailing. Her parents are very lonely and feel excluded from senior citizen activities. When her first child starts high school, it is hard to decide whether to enrol her in the local high school or send her to boarding school in the city. The small town offers her law graduate husband limited opportunities.

While Dzung is lucky to have her parents living with her, their cultural traditions sometimes interfere with Dzung’s profession. The notion of privacy is treated differently in the two cultures. Her parents are keen to know their neighbours’ health problems but Dzung refuses to share on professional grounds.

The family often travels to Hobart and occasionally overseas. To Dzung’s amusement, it is quicker to fly from this small town to Melbourne than to travel between suburbs in a big city (DVC 2005).

It does not take Dzung long to get to know the local people. In the eyes of many in the community she is an enlightening multicultural discovery. She feels similarly about them. But living and working as a migrant doctor in this rural town also has its challenges. Dzung avoids eating at the local hotel because she would meet young drinkers who she knows are underage. She would feel obliged to report them, but doesn’t want to compromise their trust. She knows that some people travel long distances to the next town to see a GP, which avoids any conflict between personal and professional for Dzung, but at the same time she feels a little hurt that they don’t trust her professional confidentiality. However, this once strange rural land is now home.

Discussion

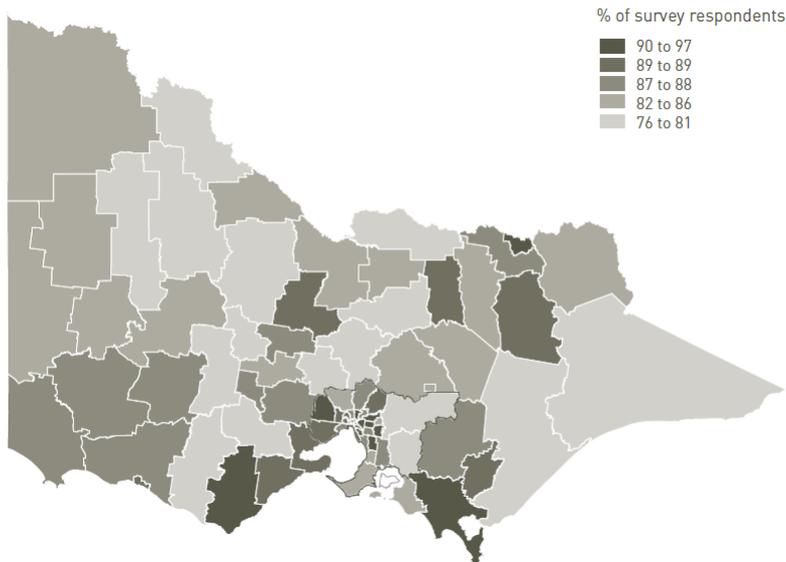
People use various cultural resources, such as language, forms of communication and shared values, in social interactions. Cultural capital (knowledge, culture and education credentials) can be used to exclude particular groups, while privileging others; cultural capital is related to power (Bourdieu 1983).

Social capital resources are networks or relationships, and norms and values that can be used in collective action for mutual benefit (Berkman and Glass 2000, Falk and Kilpatrick 2000). Social capital resources operate at multiple levels: families, groups within communities (such as ethnic minorities or professions) and whole communities. Communities can be either geographic, or what are known as ‘communities of common interest’. The Australian rural health professional community is an example of a community of common interest. Effective community-level social capital is associated with high rates of volunteering and trust of individuals and institutions (Putnam 1993a). At the family and group level, social capital is associated with social connectedness and social support. At the individual level, social capital resources, generated at the family and group level, are associated with improved health and life satisfaction (NRHA 2006).

While it is common to interact with people of different ethnic backgrounds in Australian cities, it is rarer in rural areas, as Dzung found. The fact that big cities attract more people of ethnic backgrounds than regional areas does not mean that cultural diversity is not favoured by people living in regional areas. A recent report conducted by the Department for Victorian Communities (DVC 2005) indicates that the vast majority of regional residents in Victoria feel that multicultural factors improve the quality of life. Some communities are more favourably disposed to multiculturalism than others (see Figure 3.1).

Challenges for the learner and teacher

1. Identify the elements of social and cultural capital which supported Dzung as a migrant and as a new rural professional.
2. What were some advantages and disadvantages for Dzung as a migrant doctor working in this rural town? What were the advantages and disadvantages for the community?



Source: DSE (2005)

Figure 3.1 Percentage of residents who feel that multicultural activities make life in the region better



Case study 3.2 Healthy farm families

This case study is adapted from GRDC (2006).

Sustainable Farm Families is a program that works with farm families to improve their health. Dave and Dora are third-generation farmers in South Australia. They live with their three children on a property in the Murray Darling Basin and rely on irrigation for about half their income. Dave and Dora are concerned about rising salinity levels in their area and, like other members of their Farm Management 500 group, adopt environmentally sustainable farming practices wherever they are affordable. When an invitation came to members of their Farm Management 500 group to join the Sustainable Farm Families program, Dave was about to throw it out. But when Dora saw it, she was determined to go. ‘They were keen on couples so I thought I should go too’, Dave said.

The initial workshop started with benchmarking, that is, taking details of each of the 20 participants’ general health, including fasting cholesterol and blood sugar levels, blood pressure, weight, height and body fat. Dora found she risked developing diabetes if she didn’t make some changes. The program included a trip to the local supermarket and a close look at labels on various products. Dora said many participants were amazed how much sugar, fat and salt there was in so many of the things they fed their kids.

Other topics included safe work practices and mental health — how to recognise anxiety and other pointers to more significant health problems. Dave noted, ‘With the drought biting hard and affecting our income, it’s made me realise I need to be careful. Many of the blokes around here are at risk of depression’.

The two-day session ended with each couple preparing an action plan to improve their health, wellbeing and safety. ‘We set out to reduce our fat intake and also purchased push bikes for rides with the kids’, Dora said. ‘Some couples started going on walks together or brought exercise equipment.’

A second session was held 12 months later and began by measuring members’ weight, waist, fasting cholesterol, blood sugar and blood pressure and comparing the results to the previous year. ‘My blood sugar levels had come down and Dave had lost quite a bit of weight, and some people had stopped smoking’, Dora said.

Discussion

Farm families have a strong work ethic, a high level of injury and risk-taking behaviours, higher per capita levels of disease rates and morbidity, and varying levels of socioeconomic disadvantage (Todd 2004, Troeth 2004). Like many rural people, they have a special bond with the land. Wellbeing is also about the environment, the world or worlds that we are part of and live in. Understanding the impact of environmental change on wellbeing is a challenge for all of us as citizens and health professionals. Human wellbeing is increasingly being seen as, at least partially, dependent on the state of the physical environment. As the physical environment becomes degraded, there will be a negative impact on human wellbeing. Many environmentalists are committed to leading carbon-neutral lives by offsetting their use of cars, planes and heating by supporting tree planting. However, plantations can contribute to rural environmental pollution. For example, aerial spraying of plantation forests followed by heavy rain in the Break O’Day area on Tasmania’s east coast was associated with degradation of the marine environment and consequent impact on oyster farms in the area; cancer rates in humans in the same area may have increased (Scammel and Bleaney 2004).

Challenges for the learner and teacher

1. Why has the Sustainable Farm Families program targeted couples and members of a farming group?
2. ‘It’s a stressful occupation because every decision you make is yours entirely, hence you and your dearest, it is totally your responsibility and nobody else’s’ (female farmer) (Judd et al 2006). How could the Sustainable Farm Families program help people avoid the mental health issues that may arise from this stress?



Case study 3.3 Transforming rural urgent care systems in Mallacoota

This case study is adapted from O'Meara et al (2004).

Rural health professionals and communities have often been concerned about the capacity of their emergency medical services to cope with unexpected health events (Turner et al 2000). When combined with the problems of geography, a paucity of basic health and emergency services presents a major challenge when responding to medical emergencies.

Mallacoota is a small, isolated coastal community with a longstanding concern about the adequacy of its emergency medical systems. It is 520 km east of Melbourne close to the New South Wales border. The population of just over 1000 people swells to between 3000 and 5000 during the holiday season. Many residents are retired professionals from the cities. There is a vibrant arts community.

Mallacoota's urgent care situation was transformed through a community engagement approach that culminated in government funding for a community paramedic model and improved ambulance service communications systems. The community shared their experience to assist other communities facing similar issues.

Mallacoota has no hospital. Its medical centre was staffed by two medical practitioners working on a rotational basis with 24 hour on-call responsibilities. Only four Ambulance Community Officers (volunteers, with limited training) operated locally, supplemented by full-time paramedics during the six-week peak tourist season. The nearest hospitals with fully staffed emergency departments are Bairnsdale, Victoria, 242 km away, and Bega, New South Wales, 144 km away (DHS 2001). The nearest critical care facilities are further away at Central Gippsland Health Service in Sale, Victoria, or Canberra Hospital. The Mallacoota aerodrome is an important part of emergency service management. Crucially, a night landing requires the groundsmen to ensure that kangaroos are removed from the enclosed fenced area before the plane can land.

Early consultations with the community and providers revealed a gap between community expectations and the ability and willingness of health service providers to meet these expectations. The situation came to a crisis point when the medical practitioners indicated that they could leave the area if the situation remained unchanged.

The situation was changed when, at the request of the local division of general practice, the Victorian Department of Human Services provided funding for a Transforming Rural Urgent Care Systems (TrUCs) project (O'Meara et al 2004). TrUCs established a community steering committee to lead the project, employed project officers and a university facilitator, and developed links to the community, government, health institutions and health professionals.

Highlights of the policy development work at Mallacoota included:

- community consultation via local press, mail and a successful public meeting attended by 240 local residents to endorse the urgent care vision of the Steering Committee
- development of an emergency and critical care model for Mallacoota by the steering committee and project officers, with input from other stakeholders, and its presentation to the State Minister for Health.

The outcome was adoption and funding of a new ambulance paramedic model for Murrumbidgee that appears to meet the needs and expectations of the community. In order for full-time ambulance paramedics to provide training for volunteers, the role of ambulance paramedics was broadened to include responsibilities for community and volunteer development.

Discussion

The TrUCs project was a community development process that built community social capital. Social capital resources are used in collective efforts, such as negotiating better health services. These resources are social networks and shared norms and values relevant to the task at hand, in this case improving urgent care services. Trust and a willingness of community members to work for the collective good of the community are indicators of effective social capital.

Social cohesiveness is often associated with social capital; however, it must be accompanied by capable local leadership, appreciation of diversity and links to external networks and resources to produce successful collective efforts (Falk and Kilpatrick 2000). These external networks are sometimes called bridging ties, while ties within groups are known as bonding ties. Not all rural communities are like Murrumbidgee with strong 'bridging ties' to outside networks, and acceptance of diversity (NRHA 2006).

Crucial to the success of the Murrumbidgee project were the community consultation and decision-making processes that positively engaged community and developed, and confirmed a shared vision, or expectation, for emergency services. The availability of project officers as facilitators and researchers for the steering committee was also important: joint working requires dedicated time. One of the other major benefits of the process was an evident improvement in community cohesiveness. At least within the area of emergency medical services, the community demonstrated shared values, aspirations and goals. The program has seen a partnership formed among agencies, community groups and commercial enterprises. Community engagement in the political and policy processes forced government departments and service providers to accept a community-driven process, rather than acting out the rhetoric or apparently listening to the community while implementing centrally-driven policy initiatives (O'Meara et al 2004).

Challenges for the learner and teacher

1. Why were the local facilitators and the steering committee important to the process?
2. The nearest hospital with a fully-staffed emergency department is across the state border in New South Wales, and the nearest critical care hospital is, in yet another jurisdiction, in Canberra. What issues might this raise for the Murrumbidgee community in negotiating emergency care services?
3. Volunteers received training from paramedics in the new service model. The level of volunteering in a community is an accepted measure of social capital. Why?

4. Sometimes, active community leaders like the members of the steering committee experience burn out and withdraw. What succession plan for community engagement in emergency services can you suggest?



Key points

- Higher levels of social capital are associated with improved health, education and life satisfaction outcomes and reduced disadvantage.
- Strong bonding ties can support rural community members and increase social engagement and connectedness, contributing to wellbeing, but must be accompanied by an appreciation of diversity and attention to exclusionary impacts of cultural capital to ensure individuals and groups are not marginalised.
- Rural practitioners must take account of the rural context of the target group, including risk factors and social norms. For example, health promotion programs should consider work behaviours and stresses caused by environmental changes, and values of independence.
- Wellbeing is partially dependent on the state of the physical environment.
- Community cohesiveness and collaboration, accompanied by capable local leadership and links to external networks and resources may strengthen isolated rural communities' positions in the political and policy processes and so improve access to health services.



Recommended readings and resources

- Keleher H and Murphy B (2004). *Understanding Health: A Determinants Approach*, Oxford University Press, Melbourne.

A discussion of the concepts relating health to social and cultural factors.

- Berkman L and Glass T (2000). Social interaction, social networks, social support, and health. In: *Social Epidemiology*, Berkman L and Kawachi I (eds), Oxford University Press, Oxford.

This bulletin highlights different ways of defining social capital approaches that gained consensus among federal departments, and presents an analytical model for measuring the relationship between social capital and health in Canada.

- National Rural Health Alliance (NRHA) (2006). *Healthy Regions, Healthy People*, Position paper.
<http://nrha.ruralhealth.org.au/cms/uploads/publications/healthy%20regions%20healthy%20people.pdf>

This paper addresses the changing health needs of regional populations for health services and opportunities for developing regional infrastructure and health related businesses.

- Berkman L and Glass T (2000). Social interaction, social networks, social support, and health. In: *Social Epidemiology*, Berkman L and Kawachi I (eds), Oxford University Press, Oxford.

This paper discusses the impact that different qualities or dimension of social relationships have on health by placing them in the larger context of social networks.

- Sabatini F. Social Capital Gateway website editorial, Social Capital Gateway, University of Rome, La Sapienza.
<http://www.socialcapitalgateway.org/index.htm>

Excellent online resources for the study of social capital.

- MedlinePlus (2006). *Farm Health and Safety*, the US National Library of Medicine and the National Institutes of Health.
<http://www.nlm.nih.gov/medlineplus/farmhealthandsafety.html> (Accessed 20 November 2006)

Useful online resources on farm health, which can include information about specific diseases and safety issues such as chemical use.



Learning activities

1. Identify some elements of cultural capital that may privilege or exclude newcomers to rural communities.
2. Why might appreciation of diversity vary from community to community? Apart from migrant ethnic groups, which other groups may experience adverse effects on wellbeing in communities that are less tolerant of sociocultural diversity?
3. Identify some health risks that farmers and their families are exposed to working and living on a farm. How might you go about influencing their behaviour to reduce these risks?
4. Australia regularly experiences drought. Many commentators say that water will become scarcer as a result of global warming. What health and wellbeing implications might this have for farmers and other rural residents?
5. Should external agencies like the state health departments and ambulance services be concerned about social capital and community capacity? Why or why not?



Chapter 4

What makes communities tick?

Judy Taylor and Marisa Gilles



Learning objectives

- Identify and describe a community of place and a community of interest.
- Assess community capacity for community health development.
- Correlate community capacity and community health development in rural and remote communities.
- Access tools to appraise community capacity.
- Identify social capital within communities and assess how this impacts on community capacity.

Introduction

First, this chapter identifies the different ways we can use the term ‘community’ when working with rural communities to improve health and wellbeing. We examine two definitions of community: a community of place and a community of interest. The definitions we provide are consistent with the sociological literature on community.

Secondly, we discuss some of the capacities a community needs to have, and we need to be aware of, when we work with communities in community health development. Community health development involves community-level activities beyond what we traditionally think of as health, such as festivals, markets and events. It also involves activities within health, such as health planning, health promotion, early intervention, prevention, and health services development.

Community capacity building always involves partnerships between communities, a whole range of professionals, governments at all levels, and others who can assist. The tasks involved in working to address the social determinants of health at the community level are so complex that these partnerships are essential in achieving a sustainable outcome.

There are a number of useful tools available to help assess community capacity. Most of these are generic, that is, they do not specifically address health development; rather, they provide a guide to assess capacity for all kinds of development. There is as yet insufficient research to tell us which specific capacities are related to specific kinds of community health development.

In this chapter, the case study of Treetown is introduced to illustrate how we define and understand communities and community functioning. The case study of Seatown is then provided to illustrate the importance of existing tools in helping to understand the subtleties of a community, and how such tools can be used to develop and evaluate community development strategies.



Case study 4.1 Treetown: a cosy community?

Treetown (population approximately 1000) is a small rural town located away from the coast and several hundred kilometres from the capital city. The town is the centre for a well-established agricultural district with wheat, barley, wool, and beef cattle as the main primary industries. The local government area, with its administrative base in Treetown, has a population of 4000. The population of the district is stable, but it is ageing with a quarter of the population of the local government area aged 60 years or over.

It is this older group that has the say about what happens in the town — which industries will be supported, what infrastructure is required, and how the community resources are distributed. Over the years, the farms have been productive because of reasonably predictable rainfall, and it is the farm income and the agricultural industry that makes the town viable. The same farming families have been in the district for generations and are always members of the local council and the backbone of the numerous service and sporting clubs. It is the farmers who lobbied to ensure that the local bank remained open. Farmers established the community development council to support the diversification of the town's economy with the introduction of new industries such as grape growing and machinery manufacturing. While small businesses and the service industries are vital to the communities' survival, the 'main-street businesses' are not represented on the council and are not decision makers in the community.

The main street of Treetown has a prosperous feel about it: plenty of activity, few empty commercial premises, and a well-tended park at the southern entrance to the town. Some call the hospital and general practice the 'heart' of the town and the buildings are well cared for and demonstrate the level of community ownership and contributions that have gone into their establishment over the years. The local hospital board consists of older people, mainly farmers, who have been associated with the hospital for generations. The district depends on the health care provided by the 10-bed local hospital, the general practice with three doctors, the aged care facilities, and the community health centre. It is thought that if, for any reason, the town could not recruit GPs, the hospital would be under threat. This would be a problem not only because of the need to travel to obtain inpatient care, but also because the hospital and health services are the major source of 'off-farm' employment.

While the farms and small businesses are reasonably affluent, the Indigenous people, who are the custodians of the land, find it difficult to gain employment in Treetown. This situation, along

with limited access to their land, food supplies, and water resources, has made it difficult to maintain a viable lifestyle. Most Indigenous people now live in a ‘community’ of about 400 people located outside Treetown. Although actively developing their community, dispossession of land and consequent material poverty as well as other factors have impacted negatively on community members’ health. Historically, there has been poor access to health services in Treetown, although the general practitioners are well aware of the need to address Indigenous health issues and have a history of working collaboratively.

Discussion

Is Treetown a community?

Treetown can be defined as a ‘community of place’. A community of place has three aspects. Firstly, there is a more or less commonly agreed geographic boundary. People, when asked, can identify those areas that make up the community, although the boundaries might be defined differently for different purposes. For example, for health service administration, Treetown might include the three little surrounding towns; but, as far as sporting events go, the towns might have their own teams and not be part of the Treetown community. Secondly, there are patterned social interactions amongst people who live in the area. There is an acknowledgment by most people who live there that they are part of a community. These patterned interactions are supported through a local society. There are organisations, structures and networks that enable people to come together and fulfil their business and social needs (Wilkinson 1991, Burke 2001a, Cheers and Luloff 2001, Taylor et al 2007). However, not all people that can meet their needs are in this community (Bourke 2001b).

Understanding communities is rather like doing a jigsaw puzzle. Treetown is not a cosy idyllic community or one big happy family. Decision making is not shared throughout the community and Indigenous people are excluded from many aspects of community life. It is a real-life community with all the exclusions, prejudices, strengths, and ups and downs of any community. However, Treetown, like Mallacoota, the town mentioned in the previous chapter, has been able to purposively bring together its resources, both financial and people skills. There is expertise to develop health services and maintain the bank, sporting facilities, and service clubs. We call these community capacities: the combined influence of a community’s commitment, resources and skills that can be used to build on community strengths and address community problems and opportunities (Cheers et al 2005).

A community of interest

Within Treetown there are ‘communities of interest’. Adopting Guterbock’s (1999) definition, communities of interest are groups of people who share a consistent set of interactions around a common interest, whether it be an economic, social, political, spiritual or cultural interest. Communities of interest may come together for a specific time-limited purpose, such as advocating a new service or lobbying a political party about an issue before an election. An example of a community of interest in Treetown is the environmental group, which lobbies government for improved infrastructure to support a

wind farm. People with similar cultural and ethnic backgrounds frequently interact as a community, providing for the social, cultural, and spiritual needs of their members.

Communities of interest are not necessarily bounded geographically and people may belong to more than one community. Almost always, communities of interest and communities of place coexist in multiple layers. In Treetown, for example, non-Indigenous people talk about the Indigenous community as if it were one community. However Indigenous people may see themselves as part of many communities: the Traditional Owner Groups because of kinship lines, the Indigenous community in Treetown, or other communities focused on towns where people were brought up (Cummins et al 2007).

What are Treetown's capacities to engage in health development?

Looking at its history, Treetown could be said to be a community with capacity to support development. But now things are different and there are new challenges. There is an ongoing drought and a downturn in the newly emerging industries. There is an increased prevalence of depression in all age groups, and Indigenous people are unable to access the health services because of financial and transport problems. What capacities does the community have to cope with the current issues?

One of the most important community capacities is the ability to bring community together across sectors to address development issues, deal with social problems and advance community wellbeing: the ability to mobilise a 'community field' (Sharpe 2001). The basic characteristic of the community field is the purposive interaction across diverse sectors that facilitates awareness of local concerns and enhances the flow of information, financial resources, and expertise to address the problem. It is problem-solving across sectors, rather than just in any one sector, that is important. It is also important that it is the whole community's interests that are uppermost, not just the interests of any one community group.

Typically, Treetown uses its local council and community development association to solve development problems. At any meeting of the local council, we find the town's powerful people, primarily from the primary industry sector, discussing the problems of drought and trying to work out solutions. There is not yet the emergence of a community field, a range of people coming from diverse sectors working together for community betterment.

To develop community health, including addressing mental health concerns, bringing people together from diverse sectors is essential. We know that health issues affect everyone, and that community participation in all types of health activities has long been argued to be fundamental (WHO 1991). With only sections of the community working together, health development will be thwarted.

Overall, this case study illustrates the need to assess community strength and capacity in order to assist in health development.

Challenges for the learner and teacher

1. Why do you think it is important to have people from different community sectors, (primary industry, education and others) working with the health sector to improve health?
2. If Treetown wanted to address the problem of depression among young people, which community sectors might need to plan together?



Case study 4.2 Seatown: a town under siege

Seatown is an isolated coastal town of 6000 people, 500 km from its closest neighbour, a centre of only 19 000 people. It is the regional centre for an area that extends about 300 km north, 300 km south and 500 km inland. It has a diverse population with 10% of its residents born overseas and 18% of Indigenous descent. It has high levels of alcohol-related problems. Because of this, the town has a bad image in the media; this image fails to demonstrate the strong community cohesion that also exists.

As a result of the issues facing the local community, the local population health unit began to deliver and support programs aimed at promoting fundamental cultural changes in the local community. Specific activities include a Christmas campaign, a children's festival, a reconciliation committee, the development of a local growers' market and a men's health program, based on a community development model. A number of new initiatives are also occurring independently of the population health unit, such as the opening of the Cultural and Heritage Centre, and a boom in real estate with local industry providing increased local optimism and employment.

Beyond the obvious health implications, demonstrating success is important in today's funding environment, which, to justify their continued existence, demands evidence that programs are having an impact.

In an attempt to measure program impact, researchers surveyed residents in Seatown in 2003 using an instrument that measured levels of social, community and civic participation, trust of subgroups within the community and of government and private services, experience of racial tension, and self-reported mental and physical health status.

From a representative sample of residents, the researchers learned that irrespective of gender and culture, most people enjoyed living in the town, felt that they could draw on the advice and support of their friends, with whom they met regularly, and would participate in activities benefiting the community. Most residents attended community activities of some sort; the most popular being those suited to families. Participation in civic affairs was also high.

Yet within this cohesive community, residents also reported conflicts, stresses and loss of privacy that detracted from living in the region. There was a general feeling that life in the town had either not improved over the years or was getting worse. Unlike non-Indigenous residents, Indigenous residents were more likely to think constantly about their identity as an Indigenous person, and in the previous four weeks one-third of Indigenous respondents had felt physical or emotional symptoms as a result of how they were treated because of their culture. Finally, although the overall health of the community was similar to the national population, some

subgroups, particularly within the Indigenous people, demonstrated much poorer physical and mental health.

A social model of health is important in promoting and sustaining healthy communities. The Director of Seatown Health was vocal in his support for a social model of health:

As long as governments continue to focus the majority of health dollars on institutions and people that deal with the sick, we shall continue to face spiralling health costs. Throughout history, it has been socio-political change that has had the greatest impact on health — not drugs or doctors. International evidence supports investment into social determinants of health and the fundamentals such as transport, housing, food and activities that foster civic participation such as the arts, sport, culture, festivals and events. It is time to act on this information. (Director, Seatown Health Services).

Discussion

Assessing community capacity and strength

There are several ways to assess the strengths of Seatown and understand its complexities. First, we can use an instrument, or a set of instruments, to ask community members about social, community, and civic participation, trust between subgroups within the community and other topics of interest. This is an individual-focused process. A second method is a collective community approach using an assessment tool that is used by a selected group of community members who go through a research process to provide a collective view about the communities' strength and capacities. Both methods are appropriate; which approach is used will depend on the purpose of the audit and the nature of the community. The following section provides information about community capacity assessment tools.

Assessing community capacity for health promotion

According to Laverack (2003) and Labonte and Laverack (2001), there are nine domains that are important for developing community capacity:

- assessing the level of community participation
- assessing leadership
- assessing organisational structures
- problem assessment
- ability to mobilise resources
- ability to question and analyse
- links with others (partnerships)
- ability to call on outside agents
- program management expertise.

Ideally, the process of capacity building involves four phases. First is the preparatory phase: groups, individuals, and/or the community as a whole discuss whose capacity is being built and what empowerment really means in practice. Secondly, in collaboration, an assessment of each of the capacities is made and shared with the community. Thirdly, a strategic planning exercise is used to identify how to strengthen each of the domains, and finally there is a follow-up phase where progress is measured.

The strategic planning phase consists of five components:

- the assessment of the domain
- the reasons for the assessment
- an assessment of how to improve capacity of the domain
- the strategy that will be used
- the resources needed.

Assets approach to community capacity building

There is always a tendency to focus on deficiencies and gap analysis in the development of programs. The assets approach aims to focus the community on positive talk, to identify ‘what is’ by a process of ‘the 4Ds’:

- Discover: appreciating and valuing the best of what is
- Dream: envisioning what might be
- Design: dialoguing what should be
- Deliver: innovating what will be.

The electronic community capacity assessment tool

As mentioned earlier, there are different ways of auditing capacity; few measure the whole of community. One instrument that does is the community capacity assessment tool developed by Primary Industries and Resources, South Australia (PIRSA) in association with Cheers et al (2005). This electronically-based community capacity audit/assessment tool was developed initially to profile capacity to support local primary industries; however, the latest version (2007) has a broader community base for measuring a community’s capacities and can be used for a number of purposes including maintenance of effective health and social services. The assessment tool is used by a community assessment group and assesses seventeen capacities in eight sectors. The South Australian Government holds copyright for this tool.

Poor health status and concerns about the social environment in rural and remote Australia have prompted many researchers to highlight the particular need for social studies to enable the specific capacities related to health development to be better understood (Humphreys et al 1992, Baum 1999, Dixon and Welch 2000, Rolley 2000). To date, however, there has been very little research on the connection between health status and the social environment.

Understanding health development issues and community strength in Seatown

In Seatown, some of the components that may contribute to health development and community strength could include:

- changing demographic and socioeconomic status
- social network characteristics, social and civic participation, and social patterns that characterise the person's actions in times of need and adversity
- attitudes regarding social and inter-racial trust, personal ambition, norms and ideals, tolerance and civic participation
- attitudes regarding community leaders and adequacy of community services
- health status; specifically the Short Form Health Survey or SF-12, which has been widely used and tested as a stand-alone means of determining general health status at the population level (Sanderson and Andrews 2002).

Interventions to enhance community strength may need to be able to respond to as many of these components as possible to have a sustained effect.

A critical part of any assessment is measuring the trust bestowed by community members upon other members. In the study at Seatown, Indigenous respondents reported significantly lower levels of trust in local institutions and other community groups than non-Indigenous respondents. Trust is not a warm fuzzy attribute of a society; it has hard economic benefits. The former Chairman of the USA Federal Reserve Bank, Alan Greenspan (1999), states:

... trust is at the root of any economic system based on mutually beneficial exchange ... If a significant number of people violated the trust upon which our interactions are based, our economy would be swamped into immobility.

Trust also has physical benefits. High levels of social mistrust have been shown to result in higher levels of total mortality, infant mortality and cancer in communities (Kawachi 1997). The precepts of how trust develops are complex. Studies show that trust is often dependant on both cultural and social identity and that cooperation usually decreases as social distance increases (Buchan et al 2002).

Racism is another significant determinant of health (Kennedy et al 1997, Harris et al 2006) that has also been shown to result in increased high-risk-taking behaviour.

Similar to Treetown (Case study 4.1) and Mallacoota (Case study 3.3), Seatown has a cohesive community, drawing on the richness of the social, community and civic connectivity of its members. This needs to be celebrated and built on. However, there are also inherent inequalities and divisions that will ultimately restrict the development of the community, the enjoyment of life in the region and the physical and mental health of members of the community. Understanding this reality and complexity is the basis for development of successful interventions (WHO 1991, Turrell et al 1999, Ziglio et al 2000).

Challenges for the learner and teacher

1. What is the possible impact of racism with regards to the improvement of health in Seatown?
2. How might you work with schools to influence cultural norms around discrimination?
3. What are the challenges of working outside the mainstream health paradigm?
4. What stereotypes and values might you bring to this process and how would you guard against them?



Key points

- Communities of place have a commonly agreed geographic boundary, patterned social interactions amongst people who live in the area, and organisations, structures and networks that enable people to come together and fulfil their business and social needs.
- Communities of interest share a consistent set of interactions around a common interest (eg economic, social, political, spiritual or cultural interest). They may come together for a specific time or a limited purpose (eg to advocate for a new health service) or may be more long term (eg cultural or ethnic communities).
- People may belong to more than one community; almost always communities of interest and communities of place coexist in multiple layers.
- Community capacities are the combined influence of a community's commitment, resources and skills that can be used to build on community strengths and address community problems and opportunities.
- The assets approach to community capacity building focuses on positive talk to identify 'what is' by the 4D-process: (1) Discover: appreciating and valuing the best of what is; (2) Dream: envisioning what might be; (3) Design: dialoguing what should be; and (4) Deliver: innovating what will be.
- Capacity building involves four phases: (1) Preparatory phase: groups, individuals, and/or the community as a whole discuss whose capacity is being built and what empowerment really means in practice; (2) Assessment of each of the capacities is made collaboratively and shared with the community; (3) Strategic planning exercise to identify how to strengthen each of the domains; and (4) Follow up where progress is measured.
- The strategic planning phase consists of five components: (1) assessment of the domain, (2) reasons for the assessment, (3) an assessment of how to improve capacity of the domain, (4) the strategy that will be used, and (5) the resources needed.

- Community problem-solving is more likely to be successful if engagement is across all community sectors and the whole community's interests are uppermost, not just that of any one community group.
- Nine domains that are important for developing community capacity for health promotion: (1) level of community participation, (2) community leadership, (3) community organisational structures, (4) problem assessment, (5) ability to mobilise resources, (6) ability to question and analyse, (7) links with others (partnerships), (8) ability to call on outside agents, and (9) program management expertise.
- Assessment of community capacity may be individual-focused or collective; a mixed approach using a set of validated instruments is usual. Individual-focused assessment involves asking community members about participation (social, community, and civic), trust between community subgroups and other topics of interest. Collective assessment engages a selected group of community members provide a collective view about the communities' strength and capacities. Both methods are appropriate and which approach is used will depend on the purpose of the audit and the nature of the community.
- There are inherent inequalities and divisions that will ultimately restrict the development of the community, the enjoyment of life in the region and the physical and mental health of members of the community. Understanding this reality and complexity is the basis for development of successful interventions.



Recommended readings and resources

- ABCD (Asset-Based Community Development) Institute (2005). *Discovering Community Power: A Guide to Mobilising Local Assets and Your Organisations Capacity*, ABCD Institute and WK Kellogg Foundation. <http://www.northwestern.edu/ipr/abcd.html> (Accessed March 2007)
- ABCD (Asset-Based Community Development) Institute (2005). *Hidden Treasures: Building Community Connections*, ABCD Institute and WK Kellogg Foundation. <http://www.northwestern.edu/ipr/abcd.html> (Accessed March 2007)

These two publications are practical guides to how to go about community development, including tools to assess various aspects of communities.

- Bourke L (2001a). Rural communities. In: *Rurality Bites: The Social and Environmental Transformation of Rural Australia*, Bourke L and Lockie S (eds), Pluto Press, Sydney, 118–128.

This publication provides an overview of rural community life.

- Cheers B and Luloff AE (2001). Rural community development. In: *Rurality Bites: The Social and Environmental Transformation of Rural Australia*, Bourke L and Lockie S (eds), Pluto Press, Sydney, 129–142.

This chapter covers key concepts about community development.

- Larson A, Gilles M, Howard PJ and Coffin J (2007). It's enough to make you sick: the impact of racism on the health of Aboriginal Australians. *Australian and New Zealand Journal of Public Health* 13:322–329.
- Laverack G (2003). Building capable communities: experiences in a rural Fijian context, *Health Promotion International* 18(2):99–106.

This publication provides a practice framework for community capacity building.

- Putnam R (1993b). The prosperous community: social capital and public life. *The American Prospect* 13:35–42.

This article introduces the concepts of social capital.

- Taylor J, Wilkinson D and Cheers B (2007). *Working with Communities in Health and Human Services*, Oxford University Press, Melbourne.

This book covers community practice frameworks and the key skills required for working with communities.



Learning activities

1. Using a town or community you are familiar with, describe the process you would follow to complete the planning phase of a community development program.
2. Describe how you would ensure that a representative group from the community/communities is engaged in this process. What challenges might you face and how might you deal with them?
3. Describe how you would work with the community to influence cultural norms around drinking behaviour.
4. Describe some of the challenges and requirements of conducting a community-based evaluation as described in Case study 4.2.

Chapter 5

Health of rural populations

Gary Misan, Margaret Lesjak and Lyn Fragar



Learning objectives

- Describe how the different determinants of health play out in the rural environment.
- Describe the main differences between the health of people living in rural and remote areas and those living in metropolitan areas.
- Describe contemporary approaches to public and population health.

Introduction

Health and disease do not occur at random. Most of us, no matter where we live, will at some time be confronted by illness, as an individual, a family member, a friend, a carer or a clinician. Mostly, we consider these events in their individual context, but rarely we take the chance to step back and see whether such individual events, as they occur in a community or larger population, might be linked. How frequent are specific outcomes? What is their distribution around the state or the country? Are events more frequent in rural compared with metropolitan areas? What are the factors that determine their occurrence?

These are the questions that someone applying a population perspective to health and disease might ask. Taking this approach can help us identify local factors that may be part of the reason these illnesses arose in the first place. Dealing with these may help prevent the same illness arising in other community members.

In order to draft policies that promote health, legislators and policy makers in local, state and federal governments also need to know about patterns of health or illness, particularly its distribution across geography and groups over time.

Determinants of health

The health of individuals and of populations is influenced by many factors acting in many combinations. Table 5.1 shows the determinants of health from the Australian Institute of Health and Welfare’s Rural Health Information Framework.

Table 5.1 Determinants of health

Environmental factors	Socioeconomic factors	Community capacity	Health behaviours	Person-related factors
Physical, chemical and biological factors such as air, water, food and soil quality resulting from chemical pollution and waste disposal.	Socioeconomic factors such as education, employment, per capita expenditure on health, and average weekly earnings.	Characteristics of communities and families such as population density, age distribution, health literacy, housing, community support services and transport.	Attitudes, beliefs, knowledge and behaviours (eg patterns of eating, physical activity, excess alcohol consumption and smoking).	Genetic susceptibility to disease and other factors such as blood pressure, cholesterol levels and bodyweight.
Examples: Water, sewerage, food availability, housing, recreational and cultural facilities, the workplace, environmental hazards.	Examples: Education, employment, after-tax income.	Examples: Population characteristics, social issues and social capital, services, health literacy, perception of risk, housing, transport, cost of living, regional business health.	Examples: Smoking, alcohol consumption, illicit drugs, physical activity, nutrition, sexual practices, driving practices.	Examples: Genetically determined diseases, specific birth defects, blood pressure, cholesterol and bodyweight.

Source: The Rural Health Information Framework, AIHW (2005)

Some determinants of health are within our individual control, while others are influenced by where we live, employers and local, state or federal government policy. Factors such as climate and genetics that are not within our control can be managed with appropriate planning and resources. Other factors, for example the quality of air, food, soil and water, or whether we are immunised against common infectious diseases, can be controlled with appropriate public health policy. Many of these factors can also be measured and their association or correlation with certain health outcomes quantified. Individuals, communities and government may then act to change some of these factors, either through changes in behaviour, the built environment or policy. The impact of these changes can then be monitored over time.



Case study 5.1 Determinants of health: suicide in male farmers

Sville is a small rural town of about 400 people whose economy is based on agricultural production, mainly grain, sheep and beef cattle. The area has experienced lengthy drought periods that have impacted on local businesses and the community. Over the last two months there have been three suicides of male farmers in the local area. Two of the men had been found shot on their properties and the third asphyxiated in his car.

These suicide cases might simply have been managed as unrelated tragedies. However, local health professionals took a population and health determinants perspective, asking a number of different questions to place the suicides in their social context. This approach may also identify strategies for preventing future deaths.

Discussion

Are the farmers in the locality of Sville at high risk of suicide?

Rates of suicide of male farmers and farm managers in Australia were observed to increase significantly over the decade 1988–97. Comparison of age-adjusted rates for this population with reported national Australian male suicide rates showed the risk of a male farmer committing suicide in 1997 was more than double that of other Australians. Suicide rates for male farmers have stayed at similarly high rates from 1998 to 2002 (Judd et al 2006).

What are the common means of suicide of Australian farmers?

The most common methods of male farm suicides were firearms, particularly hunting rifles and shotguns, followed by hanging and motor vehicle exhaust gas (Page and Fragar 2002). These methods accounted for approximately 81% of all suicides in both farm manager and agricultural labourer groups. Farm chemicals were the next most common method of suicide.

What factors may be associated with farmer suicide?

Some known risk factors for Australian farmers are shared with farmers in other countries, for example access to the means of suicide, particularly firearms, hanging implements and chemicals. Most farmers worldwide are closely associated with births and deaths of farm and feral animals, and with methods of destruction. Hence, suicide attempts are more likely to be effective for this occupational group.

Other risk factors may be more specific to Australian farm settings. These include the physical isolation necessary to complete suicide. Although there is significant variability between regions and types of farming activity, Australian farms tend to be larger in area and more remote from other human habitation than in most other countries. Economic conditions for Australian agriculture continue to be associated with ongoing restructuring of the industry, resulting in smaller numbers of farms of larger areas. This has been a

feature of Australian agriculture over the past 40 years, made necessary as prices for products decline and costs of production increase. Additionally, global factors such as agricultural subsidies have an impact on overseas competition for agricultural products.

While rates of clinical depression for Australian farmers are not thought to be higher than the general population, male farmers experiencing depression or anxiety conditions may be less likely to access relevant mental health services that would provide early intervention to prevent suicide. Access to mental health services requires a relevant degree of mental health literacy in farmers or those in contact with farmers. Furthermore, affected farmers need the opportunity to consult either general practitioners or mental health service providers in a timely manner — a growing difficulty in many relatively remote communities.

What preventive action should be considered for the Sville community?

Cumulative models of farm suicide prevention that acknowledge the interaction of a range of related suicide-risk factors relating to the rural economy, family and social issues, alcohol and substance use, and service access may be more effective for the farming population. This approach is being adopted in New South Wales under the leadership of the NSW Farmers Association and supported by Mental Health Services. The NSW Farmers Blueprint for Mental Health (ACAHS 2006) includes a range of activities and programs, some of which include:

- advocacy for farm support
- access to drought support
- change-management skills development
- Farm Pride campaign
- access to crisis lines
- mental health first aid for farm members.

Those health care providers who are consulted by farmers with depressive conditions need to be aware of the special risk of suicide of farmers and ensure that at-risk farmers with depressive illness do not return to an unsupported, isolated farm environment. If necessary, access to firearms by farmers at risk of suicide should be prevented, with the help of local police. Restriction of access to the means of suicide (eg firearms) may reduce suicide rates; however, this approach alone is unlikely to be effective for the farming population because of the accepted use of firearms within agriculture for controlling pests and to put down sick or injured stock.

More general community prevention should include developing professional networks between health and general service providers who are associated with farmers, and ensuring access to crisis support.

Local communities can provide opportunities for improved social contact for isolated farmers, and can also participate in mental health literacy programs, such as mental health

first aid short courses. Improved understanding of the suicide risk problem for farmers by service providers, strengthened service networks and improved opportunities for farmers to stay connected would be immediately useful.

General health status in rural Australia

Australians generally enjoy one of the highest living standards in the developed world and in 2002 had the fourth highest rate of good health for women and for men (AIHW 2002). There are however huge inequalities. For example, the average life expectancy for non-Indigenous Australians is 80 years (females 82.6; males 77.4), but is 20 years lower for Indigenous Australians.

People who live outside large urban centres have higher mortality rates and higher rates of risk factors for ill health (eg smoking, excessive alcohol use, poor diet, and less physical activity) than their urban counterparts (Taylor et al 2003). In addition, studies of socioeconomic risk factors show that rural Australians are less well educated, have lower incomes, have poorer access to health services, are less likely to own their own home, are more likely to be unemployed, work in hazardous industries (eg farming, mining) and engage in risk behaviours (eg driving at speed and over long distances).

These indicators are all associated with poorer health outcomes (Thomson 2003), including higher rates of death from coronary heart disease (ischaemic heart disease), cardiovascular disease, motor vehicle accidents, diabetes, suicide, prostate, colorectal and lung cancers (AIHW 2005a).

The perception of ill health, though, is not necessarily consistent across the country. For example, in a recent population health survey in South Australia, people from country regions were generally less likely to report 'Excellent, Very Good or Good' health than their metropolitan counterparts and were more likely to report poorer health if they were or had been smokers, drank alcohol to excess, were overweight, had low levels of physical activity, or had one or more chronic diseases including diabetes, chronic obstructive pulmonary disease, cardiovascular disease or arthritis (Avery et al 2006).

Paradoxically, data collected across Australia by the AIHW shows that, with the exception of arthritis, the prevalence of self-reported rates of chronic disease (diabetes, cerebrovascular disease, asthma, bronchitis/emphysema and osteoporosis) was lower in non-metropolitan areas than metropolitan areas (AIHW 2005a).

The proximity, number and type of health services, the number of health professionals, and the ease of access to services are also important determinants of health. People in rural and remote zones have less access to health care compared with urban counterparts. This is due to a range of factors, including number of health professionals; distance from health services; and, the inability of small population centres to sustain the full range of medical services. The number of GPs, retail and hospital pharmacists and medical specialists falls sharply with increasing remoteness, reducing availability of medical services and access to medicines in remote areas (Strong 1998).

Morbidity patterns

Strong (1998) reported that rural Australians had poorer health than their metropolitan counterparts and experienced higher hospitalisation rates, higher mortality rates and lower life expectancy. Compared to urban Australians, rural Australians had higher hospitalisation rates for injuries, falls (in the elderly population), burns, strokes and coronary heart disease (Baum 1998, Taylor et al 2003). The situation is worse for Indigenous people, more than two-thirds of whom live in areas classified as 'remote'. Compared with non-Indigenous Australians, Indigenous Australians generally have poorer education levels, more unemployment, and are more likely to be on social support benefits with little material wealth and little disposable income: all factors that limit life choices. Indigenous Australians also more often live in remote areas with poor public health infrastructure and substandard living conditions. As a result, Indigenous Australians suffer higher rates of diabetes, cardiovascular disease, respiratory disease, end-stage renal disease, cancers, sexually transmitted disease and other communicable diseases than non-Indigenous Australians. Hospitalisation rates are also higher and GP consultations are lower, reflecting lower GP density in more remote areas. High rates of suicide, smoking, abuse of alcohol and other substances, together with injury as a result of domestic and other violence contribute further to increased morbidity and mortality in remote communities (Thomson 2003).

Mortality patterns

For non-Indigenous Australians, death rates in regional areas are on average 1.1 times those of major cities. In remote areas, this rate increases to 1.5. The main causes of death include cardiovascular disease, chronic obstructive airways disease, injury related to motor vehicle accidents and suicide (AIHW 2006d). There is a strong pattern of increasing mortality from injury with increasing remoteness, particularly for males.

Death rates for Indigenous people are higher than those of non-Indigenous people, regardless of location, and death rates increase with increasing remoteness. In 2001, the median ages of death were 52 years and 57.6 years for Indigenous men and women respectively, compared with 75.8 years and 81.9 years for non-Indigenous men and women. For Indigenous adults, the leading causes of death include circulatory system disorders, injury, cancer, respiratory disease and diabetes (Thomson 2003).

Infant mortality rates in remote areas are almost double those in urban areas; this figure is skewed by the much higher infant mortality rates among Indigenous people. Among non-Indigenous people, the relative death rates of the elderly (>74 years) in remote and very remote areas are lower than those of their urban counterparts. This is believed to be due to older people in remote areas moving to more populous areas in order to have better access to health services, leaving behind a healthier group of older people (AIHW 2003).

There are some positives in the statistics: cancer death rates for males in remote areas are lower than for males in metropolitan areas; cancer death rates for females and deaths from respiratory disease are similar in metropolitan and rural areas. However, these

findings may also relate to people with these conditions moving closer to health services as described previously.

Public and population health

Public health concerns the health of the public or of certain populations.

Although advances in medical knowledge have identified the aetiology of most communicable diseases, disease vectors, modes of transmission and immune and other responses, the basic principles underpinning public health continue. The availability of basic amenities like clean water, electricity, telephone and suitable housing is still problematic for people living in remote and some rural communities of Australia.

There has been a shift, largely driven by the World Health Organization (WHO), from traditional public health thinking to the interplay of less tangible influences, such as community prosperity, education, social capital, social wellbeing, individual choice and control, community participation, health promotion, the natural and built environment, and the impact of work and play on health. The Ottawa Charter for Health Promotion (WHO 1986) encapsulates the principles of public health approaches and integrates the key prevailing health promotion perspectives. The Charter is based on health prerequisites of peace, shelter, education, food, income, a stable ecosystem, social justice and equity. The Charter outlines five areas for health promotion action (Strong et al 1998, Thomson 2003):

- build healthy public policy
- create supportive environments
- strengthen community action
- develop personal skills
- reorient health services.

Contemporary public health approaches identify the determinants of health and targets inequities and the special needs of disadvantaged populations. It emphasises disease prevention, community development and health promotion programs by mobilisation of individuals, communities, local government, industry and other stakeholders, local access to services, and a more social, culturally sensitive and participatory approach to health.

Contemporary approaches have led to increasingly sophisticated information requirements to describe and evaluate the efficiency and effectiveness of public and population health programs at the local level. At the national level, the Australian Institute of Health and Welfare (AIHW) maintains METeOR, a database of national data standards for the health, community services and housing assistance sectors. METeOR facilitates use of databases by providing metadata so that health variables have the same meaning across different information sources such as national and state agencies.

National information sources include the Health Insurance Commission (HIC) which maintains the Medicare Benefits Schedule, Department of Veteran Affairs database and the Australian Childhood Immunisation Register. Examples of state and jurisdiction datasets include the Victorian Admitted Episodes Dataset and the WA Hospital Morbidity Data System. Many of them are collated and analysed nationally at the AIHW. Western Australia has also linked its hospital morbidity, mortality, cancer, midwives, births and mental health, ambulance and emergency datasets, enabling longitudinal studies at the individual level (Holman et al 1999). All these datasets can be obtained directly from the relevant agencies, which report regularly through their websites or print publications, for example the various Australian Institute of Health and Welfare publications (AIHW 2006d, Population Health Division 2006). Third-party software tools such as HealthWiz (Prometheus Information 2004) have been developed to improve the presentation of and access to these population health data.



Case study 5.2 A population health approach: lead poisoning in children in Broken Hill

Lead poisoning in Broken Hill has been an issue since mining for lead, silver and zinc began in the 1880s. A century later, veterinarians are reporting increasing numbers of cases of lead poisoning in animals. In 1991, comprehensive testing of children under five years revealed that 80% had blood lead levels greater than the recommended maximum level (10 µg/dl).

Further investigation in 1992 found that lead was widely distributed in and around the town and came from multiple sources. The climate of Broken Hill is dry and dusty, partly the result of widespread tree-clearing. Local timber fuelled on-site smelting until 1898. In general, housing is old (50–100 years), often run-down or under renovation. Sealing wood and iron houses so that they are dust-tight is difficult so dust can easily migrate into a home's living space.

To improve the health situation in Broken Hill, a population-based approach was initiated in 1994. One advantage of mounting a public health intervention in a rural area is that the whole population can be targeted and involved. In Broken Hill, a targeted approach combining individual case management, population screening of children aged under five years, public education and health promotion, and zonal remediation of contaminated public land was officially launched in 1994. A doorknock survey in 1994 of all households encouraged parents of preschool children to have their children's blood lead levels tested. In the same year, a survey was conducted on children attending the weekly screening clinic to determine the prevalence of potential risk factors and their association with elevated blood lead levels.

Population surveillance and monitoring underpins the whole program. Free voluntary screening on a yearly basis is available for all children aged under five years, as is antenatal screening of pregnant women and cord blood testing of babies born in Broken Hill Hospital. Children with notifiable lead levels (15 µg/dl) are case-managed. This includes educating parents of lead-affected children about 'lead-safe' practices, such as washing hands and wet wiping of dust. For children with substantial lead levels, homes and surrounds are assessed for possible remediation and removal of sources of lead.

Relevant groups such as councils, nurseries, water authorities, hardware stores and trades are offered accredited training, and education programs have been provided in primary schools.

Soil lead levels and stability were mapped as part of an environmental assessment of public land. High-risk sites adjacent to residential land were prioritised for remediation.

This approach has been successful in reducing the proportion of children with blood levels above the 10 µg/dl guidelines to just over 20%. While differences in children's blood lead levels were initially found between those living close to the mines and those further out, these differences have decreased noticeably since 2002.

Discussion

Intervention success factors

The development and effectiveness of the population-based intervention program at Broken Hill has been strongly influenced by Broken Hill's geographical location and its economic and cultural base. When the lead-management strategy was developed, it became clear that the expertise and skills needed did not exist within Broken Hill's mainstream service providers and that these had to be developed in the first few years.

Informing and engaging the community was vital as many families had lived for generations in the town, worked down the mines and were doubtful of the dangers posed by lead. Lead poisoning was seen as an occupational hazard. The community working group established at the outset that there was no policy to actively move people from high-risk areas (relying on natural attrition of residents from the highest risk areas). To avoid singling out certain areas, the group emphasised that lead levels were a problem throughout the whole town.

The early years of the program coincided with a mining downturn and retrenchment of workers. Like other rural towns that depend on one industry, this was a major economic threat to Broken Hill, and had to be taken into account when the strategies for the lead program were developed and introduced. Broken Hill's isolation forced people to leave town for employment, subsequently decreasing the city council's rate base and limiting public land remediation strategies. The dry, dusty environment and the town's water source, 110 km away, dictated native, low-water-use plants (the unpopular saltbush and bluebush) for regeneration areas. In these circumstances, a public health intervention could only succeed with a strong element of community guidance and control. In a defined rural area like Broken Hill, meaningful community involvement is likely to be easier than in a non-defined metropolitan area.

Lessons learnt from the intervention program

Screening and education were the key features of the lead program. While there was some initial resistance to these approaches, an emphasis on raising awareness among the whole town has gradually shifted community opinion. Broken Hill's underlying dusty environment combined with poorly sealed homes suggested that individual change, such as cleaning homes, requires an ongoing effort to be effective. While home cleaning has reduced lead dust in the immediate environment, it does not appear to have been a major factor in the decrease in children's lead levels. Wider structural change in Broken Hill has been at least as important as individual change, and included capping the mine waste,

covering the railway wagons taking lead concentrate for smelting, and stabilising the soil in the public lands. These efforts have also contributed to minimising recontamination of homes and areas where children live and play. Such environmental interventions would never have been possible if the lead problem had been managed on a purely individual basis.

Long-term evaluation of the program clearly demonstrates its effectiveness. This has only been possible through the involvement of the local community, focusing on building local capacity and a population approach to this important issue.



Key points

- The health status of rural people is generally poorer than their non-rural counterparts and is worst for Indigenous people.
- Morbidity and mortality patterns differ between rural and metropolitan populations.
- Differences in social, economic, cultural and environmental determinants of health in part explain the health differentials that exist between rural and metropolitan populations.
- Whole of community approaches are most effective in achieving sustained changes to public health problems.
- There are a number of state and national databases that provide information about public health and risk factors.



Recommended readings and resources

- Australian Institute of Health and Welfare (2006). *Australia's Health 2006*, AIHW cat. no. AUS 73, AIHW, Canberra.
<http://www.aihw.gov.au/publications/index.cfm/title/10321>

This is the tenth in a series of biennial reports on the health of Australians. It contains information on patterns of health and illness, including rural and Aboriginal and Torres Strait Islander populations, determinants of health, health services utilisation, and health services expenditure.

- Australian Institute of Health and Welfare (2004). *Rural, Regional and Remote Health: A Guide to Remoteness Classifications*, Rural Health Series 4, AIHW, Canberra.
<http://www.aihw.gov.au/publications/index.cfm/title/9993>

This provides a guide to the classification of remoteness and rural and regional health. The AIHW website (<http://www.aihw.gov.au/>) is a key site to visit for all health and welfare statistics.

- Baum F (1998). *The New Public Health: An Australian Perspective*, Oxford University Press, Melbourne, Australia.

This textbook describes the evolution of public health thinking and provides an overview of public health research methods, including epidemiology, qualitative and quantitative methods and program evaluation.

- Webber KM (2005). *General Practice Hospital Integration Issues in Rural and Remote Australia, Summary of Findings*, Australian Rural Health Education Network, Canberra.



Learning activities

1. What are the main differences between the health of those living in rural and remote areas and those living in metropolitan areas?
2. List some of the determinants of health that may have impacted on your own health.
3. Case study 5.1 outlines some of the factors that may be associated with high rates of suicide of farmers. Can you think of any others?
4. Case study 5.2 describes an environmental health issue in Broken Hill. Find a local environmental health issue in your area and set out a plan of action for population health research and evaluation.
5. Port Pirie in South Australia has a lead problem similar to Broken Hill's. Compare and contrast the approaches taken to address the lead issue.

Chapter 6

Population health programs, performance measures and evaluation

Gary Misan, John Beard and Siaw-Teng Liaw



Learning objectives

- Describe contemporary approaches to public and population health research.
- Describe key public and population health research methods.
- Define and describe the program logic model approach to program evaluation.
- Describe common health-related quality of life measuring tools.

Introduction

In Chapter 5 we described the health of rural populations. This chapter focuses on the research and development required to define the health status and its associated and causative factors. Through research we are better able to understand the determinants of health, and to describe and measure the relationships among them. Research also allows us to compare urban and rural contexts and quantify rural-urban differentials. The questions that a public or population researcher or someone applying a clinical perspective to health and disease might ask include:

- How do we best measure prevalence and incidence of disease or ill health and the impact of factors that influence health and wellness?
- How frequent are specific health and patient outcomes?
- How are they distributed around the country and what are the factors that determine their occurrence?
- What, at the individual and population levels, can we do about these factors?
- How do we interpret associations?
- How do we establish cause and effect?

- What might be the interplay between our genetic make-up, our environment or our behaviours and lifestyle?

These and similar questions, together with the investigative techniques used, form the basis of epidemiology (Hennekens 1987).

Public and population health research methods

Public health research methods are becoming increasingly diverse and increasingly relevant to health professionals working in rural and remote areas of Australia. Public health research demands collaborative, interprofessional and multi-method approaches. This includes collaboration between quantitative researchers and social scientists, applying qualitative and quantitative methods, and incorporating reflective and participatory action methods into the research process.

Epidemiological approach

Epidemiology has been called the basic science of public health. As well as being an analytical tool for describing and explaining the pattern of disease, it is also used to inform public health policy and decision making, and to help develop and evaluate responses to public health problems. Historically, epidemiology has been the preferred methodology for the study of diseases in populations and the factors that influence or determine this distribution. Epidemiology involves studying the distribution and risk factors of health-related states or events in specified populations, and using these factors to control health problems (NCCDPHP 2004).

Epidemiological studies can be descriptive, analytical or experimental. Descriptive studies provide information about the frequency of disease occurrence in a population and trends over time. Routinely available data sources are often used, including death certificates, cancer registries, and population census data. Common measures include mortality rates, disease incidence and disease prevalence. Descriptive studies help to identify the risk of disease in populations or subgroups and provide the basis for analytical studies that investigate causes. Analytical studies aim to identify the specific factors that increase or decrease the risk of disease and to quantify the associated risk. Analytical studies include cross-sectional studies, longitudinal or prospective cohort studies and case-control studies. In experimental studies, epidemiologists determine the effects of particular interventions on disease. Experimental studies include randomised controlled trials and community trials.

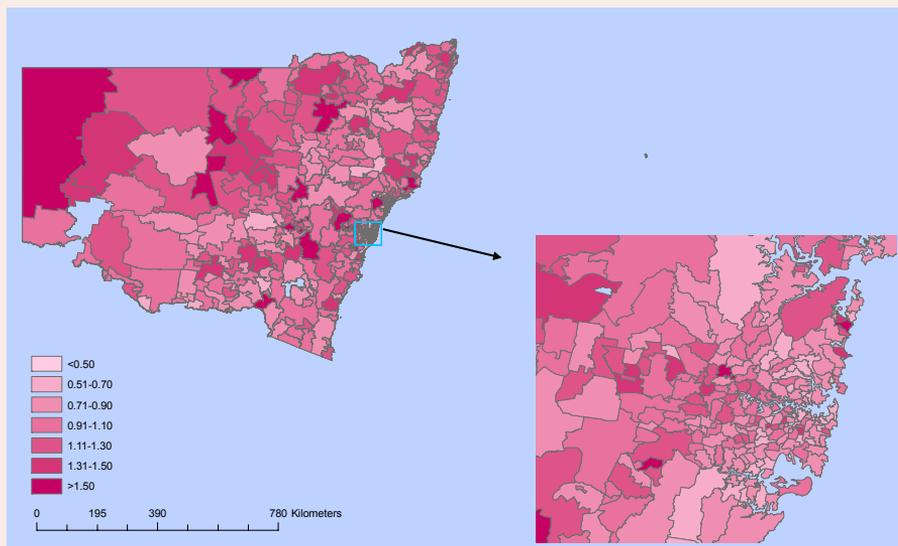


Case study 6.1 Distribution and risk factors for heart attacks in rural New South Wales

One way of thinking at a population level is to look at how disease frequency varies between regions. For example, knowing which regions have most cases of heart attack can help service providers decide where best to place hospitals and other facilities.

However, one region may have a population of 50 000, while another may only have a population of 10 000, and one population may be much older than the other. These underlying trends will influence the number of heart attacks in each region. But do they explain all the difference? To answer that question, we need to look at what the rates of disease in each region would be if they had the same underlying population. Epidemiologists do this by adjusting or ‘standardising’ for population, age and gender.

Figure 6.1 shows standardised rates of deaths from heart attacks by postal area for New South Wales between 1996 and 2002. The distribution of heart attack deaths is not distributed uniformly across the state, even after accounting for each region’s population, age distribution and the proportion of males and females.



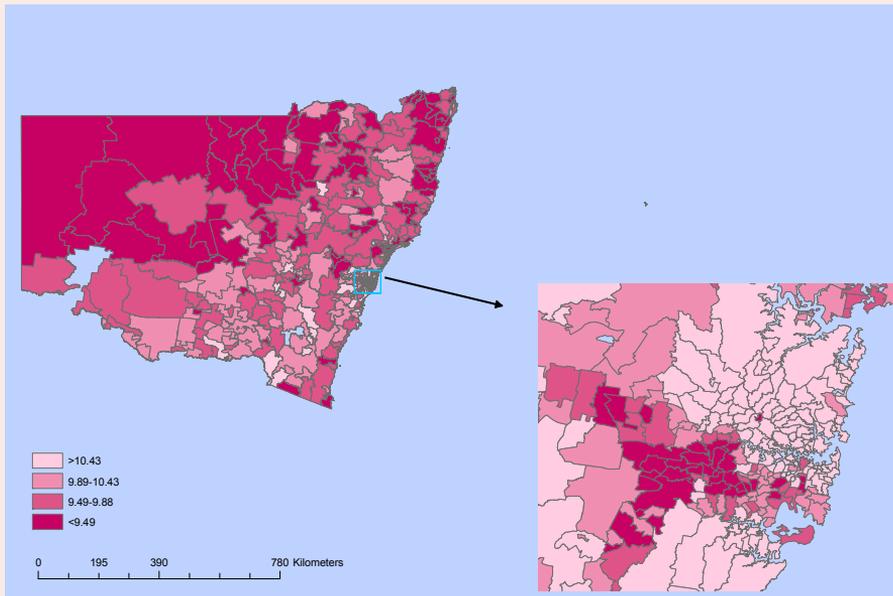
Source: Beard et al (2006)

Figure 6.1 Map of heart attack deaths in New South Wales 1996–2002 by postal area, after adjusting for spatiotemporal effects

Living in a rural area is one factor that might influence distribution patterns. For example, rural people may have less access to services and therefore face a higher death rate from heart attacks. However, the map shows that heart attack rates vary just as much between rural areas as between rural and metropolitan regions.

Since Indigenous people are known to have higher rates of heart attack than the general community, another explanation might be the variation in the proportion of each region's population that is of Indigenous background. However, the map does not show an association between the proportion of Indigenous people within a population and increased rates of heart attacks.

Another factor that might influence this distribution of heart attack deaths is socioeconomic status, which is associated with heart attack. Figure 6.2 is a map of socioeconomic status for New South Wales over the same period.



Source: Beard et al (2006)

Figure 6.2 Map of index of relative social disadvantage by postal area

Interestingly, Figures 6.1 and 6.2 are almost mirror images. In other words, where a region has a high level of socioeconomic disadvantage, it is also likely to have a high rate of heart attack deaths. Beard et al (2006), in Lismore, New South Wales, analysed all heart attack-related deaths, hospital admissions and revascularisation procedures across time and postal area for New South Wales from 1996 to 2002 inclusive. They particularly looked at the influence of subjects' place of residence, including socioeconomic disadvantage, proportion of the population of Indigenous background, remoteness and whether the population was metropolitan or rural. They found that, using multivariate analysis, both increasing disadvantage and the proportion of the population identified as Indigenous were significantly associated with increased admission and mortality rates for acute myocardial infarction (AMI). After accounting for increased admission rates, the association of disadvantage with mortality decreased, but generally remained significant. Those living in socioeconomically disadvantaged postal areas were associated with lower intervention rates for AMI-related procedures such as cardiac catheterisations, coronary artery bypass grafts and stents. These findings demonstrated a direct relationship of ischaemic heart disease with socioeconomic disadvantage and Indigenicity. In some regions, this disparity appeared to worsen rather than improve over the study period.

Discussion

Beard et al (2006) found that socioeconomic disadvantage both increased the risk of developing heart disease and heart-attack related admission rates. In addition, Indigenous status conferred increased risk beyond the effects of general socioeconomic disadvantage, while rurality appeared to play a protective role in the development of heart attacks, but was associated with less use of newer interventions. This data mining study poses as many questions as answers. For example, what are the specific aspects of socioeconomic disadvantage that might influence mortality and are they amenable to change? Beard and colleagues are now trying to investigate these questions in more detail by following individuals from diagnosis to treatment or care in much smaller regions.

Taking a population perspective like this can dramatically change the way we deal with health and disease. For example, the influence of disadvantage seemed to have an impact on increased risk of AMI and worse outcomes (ie people are more likely to die). The implication is that measures taken to address socioeconomic disadvantage can have positive effects on health.

Qualitative methods

As described previously, the health of populations is shaped by social, ecological, environmental, economic, cultural, political and other influences. Qualitative methods are well suited to exploring naturalistic, complex systems including economic, political and cultural factors influencing health and disease, how people perceive and interpret health, and why people persist in risky behaviours despite evidence of harm (Baum 1998). The key qualitative research methods used in public health are case studies, participant observation, in-depth interviews and focus groups. The different methods may be used to supplement or validate data collected by quantitative or other qualitative means in a process called triangulation.





Case study 6.2 Problems for Indigenous people travelling away from country and family for medical treatment

The following case study, based on a study by Stamp et al (2006), illustrates a qualitative approach to understanding issues for Indigenous people who need to travel away from home to seek medical treatment. It involved semi-structured in-depth interviews with a range of informants and sought to understand issues arising from the experiences of people travelling from rural to metropolitan centres to seek medical treatment. The case study also exemplifies culturally appropriate approaches to research involving Indigenous people.

There is little information published about what happens to people from rural areas, particularly when travelling away from their families and primary health care provider to receive hospital care. For Indigenous people the experience can be particularly distressing because of the family dislocation, long distances involved, unfamiliar environment and lack of family and culturally sensitive support. Understanding the experiences of Indigenous people may help to improve transition arrangements. While quantitative studies assist in understanding demand for health services they do not address the question of what happens to people at the social and emotional level when seeking care outside their communities. Qualitative methods help us better understand personal experiences and (in this case study) how people feel when they need to travel long distances from home to seek medical treatment.

The discussion was guided by three questions:

1. What are the issues in transfer to and from the city hospital?
2. What special problems exist for the Indigenous people you are involved with?
3. What improvements and/or systems changes would you suggest?

Findings

Disadvantaged families, most on low incomes, are placed under huge financial pressure when travelling for medical care is required. Despite the existence of Patients Assistance Transport Scheme (PATS), which requires a co-payment in some states, the associated expenses for a trip to the city can amount to hundreds of dollars. Emergency financial assistance is critical but not always available. One health worker commented:

... a lot of them go from here and they have to go to Centrelink [social security service] to ask for an advance on their pensions or whatever, and they give them a \$50 advance or whatever, so they have a little bit of money to buy food when they get there. Some of them have to use that to pay for taxis.

For health workers, claiming back costs can be time consuming and PATS processes are complex. In addition, the local hospital was seen to have advantages for PATS not shared by the Aboriginal Community Controlled Health Services:

Our health service isn't funded for PATS, we use our grant money or generated income to assist Aboriginal people to go to the city. Now, the hospital over here actually gets funded by the government, through the PATS system, but they won't help Aboriginal people. They send them all to us, and our organisation is responsible to treat them and foot the bill.

Finding somewhere suitable to stay nearby can also be fraught with problems. Accommodation in the hospital grounds in the old nurses' home, although conveniently located, was culturally inappropriate with 'unisex' shared bathrooms and toilets:

... with the traditional people, when they go, they feel uncomfortable in the little rooms that they have at the hospital. They like to sit outside or that, out by a fire or that. And there are some things that they haven't got there ... And maybe a nice little place down there, I mean I know they have lawns out the back [of the city hospital], maybe they could make a nice little place for the traditional people because I know there's a lot go down from [other communities] as well. And they can sit outside and have a little campfire, where they can all sit down and talk or whatever, you know ...

Lack of privacy and respect for personal space within the hospital setting caused needless suffering and the experience of shaming.

Visitor limitations also caused distress:

The situation was really uncomfortable for her husband to sit down next to her, because as soon as he saw her he burst into tears and, because he is a traditional man, initiated man, he said, he got up shamed like, and walked out ... when they are in the intensive care part, there are little rooms that can only have about 4 people in at the max around the bed ... and you have some in there, some outside the door you know, and then we have nurses say 'We can't have that many in here' ... but that's family, that's a son, that's a daughter, that's the other son, you can't chuck them out.

Participants commented on the need to improve communication with hospital liaison officers and to provide support for people arriving at the airport or bus station. A place to relax and get some food before the appointment or admission was also highlighted:

Maybe that we have a proper linkup with that Aboriginal section in the hospital to say, look this patient is coming over, can you arrange for someone to meet them at the bus stop, the airport you know because they get in at 7-8 o'clock at night or they get in at 6-7 o'clock in the morning and they don't know where to go from there and so maybe if they can say OK, we'll pick them up, we'll make the arrangements ...

But it is not all bad; some services are starting to listen and things are starting to change:

The [local] hospital has started doing really good things now. They have got an area out the back of the hospital because after my [family member] was diagnosed and they couldn't help her, they flew her back to the hospital and they put her in a room down the back that has a kitchen facility, a lounge facility, the patient is in one room and there is a toilet facility, and family can sit in there and they talk, they discuss, they have cups of tea, they have a feed together and ... she was dying and for three days family could come and go and sit with her and bring a minister in ... And if you keep them together, like that the more they lean on each other's strength they get from one another ...

Discussion

The type of information described above is not generally available from surveys, questionnaires or public or other databases. For example, quantitative data would show that PATS claims are being processed, people are attending appointments, using

accommodation and Aboriginal Liaison Officers are meeting with clients during office hours, but would not include the problems described above. The personal, social and emotional dimensions that affect the health and wellbeing of the client, as well as others involved, are not captured in service statistics. If they are not identified, they will not be addressed. This is one of the key advantages of qualitative research: the ability to draw together information from the stories people tell about their experiences. Through these stories we can better understand the issues of concern to individuals that otherwise remain hidden by statistics. This type of information can inform policy, together with health service planners and providers, to further improve circumstances for disadvantaged groups.

Evaluating population health programs

The preceding case studies show that quantitative and qualitative research methods each have different strengths and that both have important and complementary roles in public health research. However, methods and programs need to be evaluated so that service providers, funding bodies, communities and policy makers know whether these programs have achieved their intended outcomes.

Evaluation studies generally take two forms: formative or process evaluation, and summative or outcome evaluation.

The goal of formative evaluation is to provide information that helps to develop an intervention program. Formative evaluation investigates ‘process’, and explores how the intervention is being delivered, whether delivery is occurring as intended, and how well the program is being implemented. Barriers, enablers, strengths, weaknesses and lessons learned are assessed and results are used to inform decision-making about the program management, implementation, improvement or change.

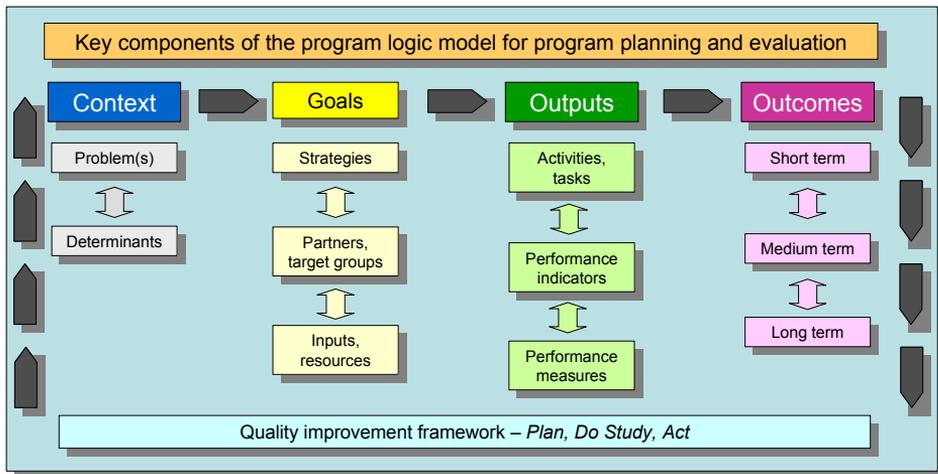
Summative or outcome evaluation provides information about program efficiency, effectiveness, appropriateness or ethics, such as whether the program reached its intended target group and whether it achieved its intended outcomes, on time and within budget. Results from summative evaluation usually inform decisions about program funding, continuation, expansion, reduction or cessation (O’Leary 2004, Murray 2007).

Evaluation research is often multi-method and driven by the objective of the evaluation. Formative research often uses a ‘case study’ approach, which might involve a document review, interviews with key stakeholders, surveys or focus groups or service observation. Similarly, a number of different methods may be used in a summative evaluation. Because the question often is whether particular project objectives were achieved, a review of key documents (eg financial statements), surveys or interviews may be required. Correlation or effectiveness of the intended outcomes may be assessed by comparing baseline data (if available) with post-intervention data. When measurements are made at successive time intervals, often corresponding to before, during and after an intervention, time–series analysis can be done to explain the data or predict trends. Demonstration of cause and effect may involve a randomised controlled trial or case–

control study design, where the effect of the program on an intervention group is compared with a closely matched control group that was not offered the program.

Program logic models for planning and evaluation

Program logic models are simple visual representations that show how a program is intended to work and the inputs and mechanisms required to achieve the intended outputs and outcomes for participants and/or the community. They illustrate the key components of a program, or service or activity, and the associations or relationships between those components. In its simplest form, the key dimensions of the program logic model are inputs, outputs and impacts/outcomes. Logic models can be used in a variety of situations, including strategic planning, service planning, information dissemination, funding proposals, evaluation planning and continuous improvement program planning. Figure 6.3 is an example of a program logic model for planning and evaluation.



Source: Misan

Figure 6.3 Program logic model for planning and evaluation

There is no single template for developing a program logic model, but several useful websites provide guides and tools. Models generally have similar characteristics and usually describe the following components (University of Wisconsin 2003, Harvard Family Research 2006):

- program objective(s) or intended outcome(s), which may include short, medium and long-term outcomes
- partners, stakeholders or target groups
- strategies to achieve the objective
- key tasks or activities associated with the strategies

- performance indicators and performance measures for those activities or tasks.

The visual ‘map’, a basic tool in the program logic model, enables the project team to identify project inputs and resources and clearly identifies tasks, stakeholders and short, medium and long-term outcomes, and the relationships between them. Program logic models outline the domains to which resources and efforts are directed, and provide a map that guides the definition of required inputs, outputs and outcomes, needs assessments, consultation targets, strategies and tasks, what to review, what to measure, and how to measure it.

The program logic model entails a number of approaches and methods, particularly when the model is used as the basis for program evaluation. As an example, the following program logic approach guided the planning and evaluation of the Australian MediConnect Internet-based medication record (Liaw and Tomlins 2005).

- Inputs: cost structure of direct and indirect costs of consultation, communication, development, implementation, participation, evaluation, infrastructure, training and support, and so on.
- Outputs: a system that meets all technical requirements for data integrity, security, privacy and timeliness; acceptable protocols for data privacy and quality; an effective communication strategy.
- Impacts: access to medication information, workflow implications, satisfaction with the MediConnect system.
- Outcomes: incidence of drug-drug interactions, drug-disease interactions and hospital admissions due to therapeutic misadventure.

The MediConnect Field Test was an integral part of the development of the MediConnect system. Its evaluation was formative, guided by the program logic model for the overall evaluation of MediConnect (DoHA 2005).

Process mapping

Process mapping or flowcharting is increasingly being used to analyse health services and health services delivery, and to improve services. Process mapping is used as a component of quality improvement cycles, where, once opportunities for improvement are identified, changes are made, their effect is monitored (ie the service goal reassessed), and further changes are made as required.

A process can be thought of as a series of connected steps directed to an outcome. Although occurring in all sectors and industries, all processes have common characteristics: a starting point and an end point; an objective or purpose; standards governing inputs, outputs and outcomes; and links (usually) to other processes.

Mapping a patient journey through a health service is a common way of identifying system problems and inefficiencies, but any 'process' can be mapped. The patient journey example could be used to determine:

- how many steps there are for a patient throughout a treatment
- how many people a patient has to interact with
- how many places a patient has to go
- how many times a patient provides the same information
- how long each step takes and how long the whole process takes
- what the problems are for the patient and for the staff.

From this 'map', questions such as 'Is the patient getting the most appropriate care?', 'Is the most appropriate person providing the care?' and 'Is the care being given in the right place or the right time?' arise. When these questions are considered, and the root causes of problems or delays are identified, systems can be redesigned and changes implemented and monitored (UK Department of Health 2005).

The following case study provides an example of using process mapping to evaluate the efficiency and effectiveness of clients' journeys through health services.



Case study 6.3 Process mapping services in a rural Indigenous community

A small Indigenous community of approximately 150 permanent residents with a small community health centre (with few resources) was keen to identify opportunities to improve the services it offered to the local community and visitors. The health centre provides a range of resident services (eg youth, diabetics), and hosts visiting services for a large range of client types (eg drug users, mental health). The range of client entry points includes: self referral, provider referral, referral from agencies like Centrelink or the court, referral through family and friends, presenting at the clinic by appointment or without an appointment, or referral as part of a social or health promotion activity, or through a support group.

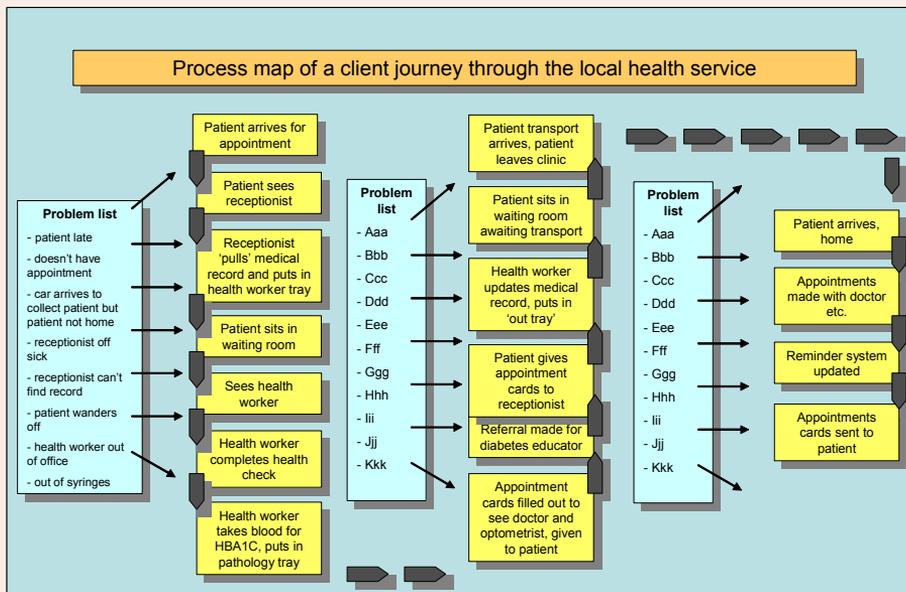
As part of a wider review of barriers to access Indigenous health services in the region, the health service agreed to use a process mapping exercise to identify strengths and weaknesses of the service to assist service planning and delivery. A meeting was convened with 12 personnel from the health service as well as from the Indigenous health service. Participants included the service chief executive officer, several Aboriginal and Torres Strait Islander Health Workers (AHW), administration staff, a registered nurse and a local GP. The session was facilitated by an independent expert familiar with the conduct of strategic planning workshops and process mapping techniques.

The group 'mapped' the expected journey of a typical client through the health service and identified areas where this journey might be interrupted or delayed. The group also explored general issues for the service and areas where the service might want to review operations.

They did this by drawing boxes and arrows on a whiteboard depicting the typical journey of a client through the service. For example:

- how they got there
- who they saw
- what assessments were done
- whom they were referred to
- how appointments were made
- how long they waited
- how they got home
- how and where all this information was recorded.

Problems were prioritised and agreement was reached about timeframes for resolution. The process map looked similar to that shown in Figure 6.4.



Source: Misan

Figure 6.4 Example of a process map that 'maps' or illustrates a 'notional' journey of a client through a health system

Some problems described by staff included:

- clients not being 'home' when a driver calls to collect them
- clients missing appointments
- clients not understanding key concepts or directions for care

- suboptimal communication
- not operating as a team
- lack of clarity of the core business of the organisation
- inconsistent approach to protocols because of lack of protocols or lack of training, or awareness or unwillingness of some staff to follow protocols
- no formal transport service, so health workers are often used as a ‘taxi service’
- mismatch between community expectations and what the service was able to provide
- lack of separate men’s health and women’s health services
- inadequate health promotion, screening and early intervention programs
- inadequate family involvement in education and management of chronic conditions
- suboptimal record keeping with lost records or information.

Discussion

This process gave service staff and external providers a chance to see, perhaps for the first time, the ‘big picture’, rather than just their part of it. They saw how complicated things were for clients and for staff. Importantly, they were able to see for themselves that the ‘system’ was not working as well as it should have been and that lack of coordination, communication and planning was getting in the way of service provision. Much of the work the service was doing was not adding value to the client’s consultation and treatment, and in some circumstances was counterproductive. Some simple strategies were suggested to address some of the key issues; for example, establishing reminder systems and arranging a regular community transport service that catered for social needs as well as medical needs.

The benefits of undertaking process mapping in a interprofessional setting (clinicians, drivers, allied health workers, administration staff and others) is that the participants get to see the big picture, comment on their part in it and come up with ideas to improve the system(s) as well as work out how to better communicate and engage with the community they serve.

Participatory action research

Participatory action research (PAR) is an increasingly common research approach that seeks to actively involve participants in the research process, not just as ‘guinea pigs’! PAR seeks to engage participants in guiding the research, developing the research questions, advising on ethics, selecting research methods, promoting the research to the community, recruitment, conducting the research or assisting in data collection, analysing data and disseminating research findings.

In the Whyalla Quality Use of Medicines (QUM) Project, community members actively participated in a translational research project to address QUM in the community. A local project advisory group with broad intersectoral representation, chaired by a member of the community with support from the project secretariat, was established. The group

defined the stakeholders to be consulted about QUM issues and research questions, identified the composition of focus groups to review and prioritise identified needs and issues, and propose strategies; confirmed the priorities, refined the strategies and proposed a framework and timeline for the strategies; and convened planning groups with the support of the project secretariat to implement these projects. A respected community member was employed as a research assistant and assisted with the community consultation process as well as with data entry and analysis.

Strategies proposed included a community health and medicines information resource centre, public awareness strategy (radio, print and electronic media) co-ordinated with other health calendar activities, interprofessional and cross-sector strategy to combat unnecessary use of benzodiazepines, and a medicines disposal program.

The advisory group has since evolved into an incorporated body and has successfully secured funding from a range of sources to support the many ongoing activities of the resource centre. The community-wide education and awareness strategy, coordinated by the local community health service, is ongoing. A fortnightly health column in the local newspaper and a fortnightly half-hour radio show called *Talking Health* continues to this day.

This example demonstrates how communities can play an important role in the research process, given appropriate opportunity and support. Community members, while lacking training in formal research methods, know about their community and its function. PAR allows researchers and community members to bring together complementary knowledge that builds community ownership, mutual capacity, understanding and respect. This can result in significant community development as well as community research and teaching and learning networks.

Measuring health-related quality of life

Over the last 20 years the assessment of health-related quality of life (HRQoL) in individuals or groups undergoing different interventions has become commonplace. HRQoL is about measuring how people feel, in particular the change in aspects of life that people rather than clinicians value. HRQoL is usually measured by questionnaire, which may be self or investigator-administered. HRQoL questionnaires typically include questions that ask clients about how they are feeling, what symptoms they have, or whether they have functional or other limitations. Responses are elicited as logical responses (yes–no) or using visual-analogue or Likert-scales. Responses are aggregated into domains or dimensions (eg symptom score, physical function, emotional wellbeing) and an overall score or index value produced (Guyatt et al 2001).

The choice of which instrument to use will depend on the circumstances and what is important to measure. The primary interest may be a reduction of symptoms for which only a limited assessment (disease-specific, organ-specific, function-specific, problem-specific) is required. If assessments of symptoms, pain, physical function, emotional or social limitation are required, then a more comprehensive instrument is necessary. In addition, when interested in comparing the impact of treatments on HRQoL

across a range of diseases or conditions, an instrument that includes generic measures covering most or all HRQoL domains is required. The minimum accepted domains for HRQoL assessment include physical, mental and social health and somatic sensations. Other dimensions may include physical senses, independence or self-care, vitality, and sexual function (Hawthorn and Richardson 2001).

Health profiles yield scores for all HRQoL domains. A number of instruments, including the Sickness Impact Profile and the short forms of the instruments used in the Medical Outcomes Study, are available. These are simple to use, are self-administered, take less than half an hour to complete and cover most HRQoL domains. However, they have been criticised for limited responsiveness (ie ability to detect change) over time because they cover the domains of interest somewhat superficially when compared to disease-specific instruments.

There are a large number of HRQoL instruments available — both generic and disease-specific as well as function and organ-specific — to suit almost every domain of interest (Hawthorn and Richardson 2001). Many are available at no cost, providing registration, permission and acknowledgment conditions are fulfilled. A common generic instrument in use, and for which there is normative data for the Australian population, is the Medical Outcomes Study Short Form 36 (SF36) health survey, which measures physical functioning, bodily pain, mental health, role-emotional, social functioning, vitality, and general health perceptions. Several adaptations of this instrument include SF36, SF20 and SF12 (ACQOL 2005). Other commonly used instruments include the ComQoL (Comprehensive Quality of Life scale, Deakin University), WHOQoL (World Health Organization Quality of Life instrument), and WHOQoL-BREF (brief version).





Case study 6.4 A community-based diet and exercise study in Whyalla, SA

Central obesity, combined with low high-density lipoprotein (HDL) cholesterol levels and elevated blood pressure, triglyceride levels and fasting blood glucose levels, are the cardinal signs of metabolic syndrome. People with this syndrome, also called ‘Syndrome X’, have an increased risk of early progression to diabetes and cardiovascular disease. Although it is known that improvements in diet and physical activity can reduce overweight and obesity, there is no consensus on the best approach to sustainable fat or weight loss in the community and in a regional setting in particular.

The Whyalla study ‘Shape up for Life’ was conducted to investigate the efficacy and sustainability of combined lifestyle changes (increased physical activity and dietary modification without energy restriction) in improving metabolic fitness in a regional community setting. ‘Shape up for Life’ was a randomised controlled trial involving about 150 people (control and two intervention groups), conducted over two years (Pettman 2006). The program did not restrict calories but encouraged consumption of low-GI (glycaemic index) and low-fat foods, as well as foods rich in fish oils and other nutrients shown to help burn fat when combined with exercise.

The study end points were strength and fitness, blood glucose and lipid levels, and reductions in total fat, abdominal fat, waist and hip circumference. Assessments were done at baseline, 4 months and 12 months. The investigators were also interested to know what impact the intervention and the outcomes had on participant quality of life.

While these study end points measure the impact of the diet and exercise program on a range of anthropometric and biological markers, they don’t tell us whether people felt better or whether the program improved any other aspects of their lives. For this the investigators asked participants to complete the WHOQoL-BREF at each assessment.

The WHOQoL-BREF was developed by the University of Melbourne from the more comprehensive WHOQoL-100, a 100-question ‘generic’ instrument that assesses individuals’ perception of their position in life in the context of the culture and value systems in which they live. The WHOQoL-BREF is an abbreviated 26-item instrument that measures overall perception of QoL and health and is more convenient for the conduct of large research studies or clinical trials. WHOQoL-BREF assesses four domains: physical, psychological, social relationships and environment. Each domain has a different number of questions and generates different possible scores. Two global questions ask participants to rate their overall quality of life and their satisfaction with their health. Raw scores are transformed into a 0–100 scale and analysed using a computer algorithm (Hawthorne 2003).

Discussion

Using this instrument, investigators were able to assess the impact of the study on participants’ self-reported overall quality of life and health as well as changes in any pain, concentration, energy, bodily appearance, leisure activities, sleep, general mobility, work, personal relationships, social support and mood. Looking at correlations between these dimensions and other study endpoints helps investigators better understand the

relationship between objective changes in physical and metabolic fitness and how people feel.

Multi-attribute utility measures

More recently there has been interest in using HRQoL instruments to assist in assessing the economic impact of interventions. A number of multi-attribute utility (MAU) measures have been developed for this purpose. Based on the health profiles described above, MAU instruments ask clients to express their preferences for particular health states; these preferences are then aggregated into a single index value. MAU instruments can be used in outcome evaluation as well as cost-utility analysis. MAU relate health states to standardised anchors of death and full health. In contrast to health profiles, MAU are preference or value-weighted and provide a single index value that aggregates all HRQoL measures. Typically, MAU use a scale from 0 (death) to 1.0 (full health) to summarise HRQoL. Results are often expressed in terms of quality-adjusted life years and are used to aid cost-benefit analysis and cost-utility analysis, which in turn assist in integrating cost into policy decisions (Guyatt et al 2001, Hawthorn and Richardson 2001).

MAU instruments are not as common as generic and disease-specific HRQoL instruments, because of the exacting conditions required for their development, weighting of preferences and validation. Six MAU instruments are in current common use: the Australian, Assessment of Quality of Life (AQoL); the Finnish 15D; the Canadian Health Utilities Index (HUI3); the American quality of wellbeing scale, the SF6D-2, which draws on items from the Short Form 36 (SF36); and the EQ5D (the European Quality of Life instrument, formerly called the EUROQoL), developed by a team representing seven European countries. Each has its own strengths and limitations but the AQoL and HUI3 instruments are the most methodologically robust (Hawthorn 2001).



Key points

- Epidemiology involves studying the distribution and risk factors of health-related states or events in specified populations, and using these factors to control health problems. Epidemiological studies can be descriptive, analytical or experimental.
- Qualitative methods are better suited to exploring naturalistic, complex systems, including economic, political and cultural factors influencing health and disease.
- Quantitative and qualitative methods have important and complementary roles in public and population health research and evaluation. The multi-method approach (methodological pluralism) is very relevant and important in determining the causes of various health problems in primary care and health services research.
- Process mapping is a management tool that can be used to analyse whether health systems are delivering the services they think they are delivering. They can be used

to plot the 'journey of a client' through the system and identify bottlenecks and other opportunities for improvement.

- Participatory action research (PAR) seeks to actively involve participants in the research process as partners rather than subjects of the research.
- Program logic models and a combination of quantitative and qualitative methods (multi-methods approach) are useful in evaluating health services and population health programs.
- Measuring health-related quality of life (HRQoL) in individuals or groups is becoming increasingly important.



Recommended readings and resources

- Australian Centre on Quality of Life
<http://acqol.deakin.edu.au/instruments/instrument.php>

A useful website which facilitates research into health related quality of life.

- Strong K, Trickett P, Titulaer I and Bhatia K (1998). *Health in Rural and Remote Australia*, the first report of the Australian Institute of Health and Welfare on rural health, Australian Institute of Health and Welfare, Canberra.
<http://www.aihw.gov.au/publications/health/hrra/hrra-c00.pdf>

A landmark report from the Australian Institute of Health and Welfare that specifically targets rural populations. It describes the many health disadvantages experienced by people living in non-metropolitan Australia, including Aboriginal and Torres Strait Islander populations, and compares the health and health determinants of people living in rural and remote areas with their metropolitan counterparts.

- Wilkinson D and Blue I (eds) (2002). *The New Rural Health*, Oxford University Press, Melbourne, Australia.

A useful text that describes the social, historical, political and geographical context of the health of people living in rural and remote Australia. It describes rural–metropolitan health differentials, Indigenous health, health service differentials and challenges of health services delivery. It also describes issues facing rural health professionals and opportunities for practice and teaching.

- Hawthorne G (2003). *About the Australian WHOQoL-Bref*, the Australian Centre for Posttraumatic Health, University of Melbourne.
<http://www.acpmh.unimelb.edu.au/whoqol/whoqol-bref-contents.html> (Accessed March 2007)

For researchers considering using this quality-of-life instrument.

- Stamp G, Miller D, Coleman H, Milera A and Taylor J (2006). They get a bit funny about going — transfer issues for rural and remote Australian Aboriginal people. *Rural and Remote Health* 6 (online):536.

Provides information about transport issues for Indigenous Australians.

- MediConnect Field Test Evaluation Findings, Final Report (2005), online document. [http://www.health.gov.au/internet/hconnect/publishing.nsf/Content/archive-docs/\\$File/evalfinrep.pdf](http://www.health.gov.au/internet/hconnect/publishing.nsf/Content/archive-docs/$File/evalfinrep.pdf)



Learning activities

1. Case study 6.2 outlines some of the issues arising from the experiences of Indigenous people travelling from rural to metropolitan centres to seek medical treatment. Think about the travel and accommodation arrangements where you are working/studying. Are there any beneficial changes you could make?
2. Case study 6.3 is set in an Indigenous community. Research the specific issues that need to be considered when carrying out research in Indigenous communities.
3. Consider a health promotion program is in your area. How would you evaluate it?
4. What do you consider is important about collecting information on health-related quality of life?
5. Why is the AQoL (and/or HU13) considered more methodologically robust than other instruments available in the field?

Section 2

Access, equity and support for rural health professionals

Peter Jones

The main principle underpinning the Australian health care system is that access to health services is fundamental, regardless of geographic location (NRHPF and NRHA 1999). The Australian health care system is a complex mix of public and private fee for service, funded by state, territory and Australian Government contributions, private health insurance payments and additional individual payments by consumers. Medicare is the safety net that allows all Australians to access medical treatment.

About 30% of Australians live in rural communities that range in size from a few hundred people in isolated towns, to large regional centres with populations well over 50 000. The clinical governance movement and medico-legal litigation have both contributed to the expectation that health professionals should deliver the same level of care, no matter where they are practising in Australia. A major challenge facing the Australian healthcare system in the 21st century is how this will be achieved.

Delivery of high-quality, sustainable health care in rural areas requires an adequate workforce and a variety of local models of health care delivery. The contemporary rural health workforce is based largely on an urban model of an interprofessional team of health professionals. However, chronic workforce shortages across the health professions often mean a very different health service reality for rural communities. The challenge is to identify new systems of administration and governance that will enable health professionals to work more collaboratively and in a sustainable fashion in rural and remote areas.

This section examines different health care service delivery models, and the key factors involved in the recruitment and retention of health professionals in rural Australia. Case studies have been chosen to illustrate different ways in which health care and the workforce can be organised to ensure sustainable delivery of health care in rural areas. They demonstrate the types of personal and professional support that are available, and that assist in the retention of health professionals in rural communities. The support network and community of practice may be co-located or dispersed geographically.

The chapter also highlights some of the problems and gaps that exist in rural areas, such as choices around standards of education, isolation and professional development opportunities. Potential conflicts may arise as a result of the overlapping personal and

professional roles and relationships with members of the community who are also often clients.

The reader should also gain an understanding of the nature of the challenges facing the current rural health workforce, and factors that can improve recruitment and retention rates of rural health professionals.

Chapter 7

Health service models

Peter Jones, Jenny May and Amy Creighton



Learning objectives

- Describe the relationships and respective roles of the Australian, state and territory governments in the funding of health care in Australia.
- Recognise how a health service model that permits flexible work practices can contribute to the recruitment and retention of rural health professionals.
- Understand the roles of medical specialists in rural communities and how these may differ from metropolitan-based specialists.
- Identify the relationships between doctors, nurses and allied health professionals in new primary health care models.
- Appreciate how the population size and distribution in a region will affect the type of health service model that can be implemented.

Introduction

This chapter presents a selection of the range of different health service models that have been developed in rural Australia in response to local community needs, historical conditions and workforce composition.

In 1975, the current Medical Benefits Schedule (MBS) was developed to support universal health care for all Australians. The MBS set the relative values of medical procedures and consultations, which were then used as the basis of the funding available to support the different types of medical practices. At that time, the usual type of medical health service was based on solo or small-group private medical practice. This medical care funding has not changed substantially in Australia over the last 30 years. State and territory governments are responsible for hospital care and the Australian Government is predominantly responsible for outpatient or community care.

In many cases, the traditional model of clinical practice may not be viable in many rural communities (AHWAC 2004). As doctors leave or retire from clinical practice in small

communities, the burden of service delivery on doctors who remain increases. As a result, in the last decade, a health professional workforce shortage has developed in rural areas (Joyce et al 2006). However, the workforce crisis has led to the development of innovative health service models, based on population characteristics and remoteness of local communities (Wakerman et al 2006). Some of these are described in Table 7.1.

Table 7.1 A range of health service models that operate in rural Australia

Location	Health service model	Examples
Towns with populations greater than 5000	Discrete services Local specialist services Diagnostic services	Visiting medical officers Private general practitioners and allied health providers Public hospital and community health facilities
Small or defined catchment populations	Integrated services Comprehensive primary care services	Multipurpose service Primary health care team Indigenous community-controlled community health services
Small rural or remote areas	Outreach or telemedicine services Hub-and-spoke model of service delivery Fly-in-fly-out services	Royal Flying Doctor Service Allied health service (NWQld model) Telepsychiatry Tele dermatology Teleotscopy

Source: modified from Wakerman et al (2006)

A rural town with a population of more than 5000 people is likely to have discrete health services, which might include a state-funded public hospital providing acute care and a range of diagnostic services. In the community there will be private GP services, private or public specialist services and a range of allied health and support services.





Case study 7.1 Apple Health Care

Apple Health Care was established in 2005 by the division of general practice in Tamworth, a regional NSW town with a population of approximately 43 000. Creation of the infrastructure was made possible by contributions from the Australian Government and the regional council. Apple Health Care is a not-for-profit organisation that reinvests profits into improving local community health care. Tamworth has a large number of rural specialists, so there tends to be less GP involvement with the hospital compared with other towns.

The doctors working at Apple Health Care derive a percentage of their earnings from a traditional fee-for-service model. The practice entity is responsible for the administrative components of the medical practice, which enables the doctors to focus on delivering medical care. This managed practice ‘Easy entry, gracious exit’ model (Boucher and Lynch 2003) manages the practice, employs staff and negotiates a package with the doctor which might include annual leave, accommodation, transport and a predictable income. The practice charges private fees except for those clients entitled to a concession health care card.

Apple Health Care employs salaried practice nurses who provide support services, including:

- aged care assessments
- immunisations
- blood pressure and chronic disease management
- Pap smears
- antenatal assessment
- triage and acute care.

Allied health professionals co-located in the practice also provide a range of health care services, such as podiatry, clinical psychology and specialist psychiatric services. By promoting this interprofessional team focus within a fee-for-service environment, the practice was able to recruit four full and part-time GPs and two practice nurses in the first 12 months of operation.

Discussion

The development of any new health service model requires:

- a supportive government policy framework
- collaboration between Australian, state and territory governments on funding
- support from the local community for change in the mode of service delivery.

The most common example of a discrete service is a general practice that is owned and run by one or more GPs, employing office and practice support staff. Discrete general practices require large capital infrastructure investment by GPs to purchase an existing practice or to set up a new practice. This style of service is becoming less economically viable or practical because of declining populations in many rural communities, increased

costs and the lack of a rural GP workforce. Recent data confirm that GPs see themselves as staying in rural communities for shorter periods of time, and are therefore sometimes reluctant to invest in private medical infrastructure in rural areas (ARRWAG et al 2006). Practice models such as Apple Health Care address these issues for GPs.



Case study 7.2 Specialist care in a rural practice

Tamworth Rural Referral Hospital has a busy general paediatric unit with more than 10 000 children presenting to the emergency department and more than 3000 admissions to the children's ward each year. In 2001, there were two private practice Visiting Medical Officer paediatricians who were required to work on call every other weekend. They had no support other than one junior medical officer. The paediatric service in the town was teetering on the brink of collapse. A staff specialist model was proposed, with recruitment directed towards specialists attending at the hospital for an average 40-hour week.

By 2006, there were five staff specialist paediatricians, two full-time and three part-time, making a total workforce of 3.9 full-time equivalent paediatricians. In addition to providing the acute care roster, the paediatricians provide outpatient consultations. The hospital is able to receive funding from Medicare and insurance funds to help offset the cost of employing staff specialists for these consultations. This has resulted in no overall net cost to the NSW State Government to establish this larger workforce. There has been a transfer of responsibility for the running of several small individual private practice entities to the state health service, to cover the infrastructure costs of running the outpatient clinics. The impact on the paediatricians who have moved from private practice has been a minimal drop in income, but a large reduction in workload, an improvement in working conditions, and access to paid annual and study leave compensates for the income loss. In addition, this rural regional specialist workforce has been stable for over three years.

Discussion

Across rural NSW in 2005, 28 out of 55 rural paediatricians were working as staff specialists. Furthermore, 70% of paediatric trainees in Australia are women and many are in their mid-30s at the beginning of their careers. In order to boost recruitment, health service models need to allow for more flexible employment options. This service model at Tamworth Rural Referral Hospital offers a way to provide services in regional hubs, including local 24-hour care and outreach to rural and remote areas beyond (Jones 2004), but this model may not be applicable to all specialist groups. 'Easy entry, gracious exit' models of service delivery draw on the lessons learnt in the rural GP and paediatric health service models to look at sustaining rural health services in the future.

The bulk of the literature surrounding the health professional workforce shortage has focussed on the GP workforce (Wilkinson 2000a). However, in large rural centres where there are public and private hospitals providing specialised care, there is an obvious need for a rural specialist workforce. Only 10% of specialists reside in the regional and rural communities of Australia where 30% of the population lives (Productivity Commission

2005). Specialists who practice in rural and large regional settings need to have generalist skills.



Case study 7.3 Boggabri multipurpose service

Boggabri, a small rural town of 1500 people, is 40 km from Gunnedah and approximately 100 km from Tamworth where there is a large regional hospital providing specialist services. All health services in Boggabri are co-located, including a two-doctor general practice, the local ambulance service and the Boggabri Health Service, a multipurpose service (MPS).

The MPS provides an emergency service, and four acute care beds, a remote X-ray service and a 16-bed residential aged care facility that provides both respite and community health services. The workforce employed by the MPS includes nursing staff, community health staff and the two GPs. In addition, visiting allied health, community health and specialists from surrounding centres provide care at the MPS.

The two GPs based in Boggabri provide 24-hour medical cover for the community. They are employed by a medical company that provides housing assistance, a motor vehicle and income with guaranteed locum and holiday relief.

The Australian Department of Health and Ageing funds the aged care beds and other primary care services, and NSW Health provides the acute care hospital services. There is a single management structure and funds are allocated on the basis of local need.

The MPS Program is funded jointly by the Australian and state/territory governments. These services are appropriate for towns with populations that are too small to sustain either an aged care facility or an acute care hospital facility (catchment 1000–5000 people). Health services are co-located within a designated area, funding sources are pooled and reallocated according to locally defined needs, and a single management structure is established.

Discussion

There are advantages in co-locating health services in small communities, including:

- improved coordination and integration of services
- improved communication, both formal and informal, between services and professionals
- roster sharing between staff (eg a remote area nurse, a GP and an ambulance officer) for first response calls
- a single management structure to better dictate local priorities.

However, ensuring adequate funding and infrastructure to maintain small facilities is a constant challenge, and funding formulas have been slow to take account of the added costs of recruitment and retention of staff in small communities. Even with the efficiencies achieved through new service models, health care is more expensive to provide in rural and remote communities than in large capital cities.

Many communities in Australia are just too small to sustain the full range of health professionals required to deliver modern health care. Outreach services (eg fly-in, fly-out services funded by the Medical Specialist Outreach Program [NRHA 2004]), and the Royal Flying Doctor Service may operate in these locations. It is increasingly difficult to recruit professionals to work in isolated or solo practice due to factors such as after-hours and on-call commitments, and limited access to professional development and locum support. An outreach service enables a critical mass of health professionals to be employed in a larger 'hub' location, to provide services to smaller 'spoke' communities.

Virtual outreach services have enormous potential in service provision to remote areas. The use of telemedicine (eg teleradiology, telepsychiatry and video-otoscopy) are allowing diagnostic and support services to be provided by practitioners who may be thousands of kilometres away. Other potential virtual services are specialist or generalist telephone triage services.



Case Study 7.4 Community-controlled health service model: the Indigenous Medical Service model

Since the establishment of the first Aboriginal Medical Service (AMS) in 1971 at Redfern in New South Wales, there are currently at least 130 Aboriginal Community Controlled Health Organisations (ACCHOs) operating across Australia. AMSs are diverse in their composition, ranging from very large services employing medical practitioners and an assortment of nursing and allied health staff to smaller services relying primarily on Aboriginal and Torres Strait Islander Health Workers (AHW) and nurses to provide the bulk of the primary care.

AHW have a unique professional role in ensuring the delivery of culturally safe health care to Indigenous people. The role of the AHW also includes advocacy, liaison and representation, along with a proactive approach to health care. AHW are key advocates for Indigenous clients and help ensure that complicated treatment plans can be followed by Indigenous clients who often have difficulties with literacy and do not feel culturally safe in hospital health services. The success of AHW is due to their knowledge of the communities and the people in them. They can facilitate the delivery of health care with their understanding of how health problems affect the clients in a broader social context of disease. This also assists in making issues of cultural security less challenging.

Discussion

The advantages of the community-controlled AMS model are numerous. Service delivery, including emergency care, outreach services, acute health services and counselling is complemented by a variety of health education and preventative programs. The guiding principle behind the model is the provision of comprehensive primary health care that goes beyond medical care and addresses holistically the wellbeing of Indigenous communities.

Each service is culturally and socially unique to the area and responsible to a local community-based board, which in turn is supported by a state, territory and national

network, the National Aboriginal Community Controlled Health Organisation (NACCHO) network. The AMSs operate on the following philosophy:

Aboriginal health is not just the physical wellbeing of an individual, but is the social, emotional and cultural wellbeing of the whole community, in which each individual is able to achieve their full potential, thereby bringing about the total wellbeing of their community. It is a whole-of-life view and includes the cyclical concept of life-death-life. (NAHSWP 1989)

A collaborative model ensures that key linkages occur between mainstream health providers and AMSs to maximise socially and culturally appropriate service provision. By adopting a more comprehensive and collaborative working model in primary health care delivery, the health system can meet the needs of the Indigenous community more effectively.



Key points

- Health services vary in their structure and workforce composition depending on the size of the surrounding community.
- New health service models require integration and collaboration between the Australian and state/territory governments, and local communities.
- Successful new models of health service delivery allow for flexible work choices for the health professionals they employ.
- Community-controlled AMSs offer a strategy to enable Indigenous people to access culturally secure health care.



Recommended readings and resources

- Australian Health Workforce Advisory Committee (2004). *Annual Report 2003–2004*, AHWAC Report 2004.3, AHWAC, Sydney.

Provides data on the health workforce and the ratio of health professionals living in each geographical zone in Australia.

- Health Workforce Queensland (2005). *Solutions to the Provision of Primary Care to Rural and Remote Communities in Queensland*, HWQ, Brisbane.

Details some of the strategies being used to support rural practice in Queensland and describes alterations to existing models that may address workforce shortages.

- Productivity Commission (2005). *Australia's Health Workforce*, Research Report, Canberra.

A key planning paper exploring future health workforce needs, organisation and effectiveness in Australia.

- Wakerman et al (2006). *A Systematic Review of Primary Health Care Models in Rural and Remote Australia 1993–2006*, Australian Primary Health Care Research Institute, Canberra.

Describes the relationship between the organisation of primary health care services in rural Australia and the size of the community they serve.



Learning activities

The following tasks may be done individually or in groups. For many of these activities there is no current correct answer, so the next generation of health professionals should try to think through their own solutions.

1. Identify and describe what infrastructure and staff you would need to run a model primary health care practice.
2. What tasks do you think each of the health professionals working in the practice should be doing?
3. How could you use information and communication technology in modern health care delivery?
4. List three differences and three similarities in health care between clients in a capital city and clients in a small rural town with a population of 15 000.
5. How do you think doctors, nurses and allied health professionals should work together in primary health care?
6. As a group, research:
 - the role of hub-and-spoke regional health services in providing care in dispersed communities
 - the difference in practicing as a nurse, allied health professional or doctor working in a general hospital in a large country town compared with a metropolitan hospital
 - the differences and challenges that face Aboriginal and Torres Strait Islander Health Workers involved in a community-controlled health service
 - why specialists in obstetrics, orthopaedics, radiology and psychiatry are difficult to recruit, even to large country towns
 - a design of an ideal health service that incorporates GPs, nurses, allied health professionals and medical specialists working in a rural setting and compare this ideal with what occurs in the real world.

Chapter 8

Rural health workforce: planning and development for recruitment and retention

Craig Veitch and Kristine Battye



Learning objectives

- Describe the challenges to building and maintaining a rural health workforce.
- List the key professional and personal factors contributing to workforce recruitment and retention.
- Appreciate that workforce recruitment and retention require different strategies.
- Describe the important role played by community in workforce recruitment and retention.
- Describe the association between sustainable service delivery models, training, community capacity and workforce recruitment and retention.

Introduction

In Australia, as elsewhere in the world, recruiting, training, supporting and retaining a rural health workforce is a longstanding and continuing problem (AMWAC 1996, Brooks et al 2003, AIHW 2005b, Gregory et al 2006).

Training for rural practice is a core element in redressing the problem (Wise et al 1994), along with appropriate support and skills maintenance opportunities for rural health professionals (Hays et al 1997, 2003; Strasser et al 1997; Battye and McTaggart 2003; Joyce et al 2003; Schoo et al 2005; Glazebrook and Harrison 2006). Preparation for rural life before arrival in a rural community, and support structures for spouses and family, are recognised as important elements of recruitment and retention (Wise et al 1996, Veitch and Crossland 2005).

Increasing recognition of the important differences between recruitment (attracting health professionals to rural areas) and retention (keeping them there) has led to the

development of specific strategies for each issue (Cutchin 1997ab, DHAC 2001b, Veitch and Crossland 2002).

The important role that rural communities can play in workforce support and retention is also beginning to be recognised as an important workforce strategy (Veitch et al 1999, Battye and McTaggart 2003, Veitch and Grant 2004, HWQ 2006), although many rural communities are yet to recognise their potential to positively contribute to ameliorating the rural health workforce problem (Veitch and Grant 2004).

Changes are occurring in the workforce and structure of rural health in Australia (Wainer et al 2004), including the increasing proportion of female medical practitioners in the workforce and the standing and numbers of allied health professionals and models of service (Wilkinson 2000b, Veitch and Mudge 2001, Battye and McTaggart 2003, Osolins et al 2004, AIHW 2005b). Perceptions and expectations of rural health professionals and rural health services are also changing. In the case of the former, there has been a gradual move away from solo practices and all-of-career residence in one community. For the latter, there has been movement away from the 'shrunk urban model' towards services that are more sustainable and that match the needs of rural communities. Community involvement in service planning has also increased. These broad changes have occurred, somewhat against the trend of increasing centralisation of state-based services, increasing legislative and indemnity constraints (leading to diminishing procedural capabilities), and a general withdrawal of services and support in rural and remote areas (Kamien and Cameron 2006). This chapter demonstrates through a series of case studies how rural workforce recruitment and retention issues can be addressed.

Recruitment often involves promotion of rural practice as an exciting, challenging and rewarding career option. It is generally accepted that this process should begin at an undergraduate level or earlier, through programs such as the Rural Undergraduate Support and Coordination (RUSC) program for medical students. Individual rural communities have also attempted to recruit health professionals through inducements and incentives such as housing and travel support.

Retention is the successful outcome of recruitment when health professionals are recruited into rural practice and remain for extended periods. There is increasing recognition that retention involves a different set of issues from recruitment (Cutchin et al 1994, Pathman et al 1994, Hays et al 1997, Humphreys et al 2002b). This is because decisions to take up rural practice (recruitment) are made outside of the contextual setting of rural practice, whereas decisions to remain (retention) occur within that setting and are based on experience there (Cutchin 1997ab; Hays et al 1997, 2003; Kamien 1998).

The decision to remain in rural practice appears to be a dynamic equilibrium of positive and negative factors; issues such as overwork and poor adaptation to role changes can easily upset this equilibrium (Hays et al 1997, 2003; Veitch and Crossland 2002). Table 8.1 sets out 26 factors that influence retention, grouped into three broad dimensions: security, freedom and identity (Cutchin 1997ab).

Security factors may have the greatest influence on retention (Veitch and Crossland 2002), so strategies to boost retention need to be continuous (increasing security), rather than one-off. Although retention is often thought of as long-term residence in a single rural location, it is also appropriate to include health professionals who move between rural communities (Hays et al 1997).

Table 8.1 Factors that influence retention in rural practice

Security	Freedom	Identity
Confidence in clinical abilities	Challenge and diversity in clinical work	Loss of anonymity
Commitment to aspirations and goals	Ability to consult more with clients	Like-minded practice group
Ability to meet family needs (eg spouse happiness, education)	Cooperation within medical and at-large community	Roles played and responsibilities taken
Comfort with clinical community and institutions	Respect of the practitioners and at-large community	Respect of practitioners and at-large community
Degree of on-call coverage	Power in medical relations	Fulfilling aspirations in place
Practice group environment and anchor person	Ability to develop health care resources	Seeing self as belonging to the community
Community and medical institution development	Diversity in social interactions	Awareness of self in time and place
Available social and cultural networks	Involvement in community affairs	Creation of future goals in place
Respect of health practitioners and community at-large	Personal and family activities	

Source: after Cutchin (1997a)

Support for rural health professionals is a key element of recruitment, re-entry and retention. Support can take many forms, including financial, material, social, professional and personal (DHAC 2001a, Hays et al 2003, Joyce et al 2003, DoHA 2004, Osolins et al 2004, Veitch and Grant 2004, HWQ 2005, Veitch and Crossland 2005). It can come from a variety of sources, such as government, specialist support agencies, professional bodies and organisations, and the community. Support can be both formal (ie policy-based) or informal (which is common at the community level).

Sustainability is a complex, multifaceted concept. Sustainability as a rural workforce issue has been considered from many perspectives, including financial, workforce, skills and community. For example, sustainable general practice might be defined as self-sustaining maintenance of GPs, associated skills and services within a specific town or area. Alternatively, it may be defined as ‘the provision of a specified range of services

to a community in an appropriate way for a guaranteed period of time' (Togno et al 1998).

Two major studies of rural general practice sustainability have been done in Australia. Many of the key issues found are equally important to the retention of other rural health professionals (Fitzgerald et al 2000, Batty and McTaggart 2003, HWQ 2005). The first, in 1997 (Togno et al 1998), found that key elements of rural practice sustainability included issues associated with:

- practitioners
- administration, funding and financial arrangements of the service
- population and community characteristics and infrastructure
- nature of the service and health service environment
- policy environment.

The second study, done in 2002, reported similar findings (Humphreys et al 2002b, Jones et al 2004).

It is important to realise that there is a fundamental link between models of service delivery based on principles to enable sustainability, and the retention of health professionals. Thus, health service and workforce sustainability is best achieved when a holistic approach is taken. This is demonstrated in the case studies below.

The development of a sustainable rural and remote health workforce requires the following three elements:

- The attraction of people to health careers in rural locations through exposure to opportunities in rural health during school and tertiary training. This is the rationale behind the establishment of career expos, rural health clubs, rural and remote student placements and training pipelines.
- Recruitment and selection of appropriate personnel with the skills mix and aptitude for rural and remote practice.
- Retention of health professionals in rural and remote services to enable provision of health care, continuity of patient care and local capacity building.

Health Workforce Queensland (formerly known as Queensland Rural Medical Support Agency) has developed a set of principles to support sustainable service delivery (QRMSA 2004). These principles relate to:

- a critical mass of health professionals for communities, benchmarked on population, geographical location and remoteness from other health services
- interprofessional primary health care
- community participation in service planning and monitoring

- quality in terms of appropriately skilled health professionals, with access to ongoing professional development, and accredited health facilities
- culturally appropriate service provision
- remuneration packages that consider quality accommodation, vocational development, safe hours and financial reward that recognises isolated practice.

The following case studies demonstrate different approaches to workforce recruitment, retention and support. Case study 8.1 involves the development of an entirely new interprofessional service, encompassing practical evidence of many of the issues outlined in this chapter. As a result, Case study 8.1 is considered in some detail. The remaining case studies are covered in less detail, partly to avoid repetition and partly because they focus on changing or enhancing existing services. Case studies 8.2 and 8.3 demonstrate changes within existing health services and so focus on certain aspects of workforce and health service planning, particularly community involvement.



Case study 8.1 Outville Primary Health Care — a new allied health service from scratch

Development of the model

Outville Primary Health Care (formerly Outville Rural Division of General Practice) in Queensland established an outreach service in Outville in 2001 to provide regular allied health services to 12 remote communities in the area. The model was developed outside the existing local public health system, but in consultation with both local and head office representatives. Previously, allied health services in the area relied on infrequent visits by staff who were poorly prepared for remote area practice, and poorly supported professionally and personally. This in turn resulted in little corporate knowledge being maintained which placed the additional burden on new staff members of having to learn their way in and around the local system. Sometimes, that process itself led to staff leaving the service.

In the case of the outreach service to northwest Queensland, an informed approach to the situation was required in order to develop a service model that met the needs of the population and addressed the known retention issues. Community consultation sought to engage with the Indigenous population (approximately 16% of the catchment population for the service) and their needs, and respond to factors known to contribute to the poor retention of allied health professionals in rural and remote locations.

Operation of the Outville Primary Health Care service to respond to community and professional needs

The allied health service operates within a primary health care framework. The key features of the service are set out in Table 8.2, along with examples of the issues that these features address.

Table 8.2 Service features that address community and professional needs at Outville Primary Health Care

Service feature	Community/professional issue
The same allied health teams visit a cluster of communities in regular and reliable rotations.	Continuity of care is ensured.
Transport by charter aircraft to more distant locations (>2h drive) minimises clinical time lost.	Clinical time is increased, and travel time and the impact of long-distance driving are reduced.
The duration of visits is 2–3 days, depending on the size of the community, to enable community development activities and adequate clinical time.	Extended visits mean that all clients receive more comprehensive attention.
Allied health professionals travel and work in functional teams (ie Team 1: physiotherapy, dietetics, podiatry; Team 2: occupational therapy, speech pathology, psychology).	Greater interprofessional communication enhances the comprehensiveness and continuity of care. Professional (peer) support is provided and feelings of isolation are reduced.
The roster of visits requires that allied health professionals are not away from their base for more than half their working time. This enables client-related follow-up, resource development and professional development back at base, as well as an opportunity to establish a social network.	The roster addresses key retention issue of travel and time away from home and family. By building this into employment contracts, health professionals are provided with certainty and recognition of the importance of time-out from practice, resulting in increased retention.
The calendar is planned six months in advance so that communities and local health professionals can refer to and access the service. This minimises overloading the community with visiting health professionals from other services.	The calendar provides certainty to communities and professionals, ensuring continuity of care and increased compliance.
A centralised booking system.	The booking system ensures continuity of care and appropriate workloads.
Community-based workers in some communities are trained, to build local skills and support clients between visits.	Valuable inter-visit support for clients and professionals is provided and capacity within local community is developed.
Videoconference follow-up between visits is available.	Videoconferencing provides continuity of care and support for community-based workers.
Case conferencing can occur with resident health professionals and other agencies.	This enhances the level of care provided to clients, and reduces the need for clients to travel for care, which leads to greater compliance.
To promote access by clients, there are a range of locations for service provision: home visits, work in schools, child care centres, aged hostels, etc.	Multiple access points enhance continuity of care and compliance, and recognise cultural sensitivity and client mobility issues.
There is an orientation to the Indigenous and remote context, with the establishment of a buddy system.	This orientation recognises cultural sensitivity and service provision is seen as locally appropriate.

Recruitment and retention of allied health professionals at Outville

Building on the recommendations from the literature and interviews with incumbent allied health professionals, the main aspects of the strategy to recruit and retain allied health professionals include:

- professional
 - an experienced allied health professional as team leader/manager
 - mentoring/professional support by a same-discipline professional, if not the team leader
 - access to professional development opportunities, including paid conference leave and travel twice a year
 - negotiated study-leave for postgraduate training
 - access to library resources and academic support for postgraduate studies through the local University Department of Rural Health, with opportunities for research
- opportunities for academic adjunct appointments
- financial
 - remuneration that recognises responsibility for working in isolated practice
 - housing or rent subsidy
 - relocation costs
- time-out from work and community
 - six weeks annual leave
 - airfare to state capital/'home' once a year or equivalent value
- personal and family
 - child care support to a specified amount
 - assistance in finding employment for spouse/partner
- preparation for rural/remote practice and life
 - orientation, including Indigenous cultural awareness and rural practice, through a Graduate Diploma in Rural and Remote Health
 - four-wheel drive driving course/dirt road training, car maintenance and safety in the bush.

In addition, Outville Primary Health Care has developed a selection process that promotes applicants who are suited to working in a team, in remote locations and in a cross-cultural environment.

Discussion

Community input was sought from the beginning of the planning process to ensure that the service best met the needs and expectations of community. It also ensured that the community was informed about the process which in turn built a sense of ownership and commitment to the service. Allied health professional input was also sought to ensure that key recruitment and retention issues were addressed appropriately.

If a service reflects the needs, expectations and experiences of communities and allied health professionals, issues which could threaten service sustainability and workforce retention are resolved. Rural health service planning needs to involve health professionals and clients, and needs to be conducted within the environment for which the service is being planned. All elements of rural and remote health professional retention, not just professional, should be recognised and satisfactorily addressed.



Case study 8.2 Establishing sustainable rural medical services in Milan — a multi-agency interface approach

This case study describes a solution to difficulties with medical and procedural services provision in a rural regional centre. In Milan, an effective interface across the public and private health sectors has been established, driven by local government.

Milan is a regional health service hub located in southwest Queensland, approximately 500 km west of Brisbane. Milan Hospital provides emergency and acute services to the town, and procedural services to the surrounding shires (total population 12 650). Milan Hospital has historically been staffed by a medical superintendent and two medical officers, who provide their own internal relief and cover each other for on-call, leave, etc. The flying obstetrician, flying surgeon and two flying anaesthetists are based in Milan, and there are six private GPs working from four general practices in the town.

Milan Health Service District had a longstanding difficulty in maintaining medical staffing at the Milan Hospital. This had a negative impact on the provision of procedural and outpatient services, and raised considerable concern within the local and wider community. The Milan Town Council and the local chapter of the Division of General Practice collaborated with Health Workforce Queensland and Queensland Health to develop an across-agency solution to the workforce problem. A series of meetings using systems-based methodology were conducted, to develop a workable framework for the group, underpinned by the development and implementation of a training hub for medical and nursing services.

Core components of the revised Milan model include:

- a joint advertising and recruitment strategy by the Milan Town Council and the District Health Service, including the development of a DVD to market the Milan region
- the establishment of clinical leadership within the region
- the establishment of an effective interface across private and public sectors to facilitate training in general practice and procedural medicine (obstetrics, surgery and anaesthetics), and as a pilot site for rural generalist training
- an increase in the critical mass of procedural medical practitioners, enabling the implementation of a sustainable after-hours and on-call roster (across the public and private sector) and providing relief to medical practitioners working in solo practice within the region
- provision of appropriate, quality accommodation as a result of lobbying by local government, and assistance in sourcing accommodation.

Discussion

Multiagency cooperation incorporating community and professional needs can produce solutions not possible for single agencies working independently in small settings.

Multiagency cooperation is often best facilitated by an individual or organisation that is not actively involved in local health care provision, with:

- broader experience and focused on improving the local service provision
- no local loyalties or links (real or perceived)
- mutual respect from all parties.

All local agencies should be actively involved in developing a solution, with the health service developing monitoring systems that ensure appropriate data are collected regularly and maintained for the purposes of tracking sustainability, retention and utilisation.





Case study 8.3 Creating a sustainable primary health care workforce environment — the role of local government as a health service fund-holder

This case study is an example of a local government organisation becoming the fund-holder for the delivery of primary health care services within its jurisdiction, so that the needs of all residents of the shire (within the two main townships and outside the towns) were met. The Diamond Shire is the auspicing body of the Diamond Health Service, and has contracted North and West Queensland Primary Health Care to provide remote area nursing services.

In early 2004, it was uncertain whether the non-government organisation (NGO) running remote nursing clinics in the Diamond Shire would continue. Regional health planning work in 2002–03 had identified staffing and operational issues that were having an impact on the sustainability of nursing services in the shire. Therefore, the Diamond Shire Council investigated alternative models of service provision and staffing, and the council Chief Executive Officer approached Health Workforce Queensland for assistance.

The key issues for Diamond Shire Council were:

- the development of a model for sustainable delivery of primary health care nursing services and emergency care
- the identification of a governance model.

The following key factors contributed to the development and implementation of the re-engineered model in the shire:

- An interface between local government, the Australian Government and an NGO was established, which resulted in additional funding for the employment of more nursing staff. The number of nurses in the shire increased so that internal relief, and covering each other for leave and emergencies across the two clinic sites was possible, on-call burden was reduced, and services to properties out of the townships could be provided.
- A contract was drawn up between the funder and the shire, and between the shire and North and West Queensland Primary Health Care, as the foundation for implementation of the model, and as a mechanism to monitor and evaluate implementation.
- The local government was progressive and experienced in meeting challenges.
- The Chief Executive Officer of the shire acted as the local driver for health service reform.

Local government can take the lead in local health services planning, provision and support, but it requires vision, willingness and sound organisational experience. Other levels of government (federal, state and territory governments) assist and facilitate planning to develop services that meet local needs.

Discussion

While not all towns can expect the same service delivery profile, the case studies demonstrate the inextricable link between health service planning and workforce recruitment and retention. Without addressing these elements, workforce and service sustainability will not be achieved. There is, for example, little point in putting effort into

training and recruiting health professionals for rural and remote practice, and then placing them in dysfunctional service models. Equally, the sustainability of a well planned and organised service will be threatened if staff are not appropriately trained and prepared for rural practice.

The case studies also demonstrate that local solutions — locally instigated and developed — best meet the needs and expectations of rural communities and health professionals, with respect to service sustainability and workforce retention. This does not mean that external organisations and agencies do not have a role to play but that their role should be supportive instead of directive. The roles that various agencies can play range from facilitation (eg rural workforce agencies, health service planning consultants), through collaboration (existing local services), and enabling (existing services, government), to funding support (government).

The importance of community involvement in health services planning and workforce retention is demonstrated in each case study, although at different levels. Communities are the repositories of knowledge and experience relating to local health needs, expectations and use, and should be involved in service and workforce planning from the outset. It is important to recognise that ‘community involvement’ can and will occur in different ways and will achieve different outcomes (Veitch et al 1999, Veitch and Grant 2004). In addition, identification and linkage with key local people supports the orientation of the visiting health professionals in the communities. Community involvement leads to commitment and a sense of ownership, which in turn can lead to the appropriate use and support of the service.

To enable service development and provision, health professionals, service providers and all levels of government need to be involved in the planning process, ideally with local government taking a lead role (they have the best knowledge of local resources and expectations). Core to the success of each service described in the case studies is recognition of the fact that workforce retention involves more than purely professional considerations. Personal and family issues can be major challenges to retention; therefore, they need also to be addressed and effective strategies developed (Hays et al 1997, Wilkinson 2000b, Joyce et al 2003, Veitch and Crossland 2005). The following elements are key considerations in workforce recruitment and retention.

Critical mass of health professionals

The case studies highlight the importance of having a critical mass of health professionals for sustainable service delivery. An adequate number of health professionals within each of the service delivery models described has enabled internal backfill for relief and professional development, safe after-hours and on-call rosters and has provided the foundation for peer-support networks.

Professional development

Relief to attend professional development is an element of the models described in the case studies. Financial assistance allowing access to professional development and

postgraduate training with attainment of postgraduate qualifications while working in remote practice is an element of all of the case studies presented.

Accommodation

Appropriate and affordable accommodation is important. In the case studies presented, examples included an accommodation subsidy as part of the remuneration package to assist in rental or purchase of homes and purpose-built accommodation.

Team-based approach to care

Team-based care is not only good for the patient but an important component in the retention of health professionals. Team-based care enables shared workload, referral to other health professionals with appropriate skills, and provides professional and peer support. In the case studies presented, team-based care can exist within the agency or more broadly through the interface with other agencies and providers.

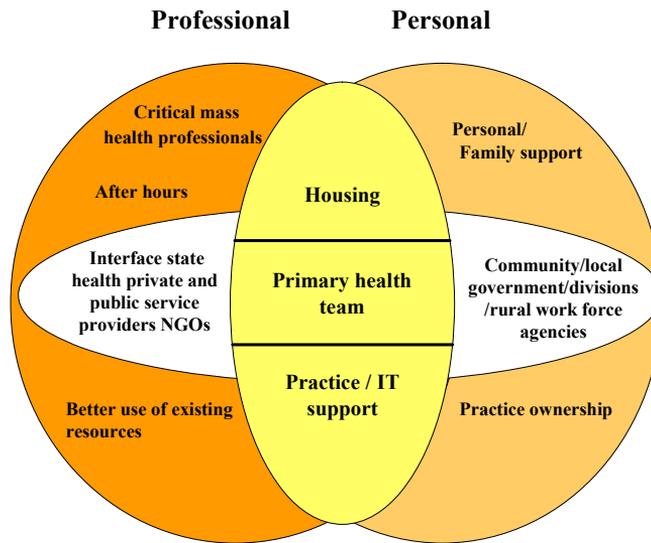
The sustainability of a health service hinges on the retention of health practitioners, so how is a sustainable health service planned?

In some situations ‘greenfield’ services can be planned de novo, particularly where there is new or specified funding. However, more often health services or systems need to be re-engineered to enhance service delivery sustainability, as illustrated in case studies 8.2 and 8.3.

The most effective approach to planning sustainable health services and the retention of rural and remote health professionals is systems-based, which involves:

- assessment of the situation/problem
- linkage with local stakeholders
- development of an agreed implementation strategy with defined stakeholder roles and responsibilities, and resource requirements identified (HWQ 2006).

The outcome of planning is the development of a service model that supports the professional and personal needs of the health professionals and matches the health needs of the community. Figure 8.1 depicts many of the core factors that influence sustainability.



Source: HWQ (2006)

Figure 8.1 Diagrammatic representation of the interplay of various sustainability factors

The provision of sustainable rural and remote primary health care services depends upon the establishment of an interface between the (local) public, private and NGO sectors, including Indigenous community-controlled health services. This professional, organisational and community interface promotes and presents opportunities to establish a critical mass of health professionals for the provision of health care across a clinical services network, and at a local level. An effective interface enables the development of systems to reduce after-hours burden, manage on-call and back-fill/internal relief requirements, and uses key local resources – including GPs, nurses, allied health professionals, other local health professionals, Aboriginal and Torres Strait Islander Health Workers, ambulance officers, police, community and consumer groups – to promote service delivery across the continuum.



Key points

- Service development and delivery are inextricably linked to workforce retention.
- Services need to reflect benchmarked community needs and morbidity.
- Communities should be involved in service development and monitoring.
- The workforce must have a critical mass to ensure sustainability and retention.

- The workforce should be well-trained in skills and knowledge appropriate to the service and population needs.
- Workforce professional and personal needs must be addressed appropriately as part of service development.



Recommended readings and resources

- Hays RB, Veitch C, Cheers B and Crossland L (1997). Why doctors leave rural practice. *Australian Journal of Rural Health* 5:198–203.

This paper reports a study that explored the reasons why medical practitioners left their practices, with the objective of identifying specific issues to be targeted to improve retention.

- Health Workforce Queensland (2005). *Solutions to the Provision of Primary Care to Rural and Remote Communities in Queensland*, Queensland Rural Medical Support Agency, Brisbane.
<http://www.healthworkforce.com.au> (Accessed June 2007)

The key objectives of this policy paper were to:

- identify the historical and current factors contributing to the rural medical workforce shortage, and scope the impact of the shortage on community wellbeing and service provision
 - review workforce recruitment and retention strategies employed by the medical and other professions
 - review current models of primary care and identify strategies to improve sustainable service delivery
 - develop principles for sustainable primary care to develop models to support sustainable health service delivery in rural and remote areas.
- Health Workforce Queensland (2006). *Methodology to Support the Development and Implementation of Solutions to Queensland's Health Workforce Crisis: Factors Contributing to Success (and Failure)*. Health Workforce Queensland, Brisbane.
<http://www.healthworkforce.com.au> (Accessed June 2007)

This paper describes a systems-based methodology to support the re-modelling of primary health care services based on principles to support sustainable health service delivery and address the identified professional and personal factors contributing to the retention of health professionals in rural and remote locations.

- Fitzgerald K, Hornsby D and Hudson L (2000). *A Study of Allied Health Professionals in Rural and Remote Australia*, Commonwealth of Australia, Canberra.

Over 1500 rural and remote allied health professionals responded to this national survey of their support, education and training needs in rural and remote Australia. The study provides a description of the rural and remote allied health workforce, demonstrating the high proportion of women (84%) and relative youth (40% under 29 years) of respondents. About the same proportion (40%) was in the 35–54 year age group. The majority trained in Australia, and nearly half had completed, or were completing postgraduate studies. Nearly one-third of the respondents resided in a regional centre, with more than half providing services across multiple geographical locations.

- Cutchin MP (1997). Physician retention in rural communities: the perspective of experiential place integration. *Health and Place* 3:25–41.

This paper explores physician retention through a series of in-depth qualitative interviews with longstanding rural physicians in Kentucky. It includes a review of theoretical concepts of retention. The author argues that retention occurs when the physician ‘integrates’ into a community; this often includes elements beyond clinical practice.



Learning activities

1. Describe the potential benefits of workforce retention to rural and remote health services and to rural and remote communities.
2. What factors (positive and negative) influence rural and remote health workforce recruitment and retention? Which of these factors is potentially amenable to intervention by:
 - rural health professionals themselves
 - health professional training programs (undergraduate and postgraduate)
 - rural communities
 - rural health services?
3. Using the case studies and your own rural health experiences, what strategies would you suggest for improving workforce recruitment and retention in a rural community known to you?
4. Using a rural community or region known to you, consider how workforce retention and local health services might be enhanced. Do not just consider the existing service arrangements but think about how to better integrate existing services and new services that complement or enhance existing services in ways that meet community needs and expectations.

Chapter 9

Supporting rural health professionals and their families

Angela Durey, Helen Malcolm, Jennifer Critchley and Andrew Crowden



Learning objectives

- Describe the issues health professionals and their families face living and working in rural communities.
- Identify mechanisms for supporting rural health professionals and their families.

Introduction

Rural health services, providers and programs can have difficulty recruiting health professionals (Strasser et al 1997, Strasser 2000). Many Australian-trained health professionals are reluctant to work in the country because of their professional or employment aspirations, and those of their spouse or partner, as well as their children's educational needs (Strasser et al 1997, Wainer 2000). Overseas-trained clinicians have often been recruited to fill vacancies (AMWAC 2004, ARRWAG 2004); however, this solution brings its own problems. Clinicians from culturally and linguistically diverse backgrounds who are living and working in rural locations can face cultural dislocation as well as professional and social challenges, as can their families.

Political and economic changes in the past 20 years have significantly affected those living in rural locations (Twaddle 1996, Palmer and Short 2000, Rodger 2000): economic reform has resulted in less state assistance to rural and farm sectors (Haslam McKenzie 2000); essential services, such as banking have been withdrawn in many small towns (Tonts 2000); and rural hospitals have been downsized (Kamien 1998). These changes have implications for rural health professionals in terms of work demands and access to services and for their families in terms of employment, education and social activities.

Given the limited services currently available in many rural areas, rural clinicians often feel overworked, stressed and frustrated at the demands placed on them by community expectations and the effects of those demands on their own health, family life and leisure time. This is particularly relevant in smaller rural communities, where long, irregular

working hours are often the norm and locum relief is limited at best (Strasser et al 1997, Wainer 2000). Women generally like to have flexible working hours to meet the demands of their responsibilities at home and at work (Pringle 1998, Roach 2002, Wainer 2004). Some male GPs also support the notion of changing dominant ideas about work patterns to better reflect a work–life balance, and seek to apply them to practice (Wainer 2001, Young et al 2001).

The rural health workforce and their families need to be supported through the recruitment and settlement process. Good professional and personal networks, both formal and informal, can make all the difference to the attraction and retention of the rural health workforce.

This chapter uses three case studies to highlight aspects of the main issues facing rural health practitioners and their families: isolation, community expectations, needs of the family and of the health practitioner, and multiple roles. Each case study is followed by a brief discussion of the main issues it raises. In the Discussion section, we focus on the specific issues, relating them back to the case studies and also suggesting possible solutions.

Chapter 8 also discusses retention strategies, including the professional supports shown to enhance retention and sustainable health services.



Case study 9.1 Moving from town to country

My husband, a rural health worker, began working in Whytown one month before the family relocated from Adelaide. When we arrived we were surrounded by a smoky haze. Bushfires raged and a ghostly stillness swallowed our truck and belongings. We were hot and tired, the water was affected, folk in the region were distressed. It was a stark difference from the safe and familiar surrounds of home!

Our teenagers hung around the house, waiting with trepidation to find out whether they would be accepted by the locals. Kind people rang to welcome us to the town, despite the menacing dangers of the fire they faced.

I began to unpack. Boxes were everywhere. The things my four children needed — their things were, it seemed, nowhere. Paperwork was endless. Birth certificates, reports, business documents; all had to be found immediately, if not sooner. Teachers needed information.

My youngest went to primary school, my foster son to the local Catholic school and the two older children to the local high school. My Year 11 son faced his battles with assimilation — the city boy who was different.

The children networked, as did my husband. Soccer club commitments quickly accumulated for children and father. Many soccer parents were nurses, teachers, lawyers, doctors, and other professional people. The conversations began and boundaries faded (but diplomacy was required).

As this case study illustrates, relocating a family from a metropolitan capital city to a rural town is stressful. Professionals at specialist level are often recruited from cities, and they face many challenges, as do their families. For example, they may not be familiar with the cultural norms and expectations in rural areas — the networks, support structures, acknowledged power relationships and communication processes. The overall stresses of living in an unfamiliar place can be compounded by the cultural norms and expectations; everyone seems to know one another, overlapping relationships are common, confidentiality boundaries and health indicators are different, and environmental changes are ever present. At the same time, rural communities may have difficulty relating to new arrivals. Without support, it is difficult for newcomers to fit in and become part of the community. If they do not become part of the community, they will not stay long. Engagement with community in the processes leading to recruitment and their involvement in retention strategies augurs well for welcoming community participation.



Case study 9.2 Blurring the boundaries

Thank goodness the weekend is finally here. It is Saturday afternoon. Ayesha is out in the garden getting the potatoes planted at last and I am working on my tax return. Our friend Vivien rings and we catch up. We have not seen her for sometime. She then enquires if Ayesha is home. I say yes and Vivien asks if she could pop round to show Ayesha the X-rays of her daughter, Robyn. Robyn had a fall some weeks ago she explains, and her wrist is not improving. I tell Vivian that Ayesha is working in the vegetable garden and she assures me it will not take long and she will see me shortly.

Vivien arrives with both the X-rays and her daughter. I alerted Ayesha to Vivien's impending arrival and she has come in from the garden and cleaned herself up. Ayesha has seen Robyn for other injuries in the past. After examining Robyn's wrist and looking at the X-rays, Ayesha arranges to see the girl in her rooms on Monday. We have a cup of tea and then they leave.

This case study reflects the tension in a small rural community when the need for 'time out' intersects with community expectations that 'you are always on call', often resulting in disruption to the health professional's family life (Hays 2002b, Bourke et al 2004). Although the notion of continuity of care can be seen as an advantage by some health professionals (McAllister et al 1998, Hays 2002b), this case study also demonstrates the difficulties that can arise when professional and social boundaries blur, particularly when friends may expect special treatment (Ballarin 2005). Perceptions of 'living in a goldfish bowl' are common, as are difficulties negotiating professional and social boundaries.



Case study 9.3 Improving connections

‘Whose turn is it to host the meal for the next specialist dinner?’

‘I think it's me — I'll check that my husband can do the cooking. Who would you like to invite to come and talk to us?’

‘Let's ask the dermatologist if he can talk to us about treatment of acne, eczema and psoriasis — I've had a lot of difficult cases recently.’

The specialist accepts and travels for an hour after work to talk to our local health professionals (doctors, nurses and other hospital staff) on skin conditions. He answers their general or case-specific questions. Then the whole group — the local team, their partners or spouses and the visiting specialist — adjourns for a sociable meal. Although there is some more ‘shop talk’, mostly we just enjoy being together away from work.

It was one of our nurses who came up with this idea. It works well and we run the sessions on alternate months, relying on the goodwill of specialists and spouses. Having an outsider come in to talk fulfils various needs for our health professionals; it provides them with relevant continuing education, interprofessional education sessions, a chance to get to know specialists and some social time together with colleagues. At the end of this particular evening, we thanked the specialist, and warned him about the corners and wallabies on the road for his journey back to the city.

This case study shows how rural health practitioners can be proactive in arranging activities that provide them with up-to-date continuing professional development, and an opportunity for off-duty socialising to network with specialists and other clinicians. At the same time, these activities can give the health workers’ partners opportunities for social interaction.

Access to professional development is recognised as critical to rural practitioners. Professional associations and discipline networks as well as team-based initiatives offer opportunities for continuing professional development. However, such opportunities in the bush have been said to be limited and this has given rise to increasing online, web-based teaching and learning sites such as Telederm, which offers rural GPs online advice on diagnosis and management of skin disease, and Kidney Check Australian Taskforce (KCAT) (Kidney Health Australia), which provides online learning for health professionals.

Discussion

Various themes thread through the case studies, raising specific issues and reflecting the diverse contexts in which health professionals and their families live and work. Despite the problems, many local and overseas-trained rural health professionals feel that the rewards of living and working in a rural community outweigh the disadvantages. Opportunities for innovation in professional and social contexts abound, despite

constraints. This section focuses on the main issues and on solutions, relating the issues back to the case studies where relevant.

Research on recruitment and retention often centres on health professionals' relationships with the rural environment in which they live and work. For example, it examines issues such as the effects of isolation, the lack of services, and the limited professional, occupational and educational opportunities (Strasser et al 1997, Wainer 2000). However, where solutions focus on needs of individuals and their families, or on the disadvantages of rural 'space', they often fail to critically examine the issue within a broader social context. By analysing the relationship between structural factors and social practice, it is possible to expand the parameters within which to view the problem, and consider innovative solutions. This approach offers a more nuanced understanding of the complexity of recruitment and retention by demonstrating how structural issues (eg gender relations and political and economic factors) affect the choices, actions and expectations of rural clinicians and their spouses.

Providing support

The financial and social costs of moving are often significant and may create a stressful environment. As illustrated by Case study 9.1, the process of packing a family home can be time consuming, and emotionally and physically exhausting. Children's education is another major issue for families moving to rural locations. Factors influencing the settling in process are often complex and varied, and children and their parents can feel 'new' for a long time.

Support networks are important in making the transition to a rural location easier. Opportunities for new arrivals to meet people occur in different contexts, such as the children's school, community organisations and groups, or the workplace. Rural communities recruiting health professionals can actively facilitate such opportunities by inviting new families to social events soon after they arrive. Developing friendships is an important indicator of satisfaction and retention of health professionals and their families in rural areas (Hays 2002b).

Employment for their partners is also important in recruiting health professionals, as is the availability of accessible and affordable child care.

Support can also come from health professional organisations looking after the interests of their members. The Divisions of General Practice offer regional support for GPs; Services for Australian Rural and Remote Allied Health (SARRAH) offer support for rural allied health professionals; and Council for Remote Area Nurses Australia (CRANA) and Australian Rural Nurses and Midwives (ARNM) offer support for rural and remote nurses.

As Case study 9.3 showed, local solutions that draw the health team together but provide external input can be successfully arranged. Bringing in an external specialist obviates the need to travel (which means that the 'on-call' doctor would not miss out) and improves relationships with specialists to whom rural practitioners might refer clients.

Spouse and family

While the rural practitioner may have access to support and ongoing training through professional networks, their families do not have these networks readily or structurally in place. Support for the family occurs in a more ad hoc informal manner. To increase the likelihood of recruitment and retention, policy makers and rural communities need to consider support at structural and local levels. For example, policies and local communities that support the social integration of parents and children may increase the likelihood of staying.

Self care

Provision of ongoing care to rural practitioners requires changes to medical culture. Currently, the inability to cope is considered an unsuitable trait in the health profession where illness is seen as acceptable for the patient but inappropriate for the doctor, and therefore often resisted or denied. Forward planning to ensure rural practitioners have their own GP can be more difficult in a rural area; but, locating a GP in another town and visiting regularly for check-ups, screening and preventative medicine is a sound investment. Calling on immediate colleagues would then be limited to emergencies. A service such as the Bush Crisis Line provides a 24-hour telephone service, seven days a week, and contact with trained psychologists for rural practitioners.

Changing medical culture

Rural clinicians and their spouses potentially have the choice and capacity to resist structural limitations that conflict with their own interests. For example, as increasing numbers of women enter the medical workforce, female GPs are challenging the convention of long and irregular working hours, which were made possible for male GPs by the wife's role as the main caregiver in the home (Pringle 1998). That conventional model is particularly evident in rural general practice. However, today's female GPs may also take on the role of main caregiver in the home, and many are calling for revised work practices that will allow them to achieve a balance between work and home life (Witz 1992, Pringle 1998, Wainer 2000). Ongoing education and support in the health and community sectors on the importance of equity will ensure that issues of gender and equity can be identified, and processes are put in place to deal with them.

The on-call requirements of rural doctors are often a disincentive for their urban medical colleagues to make the move to the country. Collaboration between professional organisations and rural communities to reduce the on-call commitment would benefit specialists. This could be achieved by sharing of specialists from other towns or by giving part-time work (eg on-call once a month) to urban-based specialists wanting extra work. Giving urban specialists a taste of rural practice in this way may encourage them to be willing to take up rural practice full time.

Setting boundaries

Case study 9.2 focused on the issue of the health practitioner's multiple roles within the rural community. Multiple roles are not necessarily negative, but it is necessary to be aware of boundaries becoming blurred; for example when friends may also be clients.

Health professionals who set boundaries that are clearly communicated to clients and friends may be more likely to have uninterrupted time off. Peer support, whether informal or formalised through local professional groups, is another useful strategy for debriefing and discussing other ideas to manage this issue. Community education can also develop realistic expectations of the demands placed on health professionals and flag the need health professionals and their families have for a work–life balance.

If there is an unavoidable doctor shortage, rearranging work practices to use interprofessional teams for triage with a doctor on the end of a phone or support from a nearby town, would avoid compromising patient care. Educating the community and encouraging them (as well as the doctors!) to take more responsibility for preventative medicine would decrease work loads and improve outcomes. The strength of rural communities is in the practical support they offer, such as transport and meals in situations of crisis.

The united nations of rural practitioners

As had been mentioned throughout this book, rural health practitioners come from many disciplines and from many cultures and nations. In addition to professional support, ie training and development and locum relief, and family support, rural practitioners also need cultural support and orientation to the rural communities and also, at times, to our Australian health system. Recruiting health services, agencies and communities need to consider how best to introduce and support health practitioners with a different cultural background. Case study 3.1 introduced the interplay between the community and the practitioner, with both benefiting from diversity and engagement.



Key points

These case studies have highlighted difficulties working in rural communities and offered solutions that can contribute to rural practice as a positive experience. The case studies also highlight the need to address the difficulties at a policy level, as well as locally, if recruitment and retention rates are to be improved.

Important issues facing rural health professionals and their families include:

- Isolation — this can be geographical, social, professional and educational; solutions include community support, specialist availability, distance education and formal supports.
- Community expectations — this includes the expectation that health professionals are always available; solutions include community education to change the culture and expectations, and provision of affordable locums.
- Needs of families — these include issues such as employment, expectations of gender roles, child care and schooling; solutions include community support, peak

bodies or local ‘champions’ to advocate for spouses, flexible employment opportunities, tax-deductible child care and travel.

- Needs of self — this includes issues such as work ethic, pressure of community expectation and lack of free time; solutions include education for health professionals and the community on work–life balance and provision of affordable locums.
- Multiple roles — these blur professional and social boundaries; solutions include orientation that empowers health professionals to say ‘no’, community education and provision of affordable locums.



Recommended readings and resources

- Alston M (2005). Gender perspectives in Australian rural community life. In: *Sustainability and Change in Rural Australia*, Cocklin C and Dibden J (eds), University of New South Wales Press, Sydney, 139–156.

Alston discusses the different power and gender relations and identities in rural communities. The daily life practices tend to result in a hierarchical gender division of labour. Inattention to gender implications of living in a rural setting implicitly supports a pervasive masculine dominance.

- Palmer G and Short S (2000). *Health Care and Public Policy: An Australian Analysis*, 3rd edition, Macmillan, Melbourne.

The authors locate health care in a political–economic context and analyse public policy in Australia and the roles and implications of public and private health care models. Different models of health care are illustrated with examples from Australia and overseas. The authors reflect on the dominance of a biomedical model of health care in Australia.

- Pringle R (1998). *Sex and Medicine: Gender, Power and Authority in the Medical Profession*, Cambridge University Press, Cambridge.

This book is based on a study of female doctors living in rural and urban locations in Australia and Britain. It explores the role of female doctors and the impact they are having in changing the traditional focus and culture of the medical profession, not least their preference for working flexible hours. Pringle argues that, as a result, medicine ‘is being called upon to restructure; effectively challenging the notion that medicine as an occupation requires a ‘vocational commitment, a readiness to be available 24 hours a day, seven days a week’.

- Tonts M (2000). The restructuring of Australia's rural communities. In: *Land of Discontent: The Dynamics of Change in Rural and Regional Australia*, Pritchard B and McManus P (eds), University of New South Wales, Sydney, 52–72.

Tonts examines the effect on rural communities of socioeconomic changes in the last 30 years, where government policies have shifted away from sociospatial equity towards

those emphasising economic efficiency. This has led to a withdrawal of essential services in some rural communities, often compromising the identity and survival of country towns. These changes have had a major impact on the lives and wellbeing of rural people.

- Wainer J, Strasser R and Bryant L (2005). Strengthening the rural medical workforce: understanding gender. Paper to the 8th National Rural Health Conference, Alice Springs, Northern Territory, 10–13 March 2005, 1–11, CD ROM.

Given the increasing numbers of women entering the medical profession (over 60% of the 2002, and subsequent, rural registrar intakes), the authors argue the need to address the implications of this trend on the rural medical workforce. This study further examines the identified need for a more accurate understanding of a gender perspective in rural medical practice. Findings showed that strategies for sustainable rural practice for men and women included developing and implementing practices supporting flexible working hours.



Learning activities

1. You are in a small rural town with only one pub. You are out for a social drink after knocking off when you see a patient (whom you know to have alcoholic liver disease and with whom you discussed just that morning the need to stop drinking) knocking back his fifth beer for the evening. As a medical student visiting the town on a rural attachment, what do you do? As the patient's GP, what do you do?
2. You are a health professional in a small town and are doing the shopping on Saturday morning. A patient corners you by the sliced bread counter and starts to tell you about their breathing problems. How do you respond?
3. You are the community nurse about to leave town for your first weekend off in three months. Just as you are about to walk out the door, your colleague rings and tells you she's sprained her ankle and can't drive to be on call this weekend. How do you respond?
4. If you were moving into rural practice, what would you be looking for in a rural community in terms of personal and family factors?

Section 3

Competencies for rural health practice

Marlene Drysdale and Siaw-Teng Liaw

This section concerns issues relating to competencies in the provision of rural health care, including providing health care for Indigenous Australians and for culturally and linguistically diverse Australians. A purpose of this section is to provide a guide to developing a clinically and culturally competent workforce that is useful and relevant in rural settings. Rural health professionals need a range of skills and attributes to provide safe and high-quality care that is culturally appropriate and culturally safe. This section will examine the challenges of clinical practice in small rural communities that have diverse population groups and are isolated from many specialist and highly technical health services.

Indigenous Australians generally have a lower life expectancy and the poorest health status of any group in Australia. They carry a higher burden of acute and infectious disease, as well as chronic illnesses such as diabetes, respiratory and cardiovascular disease. It is critically important that health professionals understand the history and impacts of colonisation and settlement, and the outcomes of Indigenous-specific policies (past and present). It is especially important to recognise the uniqueness and diversity of Australia's Indigenous population within geographical, historical, physical, social, cultural and language contexts. An understanding of these factors will assist in the development and maintenance of culturally secure health services and organisations, leading to the provision of health services that are culturally safe to patients. Cultural security training provides a framework from which to work effectively and respectfully with different Aboriginal and Torres Strait Islander individuals, communities and organisations.

An emerging challenge for many rural health professionals is working with diverse groups of people, such as refugees, who have special and divergent needs. Newly arrived refugees may be traumatised and isolated, speaking little or no English, awaiting legal outcomes of their status in Australia, and separated from other family members. Some individuals may also have illnesses requiring specialist treatment that is not available in a rural town. Access to culturally safe health services, provided by culturally competent health professionals, is critical for their health and wellbeing.

It is acknowledged that Indigenous Australians are not refugees or migrants and do not fit under the multicultural banner. This section will explain that there are many diverse groups in Australia and that the biomedical approach for health care is not the complete

answer. Training in cultural security will provide health professionals with the tools to become culturally competent practitioners.

A population approach is essential in rural health and primary health care. Health professionals must be supported to use available resources and expertise to form service networks to optimise rural health care. Electronic clinical information systems can enable the timely sharing of information and improve the safety and quality of care provided. The processes that rural health professionals use to access evidence for decision making are also examined.

Chapter 10

Ways forward in Indigenous health

Juli Coffin, Marlene Drysdale, Wendy Hermeston, Juanita Sherwood and Tahnia Edwards



Learning objectives

- Develop cultural skills for all staff working with Indigenous peoples.
- Understand the levels of cultural security for Indigenous staff working in organisations.
- Understand the need for cultural training of future health professionals.
- Recognise the diversity of the Indigenous population.
- Develop a practical understanding of cultural security in an Indigenous context.
- Understand the differences between cultural awareness, safety and security and apply this knowledge to a health context.

Introduction

The aim of this chapter is to differentiate between cultural security, safety and awareness, to demonstrate their importance in a health-service context and to give practical strategies for achieving and sustaining culturally secure services.

Cultural security is an essential component of health services for Indigenous people, yet it is largely misunderstood or ignored by health providers (Coffin 2002). What is cultural security? What does it mean to Indigenous people and how can health services and individuals help to create a culturally secure environment? Most of the existing literature considers cultural safety or awareness, but the discussion of security is limited (Williams 1999, Kearns and Dyck 2005). However, for many Indigenous people emotional and physical discomfort will result when cultural security is not an integral part of a health service (Aboriginal Stroke Project Steering Committee 2004, Reading et al 2005). This can lead to inadequate use of health services and, consequently, poorer health outcomes (McCormack et al 2001).

When providing a health service in a community, an awareness of cultural issues is just the start. To really be successful in improving Indigenous health, cultural security must be an essential element of the health care system. All health care providers, including doctors, speech pathologists, social workers, school nurses and dentists, need to provide a culturally secure service (Aboriginal Stroke Project Steering Committee 2004).

Health services may consider that they have a culturally secure service if they have Indigenous staff or an Indigenous liaison officer, or if they provide cultural awareness training for all new staff. In fact, such strategies are the bare minimum and stopping at this stage can create problems. For example, employing only one Indigenous liaison officer who is a female, not from the area and with no cultural connections in the area, means that she will not be able to fulfil all of the responsibilities of her role and will be isolated in the service, with no Indigenous co-workers to team up with. In reality, this health service does not have an Indigenous 'face' and Indigenous people do not have an adequate point of contact. Cultural protocol may stop her dealing with men's issues, yet she will be expected to deal with all clients by the health service.

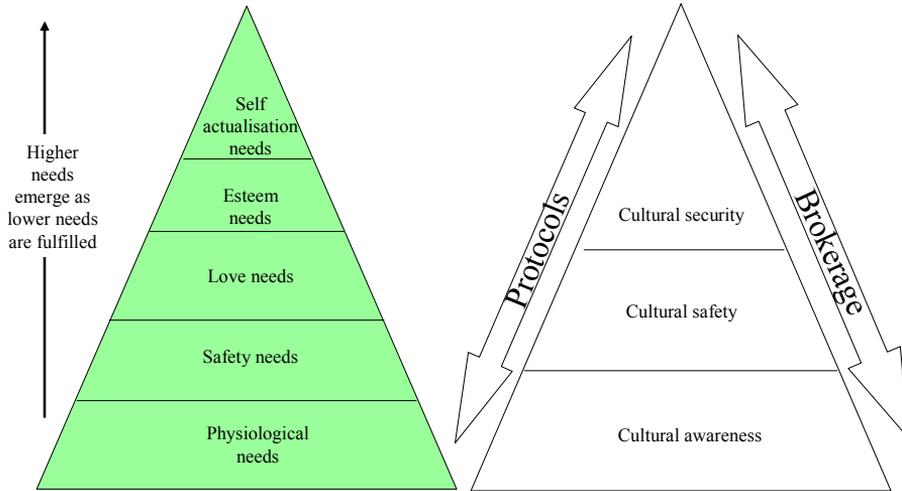
The large demand for training programs and other support indicate that health services are frustrated with their inability to create solutions to the issues when dealing with Indigenous clients. Fortunately, much can be done to address these issues and move towards a more equitable health service provision for all (VicHealth Koori Health Research and Community Development Unit 2004, Cunningham et al 2005).

Defining terms

Cultural security, or its absence, can take many forms. Many Indigenous people are desensitised to even very blatant racism. After a life of continual stereotyping, further negative or inappropriate treatment by the dominant culture often goes unrecognised, or becomes the norm in an Indigenous person's life. Because racism can become so internalised, many Indigenous people may not have the background or ability to explain to health care providers what they have felt or experienced.

Let's look at the distinction between cultural security, safety and awareness (see Glossary for definitions). These very commonly used terms are often quite inappropriately interchanged. The definitions and their practical applications presented here are the subject of dozens of training sessions delivered to health science students and rural health care providers. Cultural awareness and cultural safety are important foundations for the attainment of cultural security, and the first two levels must be addressed in order to progress to the next level (see Figure 10.1). According to Maslow's theory of self-actualisation (Maslow 1943), we cannot fulfil higher needs unless more basic needs have been met.

To illustrate these levels, consider the management of an eight-year-old Indigenous boy by a speech pathologist.



Source: adapted from Maslow (1943) by J Coffin

Figure 10.1 Comparison of cultural security and self-actualisation hierarchies

Awareness

I know that most Aboriginal people have very extended families.

Although the speech pathologist demonstrates a basic understanding of a relevant cultural issue, it does not lead into action. There is no common or accepted practice, and any subsequent actions will depend upon the individual and their knowledge of Indigenous culture and cultural security.

Safety

I am going to make sure that I tell Johnny's mum, aunty and nanna about his appointment because sometimes he is not with his mum.

Cultural safety involves health providers working with individuals, organisations and, sometimes, the community. More often, it consists of small actions and gestures, usually not standardised as policy and procedure.

Security

I am going to write a note to Johnny's family and ask the Aboriginal and Torres Strait Islander Health Worker to deliver and explain it. I will check with the Aboriginal and Torres Strait Islander Health Worker to see if any issues were raised when explaining the procedure to the family and if transport is sorted out. I will ask to see if Sylvia (the Aboriginal and Torres Strait Islander Health Worker) can be in attendance at the appointment as well.

Cultural security links understandings and actions directly. Policies and procedures create processes that are automatically applied from the time that Indigenous people first seek health care.

Another practical application of the three levels can be seen in the organisation of waiting rooms. Awareness could simply mean recognising that sometimes, depending on the protocols, Indigenous men and women do not wish to be grouped together in the same room. Safety would mean that two exits are provided and two different rooms are used for such purposes. In a culturally secure service, male and female doctors and appropriate staff would also use two rooms for the treatment of clients. Without the establishment of some awareness in a health context, it is hard to appreciate what safety and security in a cultural sense would look like. This does not mean that it is necessary to know all about men's business, but if a practitioner is treating an Indigenous man, it is necessary to know who to ask for urgent information about appropriate care.

Cultural security is the hardest to achieve; but, if the foundations are good, security can be provided and will be easy to maintain. Security can be strengthened by community engagement in service provision decisions such as appointment of staff, training, job descriptions, and protocols. It means that there is a definitive compulsory action when an Indigenous person is transferred from one hospital to the next, or when someone dies in hospital. Cultural security means that there is a definite point of contact and that actions are well established. It should not matter if the health service is manned by temporary staff. No matter who is in the health service, they will know that these are the procedures to follow.

Achieving and sustaining cultural security

One of the biggest issues in Indigenous health is stereotyping and media depiction, which is often negative. This means that everyone comes to the table with preconceived ideas, even if they have never actually met an Aboriginal or Torres Strait Islander (Williams 1999). For example, at a health service it may be common practice for men to only see a male doctor. A new staff member may think that this is peculiar, but with cultural awareness he or she will understand why this practice exists and will be in a better position to ensure that these culturally safe practices continue.

In addition to improving the foundations of awareness and safety, two more elements must be developed to achieve and sustain cultural security: brokerage and protocols. If there are links between these elements and the process of achieving cultural security, it is much more likely that appropriate and sustainable security will be achieved.

Brokerage is a mechanism by which awareness of successful and safe practice can be deepened. It involves two-way communication, where both parties are equally informed and equally important in the discussion. Communication and respect are of the utmost importance (Sinnott and Wittman 2001, VicHealth Koori Health Research and Community Development Unit 2004): values and ideas are not pushed, but considerations from both sides are regarded equally. Good brokerage is a key ingredient in cultural

security and it must be developed with the Indigenous community. It is the way to build faith and trust. One of the largest components of brokerage is listening and yarning.

Health services need to recognise that Aboriginal and Torres Strait Islander Health Workers and Elders in the community are the health system's greatest resource. Even if there are no clearly identified Elders in the catchment area, there is always someone of respect with whom health care providers should consult if they want to create an equitable and appropriate program or service.

Protocols are strategies that can take a culturally safe practice and make it a culturally secure one (VicHealth Koori Health Research and Community Development Unit 2004, Westwood 2005). Protocols formalise the need, in an Indigenous context, for health care delivery and programs to be done in consultation with the Elders and key stakeholders within the particular community (or context). The right people will generally support many of the processes by advising on the correct guidelines for community engagement. For example, in one community, after talking with an Aboriginal and Torres Strait Islander Health Worker, a group of midwives discovered that the older Indigenous women were the ones to speak to in relation to young pregnant women. Subsequently, whenever issues arise with young mothers, there is an established point of contact with the older women first — thus an assurance is created for cultural security. Community leaders are made aware of the situation and are involved. Community participation can then make progress beyond mere 'involvement.' Communities become partners in an equitable, culturally secure provision of service. This is the pathway to cultural security.

Measuring cultural security

All health care providers must know what cultural awareness, safety and security is, and have a practical understanding of how it is maintained through appropriate brokerage and protocol (VicHealth Koori Health Research and Community Development Unit 2004). The first step to achieving cultural security is defining and standardising the language to reduce confusion. Then, people can plot themselves or their health service along a continuum as a basis to either move forward or maintain the same level of cultural security, if it is deemed to have been achieved. This basis is a starting point for everyone involved, including community and health service staff and other health professionals.

If we were to draw a scale (Figure 10.2) and ask health care providers and health services to honestly plot themselves and their services along it, few would consider themselves to be at the end point of sustainable cultural security. However, using the scale to think about their place and where they want to be can be an important first step to change.



Source: Coffin

Figure 10.2 Cultural security scale

The concept and attainment of cultural security is extremely important and must be understood in every workplace where staff come into contact with Indigenous people. Cultural awareness alone does not lead to better health care (Westwood 2005). Indigenous people need to be clearer in defining what is expected of the health care provided for them and be united in voicing support for actions to bring about the creation of a more equitable health care system. Indigenous people are sometimes employed in health areas, but may not be heard (Westwood 2005). Health services need to listen to the Indigenous community and the community needs to be clear about what it wants.



Case study 10.1 Cultural security

On several occasions at a rural hospital, an elderly Indigenous man with chest pains presented, accompanied by his family members. This occurred mainly in the quiet hours of the early morning, on week nights. The daughter of the man carried a small child and several other children were running around the accident and emergency waiting area. The man in question went in to see the nurse for the third night in a row. However, the nurse on duty was different from the night before and the man had to explain his story over again.

This was frustrating to him as English was his second language. The issues were discovered to be of a very personal nature and the nurse checked him out thoroughly, and admitted him immediately. Half an hour later when the ward clerk went to check on the man's status he had left the building. The man never returned again.

Discussion

The man in the case study was a very well-respected Elder. His treatment was not only inappropriate but also repeated three times. The admission process was the final straw. The man's daughter came in to the hospital the following day, appalled at how her father had been treated. She was at no time asked questions regarding his health, language preferences or history, yet she had presented with him three times when he had chest pains.

The saddest thing is that the hospital staff were following what they thought was the right course of action. Interpretive services, Aboriginal liaison officers and Indigenous nursing staff would have been able to support the man's journey through the hospital — even his own family members were there to be included. There was no security for Indigenous people in the hospital. His treatment was gender-inappropriate, yet male doctors were working on the night of the man's admission. Even the admitting procedures were culturally unsound as the man did not understand the seriousness of his symptoms, the health issues related to his symptoms or why he was being admitted to the hospital.

To ensure cultural security, the most useful questions could have been asked at the appropriate times, including which health practitioner the man would have preferred to see and talk to. Staff could have spoken to the daughter in private and asked her some of the questions that the man was finding difficult to answer.

Cultural security is a set of prescribed actions and reactions to someone of another culture. It is not a hard road to take, but it requires a really good map. When it works correctly, the journey is enjoyed by all.



Case study 10.2 Leaving the bright lights

This case study describes the experiences of students who chose to attend a week-long cultural immersion program within an Indigenous remote community. They were told that the week did not only include working within the health care system; students were required to take part in all the activities organised by the local community (Palmer 1997, Teubner and Prideaux 1997). At the briefing session, it was pointed out that the week was to be a cultural learning experience, not a holiday, and certain protocols of respect, dress code and recognition of the role of a visitor were explained.

Throughout the program, students were challenged both culturally and clinically with a series of impromptu emergency scenarios that highlighted the difficulties of dealing with the needs of clients in a remote area. The program also highlighted the need to develop skills other than clinical skills, in order to be able to treat a patient in a remote setting. The responses of the students ranged from positive to negative, with the latter feeling unexpectedly inadequate in dealing with medical emergencies in the bush.

Students visited a bush clinic where the community nurse who had practised for 30 years cared for approximately 80 residents. She pointed out that 70 people in the community suffered from diabetes at varying levels. She challenged the students about how to improvise in the bush without medicines or other supplies, an unreliable telephone, no flying doctor and with the nearest hospital 120 km away (if the road is open). This demonstrated in a practical way the knowledge and innovation required to work in remote Australia.

Back at the campfire, students heard stories which allowed time for them to ask questions or reflect on the day's learnings. Students' comments included:

'To be able to experience the history of the Indigenous culture has given me an understanding and awareness of the health issues that may be present in Indigenous people.'

'This was a fun, educational and effective camp. I learnt heaps, enjoyed myself and met new people and it has encouraged me to work in Indigenous health in rural or remote places.'

Discussion

Developing an understanding of cultural security in medical and nursing students can be viewed as an aspect of social responsibility (Jamrozik 1995, Palmer 1997). Providing opportunities for medical and nursing students to experience first hand the health conditions, and the lack of resources and access to health care experienced by Indigenous people living in rural and remote Australia, is of critical importance (Garvey and Hazell 1997, Palmer 1997).

Students experienced a different cultural setting and teaching methods that provided them with a rare opportunity to step briefly into an Indigenous worldview (Jamrozik 1995, AMC 1998).



Case study 10.3 Community checklist and researcher protocols

You have accepted an offer of a clinical placement in a rural area, where you have been invited to gain research skills working on a research project. It is a large case-control study to implement an intervention relating to smoking, targeting Indigenous adults from a number of communities across the region.

You meet Carmel, who is also a junior researcher and the sole Indigenous investigator in the research group, at your first team meeting. During the meeting, the project proposal, study design and project personnel are discussed. Carmel's ideas include extensive consultation in each of the respective community research sites and that the group should take a capacity building approach to the research by training community people to help implement the intervention. This would improve the acceptability and cultural security of the research in the communities. You notice that the chief investigators listen respectfully, but don't take Carmel's ideas on board because they seem to be 'too hard' and would take 'too long' to implement. You are still new to research, but you feel unsettled as you think what Carmel says makes sense. What can you do?

Discussion

If researchers ever wonder why there is such resistance to the concept of research amongst Indigenous people, they needn't look back very far. Communities have watched as processions of researchers from a range of fields have bowled in, measured heads, checked teeth and recorded language and customs, only to take that knowledge and leave, never to return and never to give back (Humphery 2000). Over generations, suspicion of researchers has developed, resulting in communities often feeling they have been 'researched to death' (Atkinson et al 2002).

This is a shame, because there is much the modern researcher has in common with Indigenous communities. Mainstream health research is driven by problem resolution through the scientific process; Aboriginal and Torres Strait Islander communities also want to solve the urgent, persistent health crises. However, rather than having methodological rigor, track record and research outcomes as the focus, as one senior Indigenous health professional has put it:

Aboriginal people are more focused on the process than on the outcome.
(Humphery 2000)

There is a good chance of bridging the gap between competing priorities if solid, trusting, equal and sustainable partnerships with Indigenous stakeholders are built up from the conception of a research project through to the dissemination stages (NHMRC and CHF 2002, Couzos et al 2005). Quality research that engages stakeholders and communities

can help improve the health problems faced by Aboriginal and Torres Strait Islander people, particularly if it is of practical use in addressing priority needs and offering a methodology that fills a gap (eg assessing interventions and their transferability) (VicHealth Koori Health Research and Community Development Unit 2000, Sanson-Fisher et al 2006, Thomas and Anderson 2006). In other words, a good process will lead to good outcomes:

Community-based research can be of a high scientific standard without compromising the values and principles of those being researched. (Couzos et al 2005)

Early career researchers can be in a difficult position if they sense that something is not right with a project. In Case study 10.3, you do have a responsibility to confer with a co-worker like Carmel and speak up to the other investigators. In return, they should be compelled to take Carmel's suggestions on board and to act on her (and any other junior colleagues') concerns.

A practical step towards avoiding potentially damaging scenarios like the one described in Case study 10.3 is to follow a set of research protocols. If this is done, as in any good systems management process, the maintenance of cultural security in a research project will not depend on any one individual reacting each time an issue arises.

Protocols for Aboriginal and Torres Strait Islander health research can be drawn from existing documents (eg Aboriginal Stroke Project Steering Committee 2004), or a research team may wish to develop their own guidelines. Either option should always be set up under the direction of the researchers' local Indigenous communities, stakeholders and colleagues. This will ensure that the research is done in a culturally secure way from beginning to end. There are a number of excellent examples to guide researchers in how to go about compiling Indigenous health research protocols (Eades and Read 1999).

Another means of ensuring cultural security in research is to support local Indigenous people to create, through a consultation process, their own local community health research checklist. Similar to protocols for researchers, a checklist is a practical tool, but it is owned by local communities and community organisations, and facilitates their making of informed decisions about participating in research when they are approached by researchers.

Whilst it should be flexible and deal with projects on a case-by-case basis, a good research checklist can identify what overall standards the community should expect from research. It should also describe what ethically, culturally and methodologically sound research with genuine objectives looks like (Eades and Read 1999, VicHealth Koori Health Research and Community Development Unit 2000).

For example, the Kimberley Land Council (KLC) Executive set out a number of questions when they were approached by a researcher who was asking the KLC to support a project on local Indigenous community development issues. These questions provide a simple, but wise and all-encompassing framework that is still relevant for communities investigating the appropriateness of individual primary health care research

projects. As a final safeguard, protocols developed by researchers may be based on the community checklist.

A health research checklist (modified from Kinnane 2006)

1. What will the research bring to the people/community?
2. What will we as researchers take away from the community?
3. Will we train and employ the community's people to do the research?
4. How will the community know if what we are talking about will help them?
5. What committee will steer the researchers?
6. Who is the report of the research findings for?
7. Who will look at it or use it?



Case study 10.4 Research involving Indigenous Australians

The project involved the training of health staff to undertake a new diagnostic procedure, and introduce it to the health services at several Indigenous communities. The overall aim of the project was to establish acceptance and utilisation of the procedure by clients, and achieve appropriate follow-up and subsequent good health care outcomes for those clients.

Evaluation was an integral part of the project, to assess whether the aims of the project had been met. However, the evaluation was instigated as a research project, without any community involvement or consultation with the Indigenous communities or their representative bodies. This lack of consultation had a negative impact on the project as a whole, and reduced the uptake and utilisation of training opportunities. Once the communities, health services employees and other respective organisations were consulted, the barriers to successful training and subsequent implementation of the new procedure were overcome.

Discussion

Some Indigenous people involved viewed this research project with frustration; however, this perception shifted through the input and engagement of a research team that included two Indigenous academics that came on board at a time when the project had reached a stalemate. Their role was critically important in shifting and changing the focus and process of the project, making it a culturally secure and beneficial strategy. This was done through the engagement of Indigenous participants in the evaluation of outcomes, and led to acceptance by the communities involved. There was, however, a lack of acknowledgment of the Indigenous participants' involvement in the project and their role in facilitating the required change in documents related to the project. This is unacceptable.

Importantly, the Aboriginal and Torres Strait Islander Health Workers who received training were also involved in the research consultations, planning and evaluation processes. They felt safe and empowered to undertake research training, so that they could make the evaluation activities meaningful to themselves, their culture and associated values and beliefs, and the communities.



Key points

- Health services need to listen to the Indigenous community and the community needs to be clear about what it wants.
- Indigenous people need to be clearer in defining what is expected of the health care provided for them and be united in voicing support for actions to bring about the creation of a more equitable health care system.
- It is important to understand the differences between cultural awareness, safety and security and apply this knowledge practically in a health context. A practical understanding would be this description:

In a culturally secure environment, the individual feels ‘culturally safe’, the health professional is ‘culturally competent’ and the service provided is ‘culturally appropriate’. The health services organisation that meets the benchmarks for cultural safety and cultural appropriateness is ‘culturally secure’.

- Central to cultural security is brokerage – a two way communication where both parties are equally informed, equally respected and equally important in the discussion.
- Cultural security processes include brokerage, protocols and resource allocation to embed cultural security in organisations and health systems in a sustainable manner.
- Specific cultural training is important to equip professionals with a recognition of their own culture and cultural safety requirements as well as to equip themselves with appropriate cultural skills to interact competently and appropriately with Indigenous colleagues, staff and consumers.
- It is important not to stereotype people and to treat each patient/client as an individual person.



Recommended readings and resources

- AITSIS (Australian Institute of Aboriginal and Torres Strait Islander Studies) (2000). *Guidelines for Ethical Research in Indigenous Studies*.
http://www.aiatsis.gov.au/__data/assets/pdf_file/2290/ethics_guidelines.pdf

This is an essential document for people wishing to undertake research involving Indigenous peoples. It concerns them sharing an understanding of the aims and methods of the research, and sharing the results.

- Humphery K (2000). *Indigenous Health and 'Western Research'*, Discussion Paper 2, VicHealth Koorie Health Research and Community Development Unit. http://www.onemda.unimelb.edu.au/docs/DP2_KimHumpheryFINAL.pdf

This paper documents and discusses the conduct and process of Australian Indigenous health research and its reform over the past two decades. It outlines what both Indigenous and non-Indigenous writers have argued in their endeavour to raise questions about the methods, process, priorities, ethics, use and usage of the now large and ever-increasing body of work inquiring into Aboriginal and Torres Strait Islander health issues.

- Smith JD (2007). *Australia's Rural and Remote Health, A Social Justice Perspective*, 2nd edition, Tertiary Press, Melbourne, 18–37.

This publication provides real insight into the rural, remote and Indigenous health landscape, using story-telling techniques, historical accounts and real-life experience.

- Williams R (1999). Cultural safety — what does it mean for our work practice? *Australian and New Zealand Journal of Public Health* 23(2):213–214.

An article which discusses the issues of cultural safety in our work practice.



Learning activities

1. What impact does history have on the health and wellbeing of Aboriginal and Torres Strait Islander people?
2. How would an understanding of Aboriginal and Torres Strait Islander culture and protocols help you to deliver culturally secure health care?
3. How would an understanding of Aboriginal and Torres Strait Islander culture and protocols help you to undertake culturally secure research?
4. Reflect on the availability of resources in a remote Indigenous health service and how you, as a health professional, would work in this environment.
5. Describe how working as a health professional in an Indigenous community may challenge your beliefs and values.

Chapter 11

Rural clinical practice: a population health approach

Jeffrey Fuller, Sue Page and Jonathan Newbury



Learning objectives

- Describe how different health workers can use available resources and expertise to form service networks for optimal rural health care.
- Understand and describe the impact of distance on rural clinical practice.
- Describe how electronic data systems allow health workers to share information and improve client safety.
- Identify the processes that rural health workers use to access evidence for decision making.

Introduction

While clinicians strive for holistic health care by considering the client in the context of their community, a community or population focus is particularly evident in rural situations because the community is outwardly quite visible. A rural community will usually have a discrete population defined by the borders of a town or a geographic region. Rural community social networks will be influenced by the distances that people have to travel and topographic barriers, such as rivers and mountains, and these geographic features, combined with smaller population size, mean that local people are more likely to know each other socially and professionally. In an urban environment the physical boundaries of a community are indistinct. People in larger and more densely populated communities can travel to a range of different locations for school, work and shopping and so lead more anonymous and less socially connected lives (Putnam 2000). These differences may be superficial; what might appear on the surface as one rural community may reveal considerable differences underneath, particularly in occupational and cultural norms.

While rural populations may live in more visible communities, rural workforce and infrastructure shortages can jeopardise a population focus in health care servicing by the

simple need to react to the problems of today as individual clients come through the door. In this chapter, we will cover four points that are relevant to the provision of high quality rural health care. These points provide a basis for determining a clinician's role in a population health model, where health care:

- occurs through a network approach using the available human resources and expertise, both from within and from outside the local area
- takes account of the impact of distance and workforce shortages on rural clinical practice
- is guided by the application of clinical decision making, informed by the best available evidence
- is mindful of the antecedents, duration and aftermath of the health care issue rather than just the presenting symptoms.

The following case studies illustrate the impact of the rural environment on the population focus of rural health care.



Case study 11.1 Complementary workloads: sustainable obstetric services through sharing procedural expertise

Mercy is 28 weeks pregnant with her third child when she hears from one of the midwives that the local hospital is considering closing their maternity unit due to workforce shortages. She arrives to discuss her options. The unit delivers around 120 babies each year, but last year one of the two GP obstetricians retired and now Dr Ahmed is feeling the strain of being continuously on-call.

Mercy's first two pregnancies were uneventful, although her youngest child was born after only two hours labour. The next nearest hospital is 245 km away which means she wouldn't be able to wait until the onset of labour to start driving. She has no family in the next town and can't afford to stay in a hotel until the birth, so she might need to consider living in a caravan park with her two preschool children for the last four weeks of her pregnancy. The baby is due in the middle of harvest season, so her husband won't be able to stay with her, nor will he be able to drive to be with her in time for the birth.

Discussion

Health care has always relied on a range of health professionals from different disciplines making their respective contributions. In a rural environment where specialist and procedural resources tend to be scarce, there is a great imperative to work as a team with flexible role boundaries.

Antenatal care is usually provided by GPs, many of whom do not deliver obstetric services but 'share care' with midwives and GP obstetricians in neighbouring centres. Midwives will often be highly experienced registered nurses with qualifications in both general and midwifery nursing, often also with emergency and paediatric training. This

allows them to work in other sections of the hospital if not required in the maternity unit. They will call the GP obstetrician for supervision and for management of complications, such as those that require caesarean section or forceps delivery. The GP obstetricians (and GP anaesthetists and paediatricians) often work as generalists on their normal shifts, and out-of-hours may provide procedural cover for a wider region than their own general practice. Several towns with GP obstetric services may, in turn, rely on the backup of a regionally-based specialist who provides local or outreach services, or on retrieval services to transfer clients to more distant specialist units when needed. The outcome hinges on good communication between all clinicians, with a clear understanding of when and how transfer of care should occur. Quality assurance means the team must share data, monitor outcomes with regular audit of results and reviews of protocols and transfer processes, and be involved in continuing professional development.

Challenges for the learner and teacher

1. When examining case-matched data, do rural obstetric units meet expected quality and safety outcomes? (Hint: read the article by Tracy et al 2006)
2. How might the closure of a procedural unit also impact on recruitment and retention of general health workforce to a region? (Schofield et al 2006)
3. Might the closure of local birthing units have special significance for Indigenous women? What might be some unintended consequences for accessing antenatal care?
4. How do retrieval systems like the NSW Newborn & Paediatric Emergency Transport Service (NETS) operate?
5. If the unit is unable to attract medical workforce, what alternatives might be possible in a rural setting? How might clinical teams that are geographically disparate maintain the good communication and shared standards that are essential for service quality?



Case study 11.2 Impact of distance on rural clinical practice

Katanya is a 53-year-old Indigenous woman living in a small community about one hour from Basseterre, a town of 7000. The Basseterre Aboriginal Medical Service provides an outreach service two days a week, which Katanya attends irregularly for her chronic renal failure, secondary to poorly controlled diabetes and hypertension.

She has been recently hospitalised with pneumonia, having presented with a two-day history of acute shortness of breath with fever and cough. X-rays had revealed almost complete white-out of one lung. During her first 24 hours in the local hospital, she rapidly deteriorated and required intubation and transfer to the intensive care unit at the base hospital four hours away. She remained ventilated for three days before making a slow recovery.

The entire family were very anxious during the admission and Katanya was distressed to be so far from home. She now attends your practice with her daughter, wanting your advice on how to avoid readmission.

Discussion

Rural populations will generate a varied case mix of acute and chronic conditions that require a wide range of ‘round the clock’ specialist medical, nursing, and allied health services. Yet, many rural towns are too small to create sufficient work to occupy the number of health providers and clinicians needed to meet their diverse needs. Some clinical skills may be too highly specialised to offer an efficient service in a rural setting, or there may be structural limits including the cost of equipment (such as dialysis machines or ventilators). A key feature of rural practice therefore is the need for multiskilling, and for mechanisms that allow team members to be geographically dispersed, but able to combine efforts to meet the community needs.

While some transfers to a tertiary hospital can be planned in advance, there will always be events where acute stabilisation and treatment within the ‘golden hour’ must occur in the local setting. This is particularly true in regions too remote for timely road transfer, and where air transfer may be limited by access to a suitable landing strip (with lighting after dark), by the distance a helicopter can travel before refuelling, prevailing weather conditions, or by the client’s clinical condition (such as pneumothorax following chest trauma).

Primary health care initiatives over recent times have led to funding and staff arrangements to address some of these structural factors. For instance the Enhanced Primary Care (EPC) program now pays GPs through a Medicare item number to jointly develop health care plans and attend case conferences with other health professionals. Evaluation of the early years of the EPC program showed that there was a steady uptake of these funds by GPs, although more for the writing of the GP management plans and health assessments than for case conferences and team care arrangements. This may in part be due to the difficulties of having several clinicians able to dedicate time simultaneously (Wilkinson et al 2002). However, clear and timely referral and feedback letters have also been found to support effective health care planning between health professionals (Fuller et al 2004). The Australian Government-funded More Allied Health Services (MAHS) enables Divisions of General Practice to target particular regional allied health professional shortages and employ staff to work alongside GPs, while the Home Medicine Review program facilitates the involvement of the community pharmacist.

Challenges for the learner and teacher

1. What clinical features did Katanya have that are likely to have triggered her transfer to a larger setting?
2. What types of professionals might now need to be involved in Katanya’s care? Which ones are likely to be located in a town like Basser?
3. Assuming her care is provided by a number of different health professionals across multiple sites, how will the team determine their roles and responsibilities? What aspects might need to be considered to promote good working dynamics?



Case study 11.3 Electronic clinical data systems

A successful general practice was best known for the care of all generations within each family and the procedural skills of the traditional rural GP. A young doctor is recruited to the practice to help with the workload as the partners get closer to retirement. He encourages the office staff to buy a computer for the receptionists to manage the practice billing more efficiently. Initially the staff are overawed by the amount they need to learn to use the computer, but they soon appreciate the impact that it has on their work. Next, the typist wants a computer on her desk so she can change from typing letters from dictation to listening to audiotapes, and word-processing letters, and the receptionist uses the computer for appointments.

At a staff meeting, the idea of computers on the GPs desks is raised. They can see their appointment list on the screen and could now move to printed prescriptions which would automatically generate the correct pack size and number of repeats. Having invested in computers on each desk, they could start typing their own medical record during the consultation. One of the older GPs resists this change and continues to write everything on paper records. Some of the clients say ‘... the doctor is looking at the computer more than at me’.

Gradually changes happen and the medical practice records all its medical and administrative data in a network of computers. Referral letters are generated directly from the consultation notes and the clients take them to their specialist appointments. Imaging and pathology orders are printed onto specific stationery during the consultation, but reports are received electronically into the medical record. The GPs cover out-of-hours emergency in a shared roster with the only other practice in town. The practice medical record now makes it so easy to store and retrieve information that the GPs dislike the paperwork in hospital accident and emergency departments. The practice staff have become very quick at using the scanner as paper replies from other health professionals arrive every day that need to be stored electronically in the record.

What are the next progressions in the paperless medical practice?

Discussion

Clinicians who work in rural settings generally do so in individual private business or hospital, community health services or Indigenous medical services, often without standardised application of information systems. Government incentives for small medical practices to change to electronic data systems arose because of the advantages in client safety through linking prescribing histories to known adverse events and disease interactions.

Electronic client records now include history, examination, diagnosis and management. Systems include electronic receipt of pathology and radiology results. X-rays are recorded, viewed and reported electronically by radiologists, and reports arrive as email and are checked and stored electronically. This means that for receiving information, distance from the laboratory (such as for a rural clinician) is no longer an issue.

Computerised prescribing is time-efficient, because it allows multiple regular medications to be printed simultaneously, while still allowing doses or brands to be changed. Medications will be automatically sorted on the screen into 'regular' medications (eg perindopril) and 'once only' medications (eg amoxicillin). Restrictions on medications, such as authority requirements, are automatically listed with each prescription, while links to medication guidelines (such as for antibiotics) reduce inappropriate use. Client use of medication can be monitored through compliance checks against prescription timing, allowing early intervention for chronic conditions, such as diabetes, where treatment regimes must be closely matched to diet and lifestyle changes.

For clients or health professionals who travel between practices, there is still the problem of transferring information between clinicians in a timely and confidential fashion. Some health services resort to printing out a paper summary that can be carried by the client or posted. Increasingly, information is electronically transferred via encrypted files or virtual private networks between members of an interprofessional team, and between hospital and community settings. The benefit of centralising client clinical information through one electronic record is improved accuracy in sharing this information. This will be valuable for people who need to travel between health care services (rural people) and for people who have difficulty accessing regular follow-up, such as those with mental illness and the homeless. Systems linking multiple data sources are working effectively now, but could be improved. A patient-held electronic 'smart card' record, to which all health providers are able to read and write, is technically possible but still only in trial.

In addition to improved client safety, electronic data systems enable collation of de-identified health service data at a clinic, town or regional level. This means that more informed decision making can be made about what sort of health education and support programs are required. For instance, by recognising a change in the proportion of clients presenting with chronic diseases, such as diabetes and mental health, instead of acute physical conditions, a clinician can identify the need for expanded primary health care teams and the importance of an interprofessional response to complex presentations. The opportunities and limitations of using GP practice records for service planning and research are discussed in Chapter 14, eHealth, eLearning and eResearch for rural health practice.

Challenges for the learner and teacher

1. The practice staff seem happy with the new technology but a lot of energy is going into training, backup and fixing daily problems. What are the gains and losses for both the staff of the practice and the clients as the traditional practice adopts computerisation?
2. What are some of the potential issues that would arise if a patient-centred practice also wanted to contribute to and use statistical data on local health service use?
3. Would you recommend implementing a patient-held smart card medical record for a community? If so, why and if not, why not?



Case study 11.4 Access to evidence for decision making in the rural environment

Sunshine is a rural town of 13 000 people in a pastoral district located 800 km from the state capital city. Data from the Australian Bureau of Statistics show that 13.3% of the population are aged over 65, which is just a little higher than the national average of 12.6%. The proportion of Indigenous people in the town is twice the national average (4.8% compared to 2.2%).

Bronwyn is a physiotherapist at the Sunshine Community Health Centre. Mrs Wilson has been referred to her for a health assessment following a fall yesterday. Mrs Wilson is a 72-year-old Indigenous woman who lives alone. She suffered considerable bruising to her hip as a result of the fall, but no other injuries. Bronwyn recently heard about hip protectors and wants to find out more about them to see if they will be suitable for Mrs Wilson.

Discussion

The increased use of technology and the proximity of academic departments of rural health are making rural clinicians less isolated from timely information and support. Textbooks and journals are available online, and web links to clinical guidelines and decision-making software allow evidence-based approaches to be used within a client consultation. For instance, unfamiliar minor procedures can be reviewed using tools in either paper or electronic format, or can be web-streamed, while computerised clinical tools range from simple diagrams to depression and dementia rating scales. Client information handouts, self-help sheets and support group resource lists are now also common features of standard clinical software.

Increased access to these information technologies, as well as assistance to search for and synthesise evidence, has been strengthened in the last decade in Australia by the development of an academic infrastructure in rural health. By providing evidence-based skills training as well as joint clinical and academic appointments in research and education, the University Departments of Rural Health and Rural Clinical Schools have increased local capacity to use and apply evidence. In addition to these rural academic departments, the health profession colleges and associations provide resources such as specialised library and database access tailored to the evidence needs of their members.

To establish the risks to Mrs Wilson of further falls and subsequent injury and to incorporate best practice into Mrs Wilson's care, Bronwyn and her colleagues at the Sunshine Community Health Centre have access to a range of resources. The most widely known, comprehensive and trusted database on evidence in health care is the Cochrane Library, which is freely available to Australian users. Searching on this database will provide (in less than 15 minutes) a summary of the best evidence on the effectiveness of hip protectors as well as other evidence on falls and falls injury prevention strategies. The Royal College of Nursing Australia has a web-based (members only) and CD-ROM Falls Prevention and Assessment Education Program available. Additionally, the Royal Australian College of General Practitioners has access to a library that will conduct literature searches for members. There are also evidence-based databases for allied

health, such as for physiotherapists (PEDro) and occupational therapists (OTSeeker). Specific falls risk assessment software developed by academic departments are available online. One such application is the Falls Risk Assessment and Management System (FRAMS) available at <http://www.falls.unimelb.edu.au> (Liaw et al 2003).

Challenges for the learner and teacher

1. Access the Cochrane Library and establish what information Bronwyn may be able to gather about the use of hip protectors for Mrs Wilson.
Clue: Search the Cochrane Library on Reviews by Topic ‘Bone, Joint and Muscle Trauma’, ‘Hip Fracture’, ‘Prevention’.
2. What are the established extrinsic risk factors for falls and falls injury in community-dwelling older adults? Based on this evidence, what other health workers aside from Bronwyn would you recommend be involved in a plan of care to reduce Mrs Wilson’s risk?
3. Using the three headings ‘using evidence’, ‘available workforce’ and ‘cultural issues’, brainstorm a list of factors that you think might positively and negatively influence the capacity of Bronwyn to organise best practice team care for Mrs Wilson.

Population preferences to improve health care services

If clinician’s work with individuals who want treatment is conducted in an empathic and perceptive way, then the closeness of one-to-one contact can provide insight into the wider health issues experienced by that individual in their community. Taken collectively across all client contacts, the clinician will have considerable knowledge about many of the health care needs in the local population (Baum et al 1998).

While there are various schematic representations that scope population health work, two early and clear descriptions applicable to clinicians are the Ottawa Charter for Health Promotion (WHO 1986) and the Community Development Continuum (Jackson et al 1989). Both are used in Table 11.1 (below) to illustrate a response to the mental health of farmers and the scope of population health work in which a clinician can engage.

Table 11.1 Schema to promote a population health focus for clinical practice

Community development continuum	Ottawa Charter for Health Promotion	Mental health
Developmental casework	Develop personal skills	The GP in Sunshine provides medication management and cognitive behaviour therapy counselling to a middle-aged male farmer experiencing depression as a result of continued farm financial problems because of the drought.
Mutual support	Create supportive environments	The GP approaches the social worker at the local community health centre to see if a forum could be established for drought-affected farmers to meet for mutual support. Together with the rural financial counsellor, the social worker commences bi-monthly farm family gatherings.
Issues identification	Strengthen community action	Through meeting at the gatherings, the local representative of the State Branch of the Farmers Federation (with the social worker and the rural financial counsellor) recognises a large unmet need amongst male farmers, who may be suffering depression, that goes undiagnosed and untreated. The social worker reviews the literature to find that the suicide rate among male farmers in Australia is relatively high. The literature review reveals that the mental health first aid program is a proven community-based intervention that improves lay people's ability to recognise mental disorder (see Case study 5.1).
Participation and control of health services	Re-orient health services	With the support of the GP and the rural financial counsellor, the social worker makes representation to the managers of the regional mental health service, the local community health centre and the regional office of the Department of Primary Industry. This is to support the provision of mental health first aid training for a range of front-line staff in farm support roles. The aim is to develop skills for these farm support staff in recognising depression and other mental disorders and also in basic responding and referral skills.
Social movements	Build health public policy	The GP raises the mental issue of farmers facing the drought as an issue of concern through the state branch of the Rural Doctors Association of Australia (RDAA). A Farmers Mental Health Blueprint is developed under a coalition auspiced by the State Branch of the Farmers Federation and including the RDAA. The Blueprint sets out a range of factors, from economic policy through to direct service access, that impact on farmers mental health and needs. Across this range of factors the role of different groups, from the advocacy role of the Farmers Federation to the service delivery role of the GP, is outlined.



Key points

- In rural locations, where there is not a full range of specialist services, health care practitioners need to work as a team, for example GPs and midwives, with backup from regionally-based specialist services. Where distance and workforce shortages occur, the rural practitioner needs to be multiskilled and be able to work between teams that will be geographically dispersed.
- Electronic clinical data systems enable convenient and systematic client management, quick access to distant specialist diagnostic services and clinical support, as well as capacity to share clinical information between different practitioners. With electronic systems, aggregation of individual clinical data up to the level of the clinic population can add a population focus to the clinician's work. Access to information technologies, including databases of health evidence, have made it easier for the rural practitioner to access evidence for clinical decision making.
- Rural practitioners can see their work within a population framework, where work with individual clients can be the genesis for teamwork at the community level. This work can develop local support (such as self-help), through to health advocacy by the practitioner at a national level as a member of a professional association.



Recommended readings and resources

- Baum F, Kalucy E, Lawless A, Barton S and Steven I (1998). Health promotion in different medical settings: women's health, community health and private practice. *Australian and New Zealand Journal of Public Health* 22(2):200–205.

This paper describes the health promotion role of doctors in women's and community health centres and fee-for-service practice. The findings are based on interviews with medical practitioners who had worked in these centres and a questionnaire survey of GPs in private practice.

- Fuller J, Harvey P and Misan G (2004). Is client centred care planning for chronic disease sustainable? Experience from rural South Australia. *Health and Social Care in the Community* 12(4):318–326.

A qualitative evaluation of a chronic disease self-management project in rural South Australia found that a client centred approach was valued because clients were better able to accept and deal with the long-term management of their condition. This required that health care planning should deal with a wider range of issues than just medical management, and so care planning takes longer than conventional consultations.

- Jackson T, Mitchell S and Wright M (1989). The community development continuum. *Community Health Studies* 13(1):66–73.

A landmark paper that argued against the early 1980s idea that, in community health centres, community development work that sought to empower people, was seen as distinctly separate from casework, which was seen to maintain the health worker as a powerful expert. The authors drew on their experience at a community health centre in Fitzroy to conceptualise a way of working; first with individuals on the presenting problems, but then continuing to work on these problems at broader social and policy levels.

- Tracy SK, Sullivan E, Dahlen H, Black D, Wang YA and Tracy MB (2006). Does size matter? A population-based study of birth in lower volume maternity hospitals for low risk women. *BJOG: An International Journal of Obstetrics and Gynaecology* 113(1):86–96.

A population study of the association between volume of hospital births per year and birth outcome for low-risk women. The researchers investigated whether unit size (defined by volume) was an independent risk factor for each outcome factor, using public hospitals with greater than 2000 births per year as a reference point. Neonatal death was less likely in hospitals with less than 2000 births per year, regardless of parity.

- The Cochrane Library
<http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME>

The Cochrane Library contains high-quality, independent evidence to inform health care decision making. It includes reliable evidence from Cochrane and other systematic reviews and clinical trials. Cochrane reviews combine results of the world's best medical research studies, and are recognised as the gold standard in evidence-based health care.

- HealthInsite
<http://www.healthinsite.gov.au>

An Australian Government site for the general public on a range of up-to-date and quality-assessed information on important health topics such as diabetes, cancer, mental health and asthma.



Learning activities

1. Find a health issue in your community and research it on the Cochrane library.
2. We have completed the first two cells of a population response to falls prevention, targeted to older community dwelling adults; your task is to complete the other three cells using the questions provided.

Community development continuum	Ottawa Charter for Health Promotion	Falls prevention
Developmental casework	Develop personal skills	Bronwyn, the physiotherapist, reviews the bruising to Mrs Wilson's hip, sustained after a fall in her home. In the conduct of the health assessment, the physiotherapist begins to educate Mrs Wilson about the risks as they are identified. This visit to the physiotherapist is supported under the Australian Government Enhanced Primary Care Program.
Mutual support	Create supportive environments	The physiotherapist explores options for Mrs Wilson to attend a local exercise program. With the Indigenous and Torres Strait Islander Health Worker from the Aboriginal Medical Service and a Tai Chi instructor from the community, a Tai Chi class is started at the Aboriginal Medical Service, to which other local health practitioners can refer Indigenous clients. In addition to providing evidence-based exercise for falls prevention, the class is a venue for Mrs Wilson to meet others like her at risk of a falls injury.
Issues identification	Strengthen community action	What strategies could you suggest for strengthening community action? Which people and organisations would you approach to implement these strategies?
Participation and control of health services	Re-orient health services	Identify some strategies for participation and control of health services. What strategies could be put into place to reorient health services?
Social movements	Build health public policy	Can you identify strategies that would develop social movements and build health public policy?

Chapter 12

Strengthening interprofessional practice

Tony Smith, Nicholas Stone and Rosalind Bull



Learning objectives

- Describe why rural and remote environments require effective, team-based, interprofessional approaches to health care.
- Identify appropriate knowledge, skills and attitudes for working effectively in rural health care teams.
- Recognise and describe ways in which effective interprofessional practice can be supported and improved.
- Develop a better understanding of the need for intersectoral collaboration in the provision of patient-focused health care.

Introduction

Ideally, health service provision is focused on the needs of the patient (or client) and their family. Effective health promotion, illness and injury prevention, diagnosis, treatment and palliation depend on the right services being available at the right time. Consequently, providing high-quality, sustainable and reasonably accessible health services for rural and remote Australians has become a national priority (AHMAC and NRHA 2002).

New models of health service delivery are being introduced to address issues such as the ageing population, increased specialisation and service access inequities, as well as the future workforce shortfall (Productivity Commission 2005). In 2003 and 2004, for example, the More Allied Health Services (MAHS) program funded more than 200 full-time equivalent rural allied health positions through the Australian Divisions of General Practice (DoHA 2004). This program aims to encourage linkages between allied health service providers and general practitioners. Under the Enhanced Primary Care (EPC) program, case conferences between a GP and at least two other health care providers have been allocated item numbers on the Medical Benefits Schedule. The EPC

program focuses on clients with chronic medical conditions and complex care needs requiring the services of a range of health professionals.

This chapter introduces the model of interprofessional and intersectoral team-based care. Interprofessional practice (IPP) is when practitioners from different professional backgrounds work together to improve the quality of patient care (Barr 2005). Instead of working independently within a loosely constituted ‘group’, health professionals work together as interdependent members of a ‘team’ to provide more holistic health care. IPP focuses on the importance of health professionals working collaboratively, often beyond the boundaries of traditional practice roles, to provide care to rural Australians. Intersectoral approaches involve working with other sectors (such as education, housing, industrial, legal and communication sectors) to produce the best outcome for improvements in individual and population health.

The case studies and exercises included in the chapter aim to develop awareness of the skills, knowledge and attitudes necessary for effective, team-based health care.



Case study 12.1 (a) Ageing in rural Australia: Burt and Lorraine’s story

Burt has just turned 74. He is a semiretired, third-generation farmer, who still lives on a cattle property. Lorraine married Burt 49 years ago and is three years younger. She gave up teaching to have their two children and then stayed home to help run the farm. She is more outgoing than Burt and enjoys regular contact with her friends and family.

Burt and Lorraine’s home is an old, single-storey timber farmhouse. Once quite grand, it has become increasingly run-down over recent years. The paint is peeling off the weatherboards, and a trip to the toilet means dodging the suspect boards on the back veranda, down several steps to the detached outhouse. The original claw-foot bath has lost much of its enamel and the shower above has become increasingly difficult for them to use. They have an electric hotplate, but the old oven, running hot water, and heating all rely on a steady supply of chopped wood. Like his father, Burt grew up on the farm, as did Burt and Lorraine’s children. They all worked hard over the years to make a living off the land, but as Lorraine often says, ‘We don’t have too much to complain about, we’ve still got our health’. Burt likes to point out that he hasn’t ‘seen a quack for 13 years’, since he broke his leg in a tractor accident.

Burt has had a bit of a cough almost as long as he or Lorraine can remember. His early morning ‘coughing fit’ is part of the daily routine. Afterwards, he has a smoke to ‘help clear the tubes’. Recently however, his cough has become more persistent and severe. Lorraine has been concerned about Burt’s cough and his recent lack of energy, a concern she has shared with their daughter.

Lorraine and Burt’s children, Susan and Wayne, are both now in their 40s and live in Conlow — a small town (population 2250) about 45 minutes’ drive away. It’s a two-hour drive to the nearest regional centre, Marnsdale (population 20 200). They don’t go there often, as Lorraine’s eyesight is deteriorating and Burt now does all the driving. Anyway, neither of them like ‘big towns’ with all the traffic and not knowing anyone so far from home. Burt takes Lorraine to Conlow each Saturday so she can do the shopping and have a cup of tea with their children.

Burt sometimes gets out to say g'day to Susan, but for shopping and visits to Wayne's house he waits grumpily in his old four-wheel drive smoking cigarettes, often with the car windows wound up.



Burt has not spoken to his son for several years, ever since Wayne refused to move back and help Burt run the farm. Burt had to sell off more than half the farm. He says this was due to a few below-average seasons, but he has also found it more and more difficult to keep up with all the manual work on his own.

Discussion

Like many ageing citizens, Burt and Lorraine are at the stage of their lives where their health care needs are becoming increasingly complex. It is unlikely that any single health professional can meet all their current or future health care requirements. Even highly accomplished clinicians will be limited by their knowledge and skills, and by their sphere and scope of practice. The pooled competencies of a diverse group of health professionals are needed to provide client-focused care for the ageing rural population.

There is a commonly held belief that established professional customs and practices should be questioned (Productivity Commission 2005). Rigid scopes of practice and closely guarded professional boundaries can be counterproductive to the delivery of high-quality health care. Rigid boundaries can also limit access to the professional skills, knowledge and resources available to address complex health care needs. The Productivity Commission's position paper, *Australia's Health Workforce*, recommended

workforce restructuring based on the need to increase interprofessional approaches in clinical practice and education (Productivity Commission 2005).

The commission also recognised that rural and remote health services are often an ‘incubator’ for new models of care that incorporate expanded scopes of practice and have the potential to inform future ‘system-wide’ changes (Productivity Commission 2005). The interdependence that develops in rural health services because of professional isolation, the shortage of specialist providers and the collaborative nature of rural practice means rural practitioners are often at the ‘cutting edge’ of change.

Indeed, the concept of adjusting practice roles to meet consumer needs is not entirely new in rural and remote health care. For example, delegation of authority in the nurse practitioner model of care has been observed to blur the traditional boundaries between rural GPs and nurses (Siegloff 1995, Hegney 1996, Roberts 1996). However, Bagg (2004) claimed that the nurse practitioner role has, for many years, been part of the duties of registered nurses working in rural public hospitals. It should be pointed out that, while exemplifying role or task substitution, the nurse practitioner model does not, by definition, require improved collaboration between health care practitioners — an essential element of IPP models of care.

Challenges for the learner and teacher

1. Considering their physical, mental and social wellbeing, what are Burt and Lorraine’s most obvious health risk factors currently?
2. What health and social needs might Burt and Lorraine have in the coming years?
3. What choices might they need to consider to maintain their health and wellbeing, both now and in the future?
4. Taking into account accessibility, which health professionals do you believe would be best able to help Burt and Lorraine make choices about their current and future needs?



Case study 12.1 (b) Care options and interprofessional teamwork: Burt and Lorraine’s story (continued)

One day, Susan is on the farm visiting her parents when Burt has a coughing fit that produces a quantity of fresh red blood. After about 20 minutes, he settles down a bit and they bundle him into the back of Susan’s car and drive to Conlow Multipurpose Service. The bleeding seems to have slowed by the time they get there.

They are told he has ruptured a small blood vessel in one of his lungs. Burt spends five impatient days in hospital feeling ‘pretty ordinary’. He has a blood test, a chest X-ray and a number of other tests. When he gets the reports from the doctor, Burt learns he has advanced lung cancer, and that soon he is going to become much sicker.

Burt is told to see the specialist who comes to Marnsdale once a fortnight. According to the GP, surgery is probably out of the question, so that leaves ‘radiation’ in Metropolis, the state capital, or ‘chemo’, which they might be able to organise in Marnsdale. Lorraine dabs her cheek with a handkerchief, trying not to let Burt see her tears. As she clutches his hand tightly, and he murmurs faintly, ‘I’m sorry love. I don’t want to leave you alone. I just couldn’t hack it, though, going all the way to the city. Can we go home now?’

Discussion

One of the great strengths of IPP is that the composition of the team changes as the needs of the patient change. Also, where expert practitioners are in short supply, as is the case in many rural and remote locations, the role of team members may vary to include tasks outside their normal professional jurisdiction. For example, increasingly the tasks of general practitioners are being performed by practice nurses, allied health professionals or physician assistants. Care is centred more on the needs of the patient, rather than being profession-centred. Despite such variations in team composition and roles, the essential characteristics of successful health care teams remain the same, as do the factors that impede the performance of less successful teams.

Several authors have described the elements of successful collaborative practice (Norsen et al 1995, Lindeke and Block 1998, D’Amour et al 2005, San Martin-Rodriguez et al 2005). These are synthesised in Table 12.1, below. Norsen et al (1995) have further claimed that the elements of successful teams are bound together by trust between team members.

While the characteristics of successful health care teams have been elaborated, the known impediments to successful interprofessional practice have also been described (Manthorpe and Iliffe 2003):

- Team members may have differing levels of perceived status and prestige.
- The knowledge base of some team members may differ from that of others.
- Language and terminology may vary.
- Time and space constraints commonly exist.
- Focus and orientation (eg the value placed on teamwork versus individualism) can also differ among health professionals.

Increased interaction and communication has the potential to enable greater understanding of each other’s roles and engender trust between team members. However, the challenge is to incorporate differing professional attitudes, beliefs, values and behaviours within a single organisational structure (Hall 2005). Negotiations may be obstructed or limited by societal issues of power, authority, education and socialisation (Lindeke and Block 1998), as well as by structural impediments, such as different lines of management (McCallin 2001), regulatory and legal obstacles (Lahey and Currie 2005), and a lack of shared space and time (Lindeke and Block 1998).

Table 12.1 Key elements of successful collaborative practice in health care

Cooperation
Collegial relations are based on equality. Shared decision making replaces hierarchical authority.
Commitment
Commitment to care forms the basis of task-focused working relationships. Collaborations are valued as the preferred option.
Assertiveness
Team members are able to express their views. Problems and possible solutions are communicated, maintaining harmonious working relationships.
Responsibility
Team members are accountable for their own viewpoint and support decisions made by consensus. They interact productively with colleagues from a range of disciplines and, if necessary, facilitate conflict resolution in the interests of the clients and the team.
Communication
Team members are accessible and open to the exchange of ideas. They are able to negotiate role boundaries, define the scope of practice and develop succinct standards, guidelines and protocols, thus establishing the 'boundaries of authority'. There is agreement about how best to achieve goals.
Autonomy
Team members trust each other to act independently and competently. They are aware of their own preferred and non-preferred ways of approaching tasks and can self-assess strengths and weaknesses. They have the capacity to interpret health care situations from the perspective of other health professionals and so avoid inappropriate autonomous practice.
Coordination
Practitioners are aware of the roles and capabilities of other health professionals and how others contribute to collaborative care. There is recognition of health issues that are best addressed interprofessionally. Individuals make efficient use of resources and organise the components of care appropriately.
Governance
Team members value and nurture interprofessional collaboration and engage in team building. Power is decentralised and delimited authority is delegated to individual health professionals, promoting a sense of joint ownership. There is an understanding of referral protocols and procedures.

Source: Adapted and modified from Norsen et al (1995), Lindeke and Block (1998), D'Amour et al (2005) and San Martin-Rodriguez et al (2005).

Challenges for the learner and teacher

1. If Burt and Lorraine choose to remain at home and allow the disease to ‘run its course’, which health professionals should be included on the health care team?
2. How would you suggest such a team of health professionals should be organised or structured?
3. In the context of this case study, what qualities, attitudes and behaviours would you expect the team to exhibit if it is to be highly effective?
4. What qualities, attitudes and behaviours do you believe would be detrimental to the effectiveness of the team?



Case study 12.2 Interprofessional collaboration and education: Jasmine’s story

Jasmine (nine months old) presents to the emergency department of a small rural district hospital. She is brought in by her parents. A sibling (Errol), about three years old, accompanies them. Jasmine is lying in the stroller, legs in a frog-like posture and a bottle of formula that she is sucking on furiously clutched firmly in her right hand. Her left arm is lying limply by her side. The father steps forward and volunteers to the senior nurse on duty that Jasmine fell off the bed. ‘She’s hurt her arm’, he says. The nurse has a gentle look and Jasmine turns her eyes in the direction of the nurse, stops sucking momentarily, then closes her eyes and starts sucking again, hard.

Because it’s after hours, the local GP and the radiographer, who are both sole practitioners, are called in. The GP does a quick clinical examination and asks some questions of the parents about Jasmine’s clinical history. He then requests ‘a whole arm X-ray, shoulder to wrist’. Jasmine, both parents and young Errol all head off to the X-ray department with the radiographer. ‘So what happened?’ the radiographer asks. The father replies, ‘Aw, she left Jasmine and him alone in the bedroom. He’, the father points at Errol, ‘was jumping on the bed. I just heard Jas scream and there she was on the floor. He probably knocked her off’. ‘Yeah, or jumped on her’, the mother adds.

The parents watch from a corner of the X-ray room as Jasmine is positioned for her X-ray. She is quiet, not crying. This strikes the radiographer as strange because, from the position and deformity, the child’s humerus is definitely broken. There is tension emanating from the corner of the room where the parents are whispering in harsh tones to each other. Errol sits quietly on the floor, watching.

The radiographer notices what appears to be fairly recent finger-tip bruising on Jasmine’s left shoulder and on both lower legs. She also observes that both children are thin and pale, even though Jasmine is still sucking strongly on the now almost empty bottle of formula. The radiographer takes a couple of views and turns to the parents, ‘I’m going to process these. Can one of you look after her?’ ‘I will’, says the mother. ‘She can’t!’, the father snaps.

The film drops out of the processor and is put up on the viewer. The radiographer thinks to herself, ‘Hmm, a spiral fracture of the humerus. Doesn’t fit with the story of a fall. Spiral fracture — torsion’. In the view that shows the baby’s shoulder, the radiographer sees two other abnormalities. Jasmine has had a broken clavicle, which appears to have healed satisfactorily,

and there are two, or perhaps three, previous rib fractures, no more than a month old. She returns to the X-ray room and says to the parents, 'I'm just going to talk to the doctor. Back in a minute. By the way, has Jasmine been here before for X-rays?' 'No', both parents reply in unison.



On talking to the doctor, it is agreed that for a child of this age to have multiple fractures at different stages of healing, with no previous medical record, is highly indicative of physical abuse (Hobbs 1989). It appears probable that Jasmine's current injury, and perhaps the previous injuries as well, are non-accidental. 'The authorities' have to be notified.

Discussion

There is growing recognition of the need to design and implement context-appropriate, interprofessional and intersectoral approaches to health service delivery (Axelsson and Axelsson 2006). Intersectoral approaches involve working with other sectors (such as education, housing, industrial, legal and communication sectors) to produce the best outcome for improvements in population health. In Jasmine's case, this requires collaboration between various health care professionals, the legal and judicial system and the state/territory community services. The education sector is also commonly involved in child protection cases involving school-aged children. Practitioners from all these sectors learn about child protection, but generally in monodisciplinary groups. Yet when a 'notification' occurs, they are expected to work together as a team, sharing a common interest in the best possible outcomes for a child like Jasmine.

Interprofessional education (IPE) is one potential way of addressing the need for collaborative care and protection in such cases. Similarly to IPP, practitioners from different disciplines learn with, from and about each other in order to improve collaboration and the quality of patient-focused health care (Barr 2005). IPE encompasses pre-service, or undergraduate education, as well as postgraduate and continuing education. It has been argued that, logically, effective IPE leads to better IPP (Stone 2006). There is growing international evidence that IPE can improve team-based health care in the management of a range of complex, chronic conditions, as well as acute care and health promotion. However, Cochrane and other reviews have concluded that there is a lack of valid experimental evidence, with too much methodological variation, to permit

sound conclusions to be drawn at this time about the effectiveness of IPE (Zwarenstein et al 2005). This is partly due to the intrinsically complex nature of IPE (Stone 2006), involving interaction and support from the health and education sectors, as well as from political and professional organisations. It may also be attributable to the difficulties of performing controlled trials in the face of ethical issues, including educational and health care equity. Nevertheless, the literature is overwhelmingly in favour of IPE supporting IPP initiatives (Barr 2005).

Challenges for the learner and teacher

1. Child protection crosses various sectors and involves a variety of professionals. Identify these sectors, the professionals involved, and some of the roles they might fulfil in the short and long term.
2. How might education play a role in decreasing the risk of such cases going undetected or resulting in an unsuccessful prosecution of the perpetrator(s)?



Key points

- Interprofessional team-based care is an essential aspect of rural health care provision. It focuses on the importance of health professionals working collaboratively, often beyond the boundaries of traditional practice models, to provide effective care to those living outside urban centres.
- A diverse but coordinated team of health professionals facilitates the provision of client-focused care by contributing various professional values, beliefs and range of skills and knowledge.
- Cooperation, commitment, assertiveness, shared responsibility, communication, autonomy, coordination and governance are essential for successful collaborative practice.
- Intersectoral collaboration is based on the same principles as interprofessional collaboration but draws on professions outside health care to provide holistic support to clients.
- The development of effective interprofessional practice depends partly on effective interprofessional education.



Recommended readings and resources

- Faresjo T (2006). Interprofessional education to break boundaries and build bridges. *Rural Remote Health* 6:602.

This paper discusses the potential of interprofessional education as a means of enhancing collaborative practice in the primary health care team, as well as the complexity of health care and the challenges for rural and remote populations.

- Hall P (2005). Interprofessional teamwork: professional cultures as barriers. *Journal of Interprofessional Care* Suppl 1(May):188–196.

This paper considers the influence of the different values, beliefs, attitudes, customs and behaviours of various health professionals on the development of team work. Educational, systematic and personal factors are discussed, as well as methods that could contribute to the development of effective interprofessional teams.

- Kenny G (2002). Children’s nursing and interprofessional collaboration: challenges and opportunities. *Journal of Clinical Nursing* 11:306–313.

Challenges and opportunities inherent in interprofessional collaboration are discussed. Interprofessional practice is the foundation stone of the UK’s integrated care system, and the goals include improving communication, managing risks and promoting holistic patient care. The paper considers professional, organisational, political and economic factors in the implementation of interprofessional practice.

- McNair R, Stone N, Sims J and Curtis C (2005). Australian evidence for interprofessional education contributing to effective teamwork preparation and interest in rural practice. *Journal of Interprofessional Care* 19(60):579–594.

The authors of this paper detail an interprofessional education program for undergraduate health science students undertaking placements in rural Victoria, Australia. Educational methods and student evaluation results are discussed.

- Cooke S, Chew-Graham C, Boggis C and Wakefield A (2003). I never realised that doctors were into feelings too: changing students’ perceptions through interprofessional education. *Learning in Health and Social Care* 2(3):137–146.

The authors use ‘breaking bad news’ to explore the effectiveness of IPE on collaborative teamwork, communication skills and a holistic, interprofessional approach to patient care. Students learned that they needed to balance independent and collaborative responsibilities through a dynamic process of negotiation.

- Barr H (2005). *Effective Interprofessional Education: Arguments, Assumption and Evidence*, Blackwell, Oxford.

This text presents a systematic review of interprofessional education in health and social care, accompanied by a wider-ranging critique of interprofessional education, grounded in experience and informed by sources beyond the evaluations included in the review.



Learning activities

- 1 Taking either case study above as a starting point, work in an interprofessional group to create a flowchart or storyboard of an appropriate clinical pathway that may be followed. Identify stages where interprofessional collaboration would be most important, and identify opportunities for improving current practice.
- 2 Interprofessional practice requires political, educational and professional support. Discuss strategies that will support the development of interprofessional practice in rural and remote areas from each of these perspectives.
- 3 Make an appointment with a health professional from a discipline other than your own and spend some time discussing the relevance of teamwork to clinical practice. The eight elements of successful teamwork described in Table 12.1 can guide your discussion.
- 4 Spend at least half a day in a clinical department other than that of your own discipline and observe how other health professionals perform their duties.
- 5 Describe and discuss with your peers two clinical cases you have observed, one that demonstrates effective collaborative care, and another that demonstrates opportunities for teamwork to be improved.
- 6 If you or one of your family members lived in a remote area of Australia and had a terminal illness, what would the health care challenges be? How would you overcome these problems and what resources would you need?

Chapter 13

Cycles of settlement: generating responsive health services for refugees in rural Australia

Peg LeVine, Sundram Sivamalai and Andrew Harris



Learning objectives

- Define the terms migrant, refugee, asylum seeker, internally displaced person, temporary protection visa, developmental status of a country, trauma and posttraumatic stress disorder.
- Acknowledge the change in a refugee's cultural identity over time and place.
- Document the elements of a culturally and developmentally responsive service, and a framework for developing such services in rural settings.
- Understand and describe the concept and practice of duty of care, in the context of the complex multiple perspectives of the individual, the host community and the settlers' community.
- Describe the implications for refugee settlement when terms are derived from an urban-industrialised perspective (independence), compared with a human ecological health perspective (interdependence).

Introduction

After that battle no one mentioned Battalion 27 anymore, though numerous souls ... were still loose, wandering in every corner and bush in the jungle, refusing to depart for the Other World. From then on it was called the Jungle of Screaming Souls. (Ninh 1993)

In January 2004, the Australian Government proposed an increase in the settlement of migrants and humanitarian entrants in rural regions, particularly where 'employment opportunities exist and appropriate services and community support exist or may be developed' (DIAC 2007). With such shifts in settlement policy, it is timely to consider how refugees who settle into rural settings face issues that are different from those faced by refugees who are placed in urban settings. A policy that encourages settlement in areas

where professional support is limited diminishes the importance of equal access to appropriate health care and support services. In under-resourced rural communities, voluntary agencies and nongovernment organisations (NGOs) often become the principal providers of services, with marginal professional support. This can contribute to frustration for providers and distress for settlers. In addition, as in the quote above, refugees carry the memories of the living and the dead with them as they move into the Australian rural landscape.

This chapter is concerned principally with the provision of health care to refugees who have permanent residency status and whose initial settlement is supported by agencies contracted to the Department of Immigration and Citizenship (DIAC). The permanent residency status entitles them to government health and social services, access to employment and other nongovernment services.

Refugees commonly have little control over their country of destination or the timing of the move. For most, the choice to leave their country of origin is a reluctant or forced choice, and involves separation from family and community. They may have spent extended periods in refugee camps, or as internally displaced persons, and may have suffered from torture and war.

Asylum seekers are another category of entrant. Many asylum seekers in Australia have been issued with Temporary Protection Visas (TPVs). Settlement is particularly challenging for those with TPVs, because they are excluded from settlement schemes that facilitate employment, safe housing, and predictable lifelines (Mitchell and Kirsner 2003).

Settlement: assimilation, integration and marginalisation

Settlement refers to the early stages of adaptation or acclimatisation of refugees to the host culture and the ecological environment. Although immediate settlement challenges are mostly practical, the process of settlement is also influenced by assumptions, held by refugees and their host communities, about ideas such as ‘fitting in’, which are in turn influenced by cultural origins, policy and broader debate about immigration. Members of host communities can have attitudes ranging from delight at the prospect of exposure to different cultures through to overt racism and hostility. Refugees can arrive with contradictory feelings of excitement and hope, and fear and worry. There can be an underlying conflict between culturally-based assumptions of ‘who should accommodate whom’ in relation to issues such as religious practices, family structures and decision making.

It is often assumed that these differences will be resolved by the processes of assimilation or integration. Policies that promote integration in preference to assimilation, with attention to generational trauma, may decrease mental health distress if discrimination is minimised (Bertrand and Lescarret 2003). An assimilation model can lead to a settlement experience which appears successful, but which entails only a superficial sense of belonging. A gap can develop between a refugee’s espoused beliefs and public behaviour, and her/his deeply held beliefs, invoking feelings of alienation. Refugees who openly

reject attempts at assimilation can be marginalised by both the host and the settled communities.

Regardless of the preferred model, there is no reliable method for predicting or evaluating the pace of settlement of an individual, family or cultural group. Refugees are likely to move from place to place, often including return trips to their homeland, before deciding on the best available option or becoming reconciled to their new home. A typical scenario is that of a resourceful and family-oriented father succeeding in the competitive process of qualifying for resettlement, only to find himself in futile conflict with his partner's and teenage children's status as the recipients of family and youth payments.

Where initial settlement is in a rural area, a refugee's self-resourcing is likely to take a more extreme form, compared with the same process in urban areas where moving over short distances can lead to significant differences in opportunity or experience. Refugees are in a double bind because they cannot predict what a new place will be like without experiencing that place first-hand. If the new place is not what someone had hoped it would be, then the experience of 'dis-placement' can add another layer of disappointment and distress. Many refugees are seen as seeking short-term solutions, and members of the host community can easily interpret this behaviour as offensive, ungrateful or foolish, which can lead to marginalisation.

If settlement success is evaluated in a complex manner, there will be uncertainty associated with a refugee's unicultural, bicultural, and multicultural identities. A refugee's attitude to their own cultural identity can vary across time and place, and is often characterised by a tension between relief and gratitude at being safe, and regret and anger at being displaced. A refugee assisting more recent arrivals can experience complex feelings associated with revisiting traditional practices; for example, pride and guilt about having made a shift in cultural identity. A refugee may have ongoing insecurities in relation to permanent status, triggered by media reports of deportation, gang violence, or contact with police or immigration officials.

It is imperative that health professionals understand the context from which a refugee flees, as this will influence her or his potential for settlement (Cernea 1995). For example, if people have been living in a refugee camp outside their home country, their sense of culture may be different from those who migrated directly from their country of origin. It is not unusual for a refugee child or young person to have the experience of a refugee camp as a transitional place.

Australian Government policy on issues such as family reunification can have a powerful effect on the overall settlement experience, overshadowing any relative successes. Consider the case of a man from Eritrea who fled to a refugee camp without his wife and children. He settled in a community with refugee status and three years later is still trying to find the economic means to bring his family to Australia under a family reunion scheme. Recent news about the drought in Australia has triggered worries about his family's wellbeing in Eritrea, as drought is a constant threat there. The man's sense of cultural integration is clearly less than his Eritrean male friend who arrived with his family at the same time.

Duty of care

The Australian Government has an international duty of care to refugees (under the 1951 United Nations Convention Relating to the Status of Refugees). Singer and Gregg (2004) contend that the 'issue of refugees should be part of a discussion of Australia's record as a good global citizen'.

Health professionals working with the refugee population in Australia have a duty of care to seek specialist training in working with the refugee population, beyond attempts to become knowledgeable about cultural norms and the refugee experience, or coming to terms with realities of human-rights abuses such as torture and associated trauma. Hauff and Vaglum (1997) point to the need for physicians to account for trauma related to torture, as well as to non-torture experiences. Health professionals need to be culturally, as well as clinically, competent and health services need to be culturally secure.

De-marginalising services

In rural regions in particular, when health (including mental health) care is underdeveloped for servicing special populations, there is a tendency for NGOs to 'pick up the pieces on the ground'. The lack of direct feedback to government (as the initial settlement decision maker) can lead to the creation of an even more tenuous model of accountability. For example, in rural regions it is common for religion-based organisations to provide social services and education in keeping with their own religious beliefs, practices and places for worship. This can challenge the legitimacy of some culturally-based responses to trauma histories (eg calling to deceased ancestors or unwillingness to forgive), and result in the delegitimisation of alternative religious beliefs and the spirit rituals of their clients. When a refugee feels grateful for assistance, he or she may feel an obligation to adopt the beliefs and ritual practices of the supporting agency. Alternatively, useful services may be rejected because to some extent all services are imposing; for example, one Muslim woman disengaged from a service because she was discouraged from reading the Koran. Although these problems are not restricted to rural areas, it is difficult to find medical schools and psychology training programs in Australia that train clinicians to work with complex trauma issues and ritual systems embedded in refugee histories, much less attend to traditional or Indigenous practices alongside medical practices.

Despite these inadequacies, health professionals can play a key role in outreach activities, if a good structure is provided. Withers and Powell (2003), in their report *Immigration and the Regions: Taking Regional Australia Seriously*, call for 'strengthening pro-active outreach activities by officials and holding them accountable for improvement'. Some practitioner-researchers have indicated a need for more culturally appropriate outreach services for refugees, who had formerly relied on traditional rituals and treatments used in their country of origin. These services can sit side by side with Western medical practices (Bahadur et al 2003).



Case study 13.1 Carla needs a hot drink

Carla, a Sudanese woman, settled in Tasmania in 2006. During the delivery of her fifth child, an Australian-born nurse contended that Carla was being uncooperative because she refused to take liquids during labour. However, when an attendant offered Carla a hot cup of tea, she accepted the drink. In Sudan, cold liquids are avoided during labour as a way of protecting the baby.

The hospital was not culturally secure, the nurse clinician was not culturally competent and Carla was not feeling culturally safe (see Chapter 10). If she had accommodated hospital protocol, her anxiety over the safety of her baby would have increased dramatically during the delivery.

It is a widespread observation that for years after arrival, refugees typically report more distress at the challenges of settlement and at their separation from loved ones or their homeland than problems associated with their pre-arrival experience (McMichael 2003). Even when the focus is on pre-arrival experience, it is easy to overlook critical issues. This is particularly the case where physical torture has occurred during the same period as other more conventional traumatic events (eg the natural death of an estranged family member). Faced with such presentations, the health professional is likely to seek an account of the torture, which is superficially more dramatic, rather than exploring the significance of the loss.

A compelling example is provided by a Muslim family subjected to racist violence after settlement in rural Australia, which included the forced removal of a woman's hijab. Family members' experiences of imprisonment during civil war caused far less emotional difficulty for them than the off-hand way this taboo behaviour was handled in their new country.

Given the natural response of horror and empathic concern in the face of extreme histories, it can be difficult to form sufficiently broad clinical experience to respond to such subtleties. Clinical expertise in the diagnostic category of complex trauma (itself an emerging idea) is not common, even in urban areas. In a rural area, which might host one or two waves of refugee settlement, the professional ethical task is a step-by-step challenge.

Reliable mental health intervention: accounting for complex trauma and cultural identity

When accounting for personal histories that involve long-term political violence, poverty, captivity and torture, trauma responses may be more complex than a posttraumatic stress disorder (PTSD) symptom checklist can capture (Kleinman 1995, van der Kolk and Fisler 1995). When people have been exposed to traumatic events for long periods of time, their responses include extreme emotions, such as horror, hatred and panic. They tend to

vacillate between a fight or flight response through cycles of settlement experience. Exaggerated responses often become patterned:

- compulsive behaviours in children that may increase over time
- nightmares with repetitive themes
- night or day dreams with culturally-based symbols, such as a black bird that signifies a bad omen
- total withdrawal from or over-engagement with social contact
- increasing alcohol and substance use
- feelings of detachment and amnesia leading to daily distress
- overattachment or underattachment in children to a person or object.

PTSD has some symptoms in common with other diagnoses, such as depression, phobias, schizophrenia or psychosis. Conversely, clinical depression or other enduring disorders can be a long-term consequence of PTSD.

Assessment of the way traumatic history contributes to mental health requires attention to cultural factors in addition to language and ethnicity (LeVine 2003a). Culturally meaningful events, such as spirit visitations or visions, can be confused with common trauma symptoms including images of the dead and flashback experiences. Some traditions emphasise signs or features of the physical environment (eg activities of animals or changes in weather patterns) as confirmation of community emotional and mental health. In such communities, displacement to different countries and the consequent disruption of protective rituals can provoke profound unease; which may be interpreted as trauma symptoms.

In addition, a person's age and stage of development when trauma events occur has an influence on the repertoire of symptoms that are experienced and expressed. It is not unusual for a young person or adult to regress as an expression of fear, particularly if they were traumatised at a young age, as is often the case for refugees. In addition, for refugees who have to migrate to Australia, their sense of cultural identity may become challenged as they attempt to integrate. There is a duty of care to ensure that the refugee is not misdiagnosed and that culture-specific concerns are considered.

The Launceston Project is an example of a project that has been designed with attention to the interaction of culture and trauma, and the long-term cycles of settlement for refugees. A group of general practitioners have formed a consortium for treating refugees who have settled into the region. Most refugees are from Africa (primarily Sierra Leone and Sudan), with a recent influx of Burmese. The composition of country of origin changes as international circumstances change, making service delivery challenging. A health clinic is held weekly in the Migrant Resource Centre, which administers the settlement contract and provides funded counselling and community support. Specialist cross-cultural trauma support and outcome-oriented research capability are provided to the clinic by experienced psychologists from the University Department of Rural Health. The clinic and the university teams include male and female practitioners. This

interprofessional team approach to refugee service provision enhances the support for the community as well as for the professionals who are providing the service.

A number of models to guide appropriate service delivery exist, including those developed by specialist agencies in Australia, such as the Victorian Foundation for Survivors of Torture (Kaplan 1998). LeVine (2003ab) proposed a cultural framework that is fluid enough to account for shifts over time in a person's cultural identity and comprises ten cultural factors, as represented by the acronym LANDSCAPES:

- language and accent
- ancestry and indigenous identity
- nationalities
- disability (physical, social, and psycho-emotional)
- sexual roles and birth order, and sexual identities
- community affiliations (group belonging)
- age and development (including developmental delays)
- place and geography (relationship to water and topography)
- existential — meaning-making systems, religious associations, and the metaphysical realm (including animistic perceptions)
- social status(es) (noting that status is influenced by the categories above, across gender, disability, age, sexual identity, religious affiliation, language and accent, etc).

LANDSCAPES has been used in training mental health professionals for work in developed and developing countries across urban, rural and remote settings. Such contextual frames can decrease a clinician or researcher's tendency to over or underestimate the impact of a person's minority status.

Research decisions, such as the choice of demographic categories, taken without consideration of the refugee's identity or community affiliation, can distort findings in ways that work against successful integration. Judd (2006) identified the need to aggregate data more sensitively in rural mental health research, invoking the idea of 'dimensions of locations' to account for community resource factors alongside rural and urban place indicators. The case study that follows discusses the ways in which 'place' affects a refugee's identity over time and his experience of 'support' resources.



Case study 13.2 A longitudinal study of Paulo at the ages of 10 and 19

Paulo came to rural Australia under a settlement policy when he was ten years old. He and his mother had fled to the refugee camps in the country of Wadu (a country that borders a tropical zone near the equator). Paulo lived in a refugee camp from the age of four to the age of nine, and spoke little English when he arrived in Australia. His mother was fluent in Italian and had some English; they spoke a dialect in the home.

After six months in an Australian primary school in rural Australia, Paulo was referred to a clinical trauma psychologist for an assessment of suspected attention deficit hyperactive disorder (ADHD). The school counsellor indicated that Paulo was unable to sit still very long and would roam in the class, appearing distracted. During a play assessment session, the youth said that he was worried about his mother being at home alone during the day and that he would go to the window to look towards the house. He said that he wished he did not have to come to school. As the session progressed, Paulo indicated that his bottom hurt when he sat in his chair at school and that he liked sitting on the floor. It was later revealed that he had been raped by men on a number of occasions when he was in the camps and that the chairs at school made it difficult for him to sit too long. He said that he tried to endure his pain and remain still so that his teacher would like him; he felt disappointed in himself that he wandered in the classroom. This dynamic of faltering in his attempts to please others led to his self-deprecation.

Paulo was eventually examined by a female general practitioner with his mother's permission and presence. A female physician was preferred by Paulo and arrangements were made accordingly for his physical recovery. Details of the violence endured by Paulo were not disclosed to school personnel as the referring counsellor believed confidentiality would be compromised if this became known by teachers.

At this early stage of settlement, aged 10 years, Paulo's salient cultural features were:

- disability — physical and psychosocial injury related to trauma
- sexual roles — male gender
- community affiliations — dependency on mother; no friends
- age and development — childhood developmental disruption of trust due to abuse, including fear-based attachment to his mother
- place — relationship to home as a safe place and school as an uncomfortable place; repercussions from his former life in the refugee camp.

At 19 Paulo attempted to look for gardening work, since he preferred working outdoors. He became more and more argumentative with his mother and claimed he had wasted years by studying to no avail. He had an Australian-born girlfriend and he was concerned that his mother did not approve of his choice due to their different cultural backgrounds. But what Paulo liked about his girlfriend was that she believed him when he told her that different bird calls brought messages to him from his father who had died just before he had migrated to Australia as a young boy.

He remained untrusting of relations with men and felt awkward when in their presence at the workplace; some of this related to his childhood sexual abuse while he was in the camps and the

fact that he had lived much of his life without an adult caring male in his life. He also felt as if he needed to protect his mother since he was the sole son, sometimes feeling as if he were the substitute father in the family system.

At this stage, aged 19 years, Paulo's salient cultural features were:

- disability — social disadvantage and past trauma
- sexual roles and sexual identity — heterosexual and love relations
- community affiliations — dependency on mother; no male friends
- age and development — late adolescence and confusion about his role as a son and adult, including social roles (male occupational options)
- place — shifting relationship to home and work, and a preference for outdoor environments
- existential and meaning-making systems — unsure of his future occupation and family role
- Paulo had thoughts of returning to his country of origin so that he could seek assistance from a spirit medium and assist his father to the 'other world'. When he was young, he became aware that a death by violent means (akin to his father's), could make the spirit roam restlessly. He knew his father was unsettled and wanted to assist him.

This case study shows the progressive developmental challenges of a migrant over time and place. Paulo came to Australia from the country of Wadu at the age of ten. Considering the LANDSCAPES factors at 10 and 19 years of age makes it clear that 'settlement,' and 'adjustment' are not straightforward and produces a more complex and dynamic view of Paulo's cultural identity.



Key points

- A responsive health service will pay attention to the ways in which refugees make meaning of their symptoms and life history, as it is critical to health outcomes. Because people's identities shift across time and context, it is useful to assess the cultural factors that the refugee and her or his community define as most salient.
- Ethnicity and gender are assumed to be most salient, when in fact the birth order in a family or sexual identity may be most pressing for the refugee.
- Social status is influenced by the LANDSCAPES factors across gender, disability, age, sexual identity, religious affiliation, language and accent, etc.
- The developmental history of someone's settlement experiences is crucial to assess when treatment is being designed (as seen in Paulo's case).



Recommended readings and resources

- Miller A (2005). *The Body Never Lies*, Norton & Company, Inc, New York.

In this book, Miller discusses the relationship between physical and mental health and how the body can store traumatic experiences that surface as physical ailments. In turn, symptoms are evidence of lived experiences and may require a contextual approach to health assessments.

- NHMRC (National Health and Medical Research Council) (2006). *Cultural Competency in Health: A Guide for Policy, Partnerships and Participation*, NHMRC, Canberra.

This guide offers a straightforward way for health practitioners to conceptualise and work toward cultural competency at both systemic and individual professional levels.

- Ninh B (1993). *The Sorrow of War*, Random House, Great Britain.

This biographical novel offers the perspective of a Vietnamese national who fought in the Vietnam war. Most of the evidence-based research on Posttraumatic Stress Disorder comes from American Vietnam Veteran studies. Ninh's book invites the reader to contemplate trauma in a culture that associates trauma with place.

- Read P (1999). *A Rape of the Soul so Profound*, Allen & Unwin, Australia.

Though this text is about Indigenous Australians, reflections on the ways in which assimilation policies disengage people from their geography and culture resonates with the depth of losses experienced by refugees.

- Taylor J (2004). Refugees and social exclusion: What the literature says. *Migration Action XXVI* (2):16–31.

Taylor gives an overall view of the history of policy development in Australia as it relates to those with refugee and asylum-seeking status. In addition, consideration is given to the relationship between poverty, language barriers, lack of health and education infrastructure and their contribution to the dynamics of social exclusion.

- van der Kolk BA and Fisler R (1995). Dissociation and the fragmentary nature of traumatic memories: overview and exploratory study. *Journal of Traumatic Stress* 8(4):505–525.

This is a classic article within the traumatic stress field. The authors give a coherent account of how experiences of torture and trauma disrupt people's capacity to stay oriented to time, place and person. Understanding the ways in which a refugee's history is experienced in nonlinear fragments is useful for clinicians who attempt to take timeline histories.



Learning activities

1. In small groups, contemplate the cultural shifts in Paulo's identity when he turns 25 years of age.
2. Generate some alternative paths Paulo may traverse and the contexts that may facilitate constructive development.
3. How might service providers participate in Paulo's future sense of purpose in the Australian context?
4. List practical life challenges you face in your own daily life (eg meaningful employment, paying monthly bills, finding or sustaining a constructive friendships and love relationships, maintaining a sense of belonging to place and 'home').
5. Discuss ways in which deficits in the areas listed above impact on your own physical, psychoemotional and social health.
6. How might someone with refugee experiences meet such challenges?
7. What support and duty of care might he or she require from health professionals along the way?

Section 4

Is the Future eHealth?

Siaw-Teng Liaw

Health practice, whether in rural or metropolitan Australia, must be information-enhanced and evidence-based (Davidoff et al 1995). Interprofessional teams are a logical and attractive concept to address the total patient. Achieving this vision of evidence-based practice, team practice and whole-patient care, requires that we share resources and information, interpersonally as well as among information systems. Interpersonal sharing requires connectivity standards; sharing among information systems requires interoperability standards.

Best practice to achieve optimal quality and safety of patient care requires informed consumers, competent health care professionals, a shared electronic health record, and point-of-care interactive decision support. However, in addition to being best practice, evidence-based practice must be accessible, available, relevant, practical and sustainable.

eHealth has been proposed as a fundamental strategy to achieve this objective. However, many issues need to be addressed and barriers overcome before eHealth can become regular practice. The same applies to similar phenomena in education and research, eLearning and eResearch.

The digital revolution, with increasingly sophisticated use of information and communication technology (ICT), affects all aspects of our lives. Interactive multimedia and the information highway (Internet) are enabling a new economy based on the networking of human intelligence (Tapscott 1996). While the promise of the digital revolution is great, there is also apprehension and ambivalence, especially in the health sector, where there are added issues of privacy, safety and quality of health care and health. There is a general worry that society will be splintered into a digital divide of 'information haves and have-nots, knowers and know-nots'. The new digital media, the new digital economy (Tapscott 1996), and the Net Generation (Tapscott 1998) are causing institutions to rethink themselves, and people to re-evaluate their values and behaviour. The Net Generation has also been described as Generation Y or 'digital natives' (Prensky 2001). In contrast, baby boomers or Generation X are described as 'digital migrants'.

The Net-Generation is here. Eighty-eight million offspring produced by 85 million baby boomers have eclipsed their parents in size and impact ... Computers and other digital technologies, such as digital cameras, are common place to N-Gen members ... Increasingly these technologies are connected to the Internet, an expanding web of networks which is attracting a million new users monthly ... it is through their use of the digital media that N-Gen will

develop and superimpose its culture on the rest of society. Boomers stand back. Already these kids are learning, playing, communicating, working, and creating communities very differently than their parents. They are a force for social transformation. (Tapscott 1998)

A major issue is that the current rural workforce generally comprises digital migrants. If this ‘lost generation’ (Kidd and McPhee 1999) is to embrace eHealth, eLearning or eResearch, then they need to traverse the digital divide, to reach out and meet the expectations of their students, the Net Generation. When that happens, they will reap a digital dividend (Daniel et al 2005)!

Apart from training and support to achieve the required eCompetencies, the rural health professional needs to embrace knowledge management (KM) as part of the paradigm shift in education from content only to content, process and meta-learning. KM, described as the ‘creation, protection, development and sharing of knowledge assets’, is critically important to today’s health professional who is grappling with an information explosion, exacerbated by personalised medicine and human genomics. Knowledge is based on evidence, which may be primary (ie found as original bibliographic citations in Medline) or secondary (ie evidence that have been appraised for relevance and rigour by experts in systematic reviews). These secondary sources of evidence (eg the Cochrane Database of Systematic Reviews, Critically Appraised Topics and Patient-Oriented Evidence that Matters) are useful ways to disseminate evidence to busy clinicians. In the case of rural health, the information should be presented within a rural health conceptual and clinical framework.

The communication, clinical, cultural and conceptual competencies described in the rest of this book are essential for effective interprofessional teams working within a ‘culture of sharing’ in the eHealth environment. Communication in eHealth may be synchronous (eg videoconferencing) or asynchronous (eg clinical emails [store and forward]), as in teledermatology or discussion forums, community health information networks, or online learning communities.

This section examines current innovations and models of health care that use, or can potentially use, ICT for eHealth, eLearning and eResearch to improve rural health care and to support the rural workforce and community. It continues on from the scenario described in Case Study 11.3 and emphasises the sociotechnical approach (Berg et al 2003) to examine how the digital revolution affects existing structures, protocols and processes of rural health care in Australia, and what contribution it can make to emerging and innovative models of rural health care. Some of the issues, benefits and barriers are examined in terms of computer-phobia, professional development and support, reduced costs and improved access to services. Academics and clinicians also describe personal case scenarios that demonstrate current innovations — and how well they work — and describe some future trends. A horizon scan and reality check is also conducted.

As you, the reader, examine and appraise this section and case studies, I would invite you to scan the horizon yourself and assess the likelihood of you being an eHealth practitioner next year or the year after. What sort of eHealth practitioner might you be?

Chapter 14

eHealth, eLearning and eResearch for rural health practice

Sue Whetton, Ann Larson and Siaw-Teng Liaw



Learning objectives

- Describe the capacity of eHealth to improve rural health care and support the rural workforce and community.
- Describe the ways in which eHealth affects existing structures and processes of rural health care in Australia.
- Identify how eHealth contributes to the emergence of new models of rural health care.
- List and explain the issues around the implementation of eHealth systems in regional and remote settings.

Introduction

This chapter explores the emerging field of eHealth, identifying its potential to significantly improve rural health care and to support the rural workforce and community. Underlying principles and perspectives that will facilitate the successful adoption of eHealth in regional, rural and remote health services in Australia are identified and discussed. How do we provide health services to the six million people dispersed across the 7.5 million square kilometres that constitute ‘rural’ Australia? How do we meet the consumer need for access to quality health care in a cost-effective way? The fact that only 20% of the \$2.3 billion spent on Medicare general practice rebates in 2002 was spent in rural Australia suggests that there is an inequitable provision of health care, mainly due to access issues, which can contribute to poorer health status and can lead to suboptimal treatment and premature death (Jong et al 2004).

In an address to the Commonwealth Fund in 2002, Dr Donald Berwick (President and Chief Executive Officer of the Institute for Healthcare Improvement, and Professor of Health Policy and Management at the Harvard School of Public Health), outlined his vision for ‘health services that offer “24/7/365” access to help that is uncompromising,

meeting whatever need exists, whenever and wherever it exists, in whatever form requested'. Given the current challenges faced by health services, particularly in providing even basic levels of service to rural and remote areas, this may seem more of an impossible dream than a vision for the future. Yet, there is a view that information and communication technology (ICT) offers the capacity to bring about the changes necessary to implement this vision, through the use of eHealth, eLearning and eResearch. According to Berwick (2002) 'the emergence of new information and communication technologies ... is often seen as offering new opportunities for enhanced levels of care, structural reform and organisational modernisation in health care'.

Until recently, health services outside metropolitan areas were structured around a network of small rural hospitals and remote nursing posts. This model developed very early in Australia's history when it was both possible and desirable to have duplication of a range of services and facilities for each community. Medical care was much less complex and less technology-dependent. Health professionals with excellent generalist skills were able to cope with most medical situations.

Over the years, rural communities and services have declined (Humphreys et al 2001). Significant changes during the 1980s and 1990s saw cheaper, faster and more efficient transport, which increased the connections between town and country. Commercial, education and health services in rural communities dwindled or disappeared. The number of people living in more rural and remote regions also declined. Better transport and smaller populations saw expensive and complex health treatments rationalised to larger centres. Specialist services, such as cardiovascular surgery or counselling services, are usually available only via outreach arrangements with metropolitan hospitals. Recruitment and retention of suitably qualified clinicians and other health professionals is becoming increasingly difficult, as is the provision of cost-effective and accessible health services. General Practice and primary health care services are already scarce (HWQ 2005).

However, small communities are surviving and many are becoming increasingly resentful of the gradual removal of services. They are also adept at developing and using innovative solutions including those using ICT. One example is the way in which ICT is being used to create eHealth alternatives to the face-to-face consultation. Options currently being explored include online consultations, group visits, email consultations, and chat rooms (Yellowlees 2000, Berwick 2002, Car and Sheikh 2004, Ferguson and Frydman 2004, Katz and Moyer 2004, Pascoe and Neal 2004, Pinnock et al 2005, R Smith 2004).

Consequently, eHealth, eLearning and eResearch are central to resolving the problems of providing services to rural Australia. Introduction of these new approaches to rural health care will be driven by the persistent problems of rural isolation, the uneven distribution of health care facilities, and the possibility of cost savings (McDonald et al 1998).

Yet, while rural areas have much to gain from eHealth — and there has been considerable investment by state, territory and federal governments — they have the poorest infrastructure, resources, capacity and capability for successful implementation and

uptake (Liaw and Humphreys 2006). At the same time, the rural models of health and human service delivery are as complex as any found in urban areas, with multiple funding streams and duplicative and uncoordinated services. This creates a paradox for rural eHealth, made more disappointing by the enthusiastic uptake by rural general practices (90% of RRMA 6 and 86% of RRMA 7 general practices) of secure, business-grade broadband through the Broadband for Health program (Medicare 2007).

The main contributing factors to this paradox, and therefore the main barriers to implementing rural eHealth, include:

- lack of a national and nationally-coordinated rural eHealth implementation plan and budget
- inadequate eHealth infrastructure in rural health services
- inefficient and unsustainable online information resources and telehealth programs
- lack of benchmarks and interoperability standards to enable cost-efficient and effective sharing of information, and lack of incentives for affordable broadband (Broadband for Health provides some financial incentives)
- workforce shortages generally, but particularly workers trained in eHealth services
- lack of skilled and reliable technical training and professional support staff
- a lack of remuneration for health professionals using eHealth strategies
- reluctance of providers and consumers to adopt eHealth, possibly due to concerns about privacy of health data.

The eHealth paradox reduces the opportunity of meaningfully addressing the rural–urban differentials in workforce, health services and systems, and ultimately, health. It is important to recognise that the eHealth environment is very fluid. For instance, with adequate ongoing support and funding from Government and industry, the rollout of the Managed Health Networks Grant Program as part of Broadband for Health in 2007 may be the beginning of a significant eHealth capacity building in rural and remote Australia.

The 2005, Eastern Goldfields Regional Reference Site Virtual Private Network project connected 20 GPs, three specialists, Aboriginal Community Controlled Health Services, a regional hospital and four district hospitals, the Eastern Goldfields Medical Division of General Practice, Aged Care facilities, four community pharmacies, Rural Clinical Schools, the Royal Flying Doctor Service, and private radiology and pathology providers. Like many of its predecessor projects, for example MediConnect, it is a short-term project with funding stopped in June 2006. To date, it has only demonstrated the promise of videoconferencing! The Australian Government plans to use the lessons learnt from this renamed ‘Gold Health Network’ to find better ways to support telehealth. However, the long-term fate of the network remains uncertain.

Evaluations of eHealth systems in Australia and overseas have identified the issues and perspectives associated with efficient, effective and sustained implementation of eHealth and eLearning. Adopting these principles with a sociotechnical approach, which

addresses the social and organisational aspects of technology diffusion and change management, as well as the technology requirements, are more likely to contribute to the resolution of the rural eHealth paradox (Liaw and Humphreys 2006).

Health professionals will embrace eHealth if it will benefit patient care and improve their own performance within an acceptable privacy and security framework. They do not expect to pay for the eHealth building blocks, such as secure business-grade broadband, semantic and technical interoperability standards, or patient identifiers. The government and industry are generally expected to be responsible for these public good infrastructure and systems. MBS items like telepsychiatry could be extended to other clinical domains.

eHealth reform has been impeded by the lack of a clear, consistent, effective nationwide regulatory framework for health information. This will be needed to provide the level of clarity, certainty and predictability needed to underpin the development of national eHealth systems and the wider workforce issues in the health sector.

The following case studies describe the situation with eHealth, eLearning and eResearch in Axis, a rural town, and provide a context for discussing these principles and perspectives.





Case study 14.1 eHealth supporting rural Australia

Axis is a small rural township situated three hours from the nearest regional town and base hospital. Janet, a nurse, is Chief Executive Officer of Axis Health Services, which is based in a 20-bed hospital complex. It is one of twenty hospitals in the region. These hospitals enter into various regional arrangements to facilitate effective use of resources, including the acquisition of ICT. Janet is excited about the prospect of using ICT for eHealth and eLearning. She has recently visited a nearby region where a Regional Patient Information System (RPIS) has successfully integrated administrative and financial systems. The ICT Committee in that region is now developing a regional electronic health record. Janet can see possibilities for her own service, where she is under pressure to share patient information electronically with the tertiary hospitals, other district hospitals and local GPs. Unfortunately, every organisation is using a different patient record system and she is concerned about how to transfer information safely, and about associated safety and privacy risks. A lack of information system standards and benchmarks contributes to this risk.

Janet's first concern is upgrading the old computers and dial-up Internet access in her service. The funding from the Federation Fund, set up to improve rural ICT infrastructure, has not been sufficient for Axis Health Services to significantly improve its ICT infrastructure. Janet is concerned with more than technology issues. She understands that training and support are needed to enable staff to use eHealth effectively. She also understands that change management strategies must encompass the cultural, organisational and behavioural issues of introducing eHealth.

Axis Health Services has a videoconferencing system installed in a meeting room. The funding from the state government was for three years, with Axis Health absorbing the operating costs at the end of this period. The system was installed by ICT contractors, with limited consultation with potential users. It is used primarily for administration and management meetings. The high-speed connections necessary for most clinical consultations are too expensive for regular use. Health professionals find the equipment difficult to use and are unhappy having to leave their offices/consulting rooms to use the system in a non-private room. They also argue that it will cost them less time to refer a patient away rather than spend a lot of time videoconferencing, and end up referring them out anyway. They question whether telehealth benefits the centre at the expense of the periphery. Clients using the system are concerned that their discussions can be overheard in the adjacent staff-room. Greater use of this potentially cost saving tool will require a complex change-management strategy across the whole network. Janet does not have resources to allocate to this.

Discussion

Through eHealth, rural health services have the potential to become exemplars in offering coordinated and integrated health care and health education. The central role of the rural community hospital can be revived as it becomes the physical and virtual focus for intersectoral and interprofessional service integration and knowledge transfer among the rural health team, and between specialist urban and generalist rural services (RDAA et al 2004). Used judiciously to augment teamwork and enable information sharing, ICT tools can promote cost-effectiveness, facilitate coordination and integration in the health

system, and improve equity of access to health services, education and information by rural clients, health care professionals, health care managers and authorities.

However, successful exploitation of eHealth requires more than simply introducing ICT into the health care environment. While there may be a focus on the technology, eHealth also includes political, organisational and cultural factors. eHealth systems often disrupt traditional work routines, workflow and work relationships. The location of equipment, the need to consult with others, the protocols involved and the need to enter and access information in a timely manner may all have an impact. In a busy rural emergency department, general practice surgery or health administrator's office, these changes may or may not be perceived as a good thing. New systems must be designed to take into account the complexity of the health care environment and the needs, priorities and agendas of key players. A sociotechnical perspective acknowledges these political, organisational and cultural factors at both the strategic and the local levels (Whetton 2005a).

At the strategic level, governments influence eHealth by their willingness to provide resources, support initiatives and modify existing policies, procedures and guidelines to accommodate services (BCG 2004). Legal issues are also important (Milstein and Tognio 2001). This level of support is embodied in the following factors.

- *Adequate ICT infrastructure:* Without an adequate ICT infrastructure, eHealth will not progress. In Australia, the government has a key role to play in ensuring that the telecommunications infrastructure is extended across the whole country.
- *Leadership:* National and state bodies have a critical leadership role. This includes support for standards organisations to develop and implement accreditation for appropriate technical and professional standards quality-control mechanisms.
- *Interoperability standards:* If eHealth is to fulfil its promise for regional, rural and remote health care, it is essential that interoperability standards are developed to enable sharing information within the public sector, and between the public and private sectors.

There is also much that can be done locally to increase the uptake of eHealth. Senior management need to set parameters around the nature, scope and focus of eHealth programs. Focuses on efficiency, technology or quality care will each produce different issues and different outcomes. Senior management also influence outcomes of eHealth by the level of support and involvement they demonstrate (Liaw and Tomlins 2005). The following inter-related principles should underpin local organisation planning:

- *Warm-ware/management support:* Management support is needed to provide the policies, resources and protocols necessary to promote and support the use of eHealth services and applications.
- *Measurable outcomes:* Advocates for an eHealth application must be able to show that it will improve clients' health outcomes or result in significant savings of resources. The most successful projects use ICT tools to address issues that health care providers have seen as problematic. For example, electronic patient-discharge

summaries are a clear improvement over hand-written summaries that are sent by post.

- *A respected clinical champion:* The enthusiasm and credibility of a champion or role model will influence other clinicians to adopt changes. The most effective clinical champion is one who has sufficient resources to be involved in the introduction and ongoing implementation of an application.
- *Accurate, timely and secure information:* Ideally, new applications will be consistent with current information flows, such as prescriptions sent to a pharmacist. Applications requiring new information flows must be designed carefully, because applications that are not trusted, counterintuitive and time-consuming are less likely to be accepted or used.
- *Ongoing training and support:* This will ensure that eHealth services and applications are used efficiently and effectively.
- *An embedded evaluation framework:* This should include process and outcome components. An effective evaluation framework will be rigorous but realistic. It will cover technical, organisational, cultural and behavioural dimensions, with a focus on user and patient outcomes over the longer term (Hersch and Hickam 1998, McDonald et al 1998, Liaw et al 2003, Littlejohns et al 2003).

Challenges for the learner and teacher

1. What are the current Australian Government policies and frameworks that will provide structure and support for Janet's initiatives?
2. What are the current policies and frameworks in your state that will provide infrastructure and support for Janet's initiatives?
3. What national standards initiatives, policies or guidelines would help to resolve the connectivity issues at Axis Health Services specifically and Axis generally?
4. What organisational, cultural and political issues will Janet need to consider when seeking to develop the eHealth systems at Axis Health Services?





Case study 14.2 The potential and pitfalls of eHealth: other health professionals in Axis

Min-Yu, a pharmacist who works in the local Axis pharmacy, is also interested in how clients with chronic diseases manage their long-term medicines. She is especially concerned about people in the isolated townships scattered across the region, particularly if they are using the Internet for information. Unlike John, the GP registrar in the Axis general practice who uses RACGP Online regularly, she has reservations about clients using the Internet, because she believes that much of the information available is unreliable. With the support of Axis Health Services, Min-Yu has developed an online education program for people with a chronic disease. The program has not been used much, and feedback suggests that it is too difficult to navigate, the images take too long to download, and the help files are written in technical jargon. Many people are trying to access the site using dial-up modems.

Discussion

As the rural health sector's experience with using advanced ICT technology increases, it is becoming clear that eHealth is not just about changing how we deliver the same services. Rather, it is about offering services in different ways. In education, ICT can enable health professionals, clients and the wider community to initiate and access many formerly unavailable education opportunities via eLearning. One of the main uses of ICT is for education; but, the technology should be used because it is the most effective and appropriate tool, not simply because it is available. Educators have adopted a number of principles to ensure that this occurs. These apply to undergraduate programs (Hilty et al 2006) and continuing professional education (Liaw et al 2002). A quality program will embody most, if not all, of the following principles:

- *Relevant, appropriate content:* Activities and content should be meaningful to learners and practitioners (Dorsch 2000, Gorman 2001, Gorman et al 2004).
- *Inclusive practice:* This underpins good pedagogy by seeking to develop programs that cater for learners of different age, gender, ethnicity, physical and intellectual ability (Goins et al 2001). eLearning programs must also cater for different levels of access to technology and different ICT skill levels.
- *Learner engagement:* This is achieved through a meaningful, enjoyable and interactive program. This is a particular challenge for eHealth programs offered to isolated learners.
- *Fit for purpose:* Technology should be used because it is the most appropriate tool, not simply because it is available. eLearning has particular strengths. It can, for example, be used for simulations, or to provide an experience with situations that rarely occur in real life, or that are too expensive or dangerous to include in hands-on training.
- *Effective learning:* This is facilitated by learners being able to work at their own pace and time, and pursue their own paths through the material. The most effective

programs offer alternative learning pathways that cater for different learning styles/preferences.

- *Ease of use*: Usability is an important factor in the adoption of technology. An eLearning program should be intuitive, requiring little, if any, training before use.
- *Cost-effectiveness*: eLearning programs need to be affordable and sustainable.

Challenges for the learner and teacher

1. Analyse the possible strengths and weaknesses of Min-Yu's online program, using the eLearning principles to suggest improvements. As an example visit the falls prevention website (<http://www.falls.unimelb.edu.au>).



Case study 14.3 Challenges for professional learning and development: making Axis less remote

Iman, a mental health nurse, is researching mental health in his rural setting while collaborating with a mental health team in a remote interstate health service. He is also communicating with a rural mental health project in Saskatchewan, Canada. Iman is having trouble trying to match reports he receives from his collaborators. The terminology and data structures they use do not appear to be consistent.

To complete his rural term, John (the GP registrar) has joined the local general practice. John is happy with the range of clinical experience, but, while debriefing with his GP supervisor, he raised issues relating to professional support. He is also keen to explore the potential of eHealth to support his professional development. John recognises that face-to-face groups or journal clubs would be helpful, but difficult to organise. He wonders whether an online group would be useful and how the interaction could be facilitated.

Discussion

Clearly, the use of ICT is allowing increased collaboration and information sharing, and changing the relationships between health professionals and between health professionals and consumers. This is creating exciting opportunities for the future of health services in regional, rural and remote Australia.

However, despite much rhetoric in the past two decades, we have not been able to achieve a national shared electronic health record (EHR) in Australia. There is a significant gap between what systems and resources exist to support the adoption of eLearning, and what systems are still required. Table 14.1 summarises the current resources and future needs that are required for sharing electronic health information.

Table 14.1 Current resources and future needs for electronic information sharing

Need	What exists in Australia	What is still required
Interoperability standards for shared electronic health records (EHR)	Terminology standards (eg ICPC2, ICD10AM, SNOMEDCT) ^a Architecture standards (eg NHIM, NHDD, openEHR) ^b Messaging standards (eg HL7) ^c	An implemented standards-based, distributed EHR system Decision-support systems and knowledge bases ^d Greater choice of user-friendly interfaces Incentives for data collection at point-of-care Training and support services
Consumer and provider access to information and education (personalised medicine)	Online editorial standards (eg HTML, XML) ^e Primary literature sources (eg Pubmed) Secondary literature sources (eg Cochrane Collaboration)	National reference terminology Web content accessibility guidelines Sharable Content Object Reference Model (SCORM) ^f
Relevant population-based classifications to facilitate secondary use of data to support research, evaluation and development of health services	ICD10AM (+MBS) ICPC2 LOINC SNOMEDCT	Comprehensive reference terminology with mapped classifications Implemented standards-based distributed system

a GP Computing Group (2000a), GP Computing Group (2000b), NCCH (2001)

b NHDC (1996), NHISAC (2001)

c HL7 (1999)

d NEDST (2002)

e UN/CEFACT and OASIS (2000)

f <http://www.cyberlink.com/english/products/streamauthor/articles/scorm.pdf> (Accessed 17 August 2007)

Source: Liaw

Research initiatives that use ICT are leading to the establishment of international eResearch networks, which use standard data sets and data dictionaries. This allows network members to connect seamlessly through the use of national and international interoperability standards. Australia has adopted the Systematised Nomenclature of Medicine Clinical Terms (SNOMEDCT) as its terminology standard, making it part of the international SNOMED family. However, like a number of current technical standards, a functional implementation of SNOMEDCT is not yet available. The main rural issues associated with eResearch relate to:

- privacy and confidentiality in small communities
- relative lack of access to research expertise
- difficulty with regular face-to-face networking and discourse, an essential component of academic rigour and collegiality.

Practitioner and student use, and knowledge and understanding of ICT are being enhanced through the University Departments of Rural Health (UDRH) and the Rural Clinical Schools (RCS). The UDRH and RCS have established a national network of academic centres, with good ICT infrastructure, across rural Australia. In addition to the infrastructure, the UDRH support eHealth, eLearning and eResearch through programs like the Primary Health Care Research, Education and Development (PHCRED) program and other training opportunities.

Challenges for the learner and teacher

1. How does one design and conduct eResearch in rural settings that might be useful and applicable to other rural and to metropolitan settings?
2. Find out about SNOMEDCT and how it could contribute to the resolution of Iman's problems with understanding reports. What are the limitations of SNOMEDCT?
3. Why is privacy and confidentiality a particular issue in small communities?
4. How might research, networks and eResearch assist Janet and Axis Health Services to improve the services they provide?
5. Expand John's ideas for professional support and development into an eLearning program, incorporating relevant eLearning principles.



Key points

- Rural health has much to gain from eHealth, eLearning and eResearch, but the relative lack of infrastructure, policies and guidelines, and adequately trained workforce are obstacles to achieving these gains.
- ICT is used within a wider sociotechnical system that includes cultural, organisational and political factors.
- Successful implementation of eHealth programs requires a good understanding of all elements in a sociotechnical system.
- Incorporating identified principles and perspectives will facilitate the success of eHealth, eLearning and eResearch initiatives.



Recommended readings and resources

- eHealth, Australian Government Department of Health and Ageing
<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/e-Health-3>

This website includes a number of articles which outline current eHealth policies and programs initiated and/or supported by the Australian Government.

- Chaudhry B, Wang J, Wu S, Maglione M, Mojica W and Roth E (2006). Systematic review: impact of health information technology on quality, efficiency and costs of medical care. *Annals of Internal Medicine* 144:E-12-E-22.
- Siman AJ (1999). *Sharing the Caring: Telehealth offers Fairer Distribution of Health Expertise Across Canada*. Online document. <http://www.hc-sc.gc.ca/hcs-sss/pubs>

Andrew J. Siman is the Director General, Office of Health and the Information Highway, Health Canada. In this article he discusses the potential of telehealth for rural and remote services and emphasises the importance of adopting a patient-centred approach to eHealth.

- Walker J and Whetton S (2002). The diffusion of innovation: factors influencing the uptake of telehealth. *Journal of Telemedicine and Telecare* 8(Suppl 3):73–75(3).

Factors which have been found to influence the successful uptake of telehealth include legal issues, technical difficulties, time and convenience, cost and training/familiarity with the equipment. No single factor has been identified as being consistently present, suggesting that strategies for the introduction of telehealth should take into account the particular structures and cultures of individual organisations.

- Whetton S (2005a). Successes and failures: what are we measuring? *Journal Of Telemedicine and Telecare* 11(Suppl 2):98–100(3).

This article discusses issues around evaluation of telehealth programs. It suggests the development of frameworks enabling all similar studies (eg diabetic home care) to be examined in order to extract commonalities and differences. The author suggests this would enable comparisons and conclusions about where telehealth is effective, as well as what variables demonstrate success.



Learning activities

1. Identify an eHealth initiative intended to meet one of the current challenges faced by rural and remote health care services. Identify the extent to which the barriers to eHealth discussed in this chapter may be impacting on this initiative.
2. eHealth can never replace traditional face-to-face services. Discuss.
3. Review the videoconferencing program outlined in Case Study 14.1. Using the principles for local organisations, develop a strategy to facilitate more effective use of the videoconferencing facility.
4. Find three consumer health education sites and evaluate them using the principles listed above.
5. Prepare an annotated list of online databases and resources that support eResearch.
6. Discuss the differences between connectivity and interoperability from the eHealth perspective.

Chapter 15

A connected Australia — now and in the future

Judith Walker, Dawn E DeWitt, Jonathan Newbury and Ann Larson



Learning objectives

- Describe how connectivity and connectedness might improve the quality of day-to-day rural health care delivery.
- Describe the variety of face-to-face and virtual connections that enable rural and remote practice in Australia.
- Describe how research opportunities may stem from electronic medical records and other forms of connectivity and connectedness.
- Explain specific electronic or collegial resources that will facilitate rural health providers' professional development.

Introduction

Brian, a 40-year old farmer suffered a total body crunch when his tractor overturned, falling on him. Called to deal with the acute situation, the connected GP and paramedic transmits video images of the patient, enabling consultation with the connected Crash Team, using nomadic computers (web-enabled palm devices with built-in wireless telephony, messaging, text and data display, multipoint conferencing and global positioning systems). The Crash Team, now physically assembled at the regional hospital, is ready to operate the minute Brian is evacuated into the hospital.

The GP, updated continuously through the online shared Electronic Health Records (EHR), keeps the family informed throughout the acute phase. The post-acute and rehabilitative care is managed by the GP and health team, including carer, with the online shared EHR and integrated decision support tools.

The Community Health Information Network (CHIN) of clinical teachers and learners, researchers, administrators and consumers, formed as part of continuous quality improvement of health care in the region, continues to connect policy makers, providers

and consumers, sharing information and resources, leading to shared decision making and common best practice.

The above scenario, futuristic as it may seem, demonstrates the natural progression of the electronic connectivity that has changed the world and the way we work and think as health professionals. Broadband cable, ADSL Internet connections, bluetooth and Wi-Fi-enabled communications and multimedia capture devices are becoming more affordable, as are powerful smartphones. Personal portals are gaining widespread popularity. Hospital wards and emergency departments are being wireless-enabled. With the increasing emphasis on shorter hospital stays and home care, this connectivity will spread out into the community via the Wi-Fi network. Software can be distributed via the public wireless networks, enabling the monitoring of clinical and other devices via secure and authenticated mobile phones.

The case studies that follow in this chapter illustrate the benefits of eConnectivity and connectedness to support personal lifestyle, professional care and development, improved access to services, challenges such as the technological and other barriers to eConnectivity and a horizon scan of possibilities in the short and medium term.





Case study 15.1 Connecting health professionals in rural Western Australia

When you join rural practice, you join a dispersed community of professionals. Opportunities come up that would never have arisen in the city, and you see the immediate effects of your innovation. You achieve this not in isolation, but by connecting with your peers, who frequently also become your teachers, mentors, students and best friends.

A WA regional health service prided itself on its telehealth program to support people caring for chronically unwell family members in isolated rural towns. However, they lacked formal evidence of its success. An experienced nurse and telehealth coordinator based at a regional centre took advantage of a six-week research fellowship and the support of the Combined Universities Centre for Rural Health (Western Australia's UDRH) and worked to increase rural health professionals' capacity to conduct evaluations. She loved the experience so much that she now regularly gives workshops with the local UDRH, has co-authored a paper, and is mentoring a young nurse. She is using her skills to increase the use of videoconferencing in the region. Most important to her, the project was helpful in gaining continuing funding for the telehealth program.

Telehealth is now standard in some remote areas, having been used successfully in psychiatry and dermatology. Many rural practitioners are using satellite broadband and many local hospitals have ISDN lines, enabling them to use videoconferencing, send X-rays or pictures of skin lesions for remote reporting, and exchange encrypted pathology and radiology reports. Much of the radiology is using DiCom tele-radiology infrastructure, but there is increasing use of the Picture Archive and Communications System (PACS) within the region.

Another way of looking at connectivity is the role of rural professional associations. Mainstream professional associations are notorious for finding it too difficult to meet the needs of their rural and remote peers. Seminars, conferences and annual general meetings are invariably held in capital cities and address the concerns of urban life and tertiary hospitals. In contrast, organisations such as the Council of Remote Area Nurses of Australia (CRANA) and the Australian College of Rural and Remote Medicine (ACRRM) are pioneers in connecting their membership. ACRRM is planning to run its candidate exams remotely via video assessment in a structured clinical setting. The Bush Crisis Line (a 24/7 counselling service for rural and remote health professionals) and RRMEO (a web-based professional education site for ACRRM members) are exemplars of providing practical services for a unique professional group.

Discussion

Rural health care providers speak of the joys of cradle-to-grave practice. Health service managers, educators and researchers also have the opportunity to take a wisp of an idea and nurture it until it is a fully fledged program that is making a difference and setting standards nationally and internationally. The lack of technical and semantic standardisation is a significant issue. Firewalls that provide security, especially for clinical services, are significant barriers to educational communication that links academic/educational issues, research opportunities, and clinical services. Imagine a student presenting a case with an interesting radiological finding in a classroom across the street from a rural hospital. The hospital has digital radiology, but the hospital and educational facility use separate Internet services with firewalls. Ideally, the students

would be able to bring up the X-ray, but the firewalls currently often make this impossible.

As rural health professionals become more connected to information sources, specialist advice from capital city practitioners, and peers working in remote communities in another state, we risk losing the intimacy that attracted us to the country. Fortunately, that does not need to be the case. For the professional moving to a rural town or remote community, the rewards of making new friendships, enjoying beautiful surroundings and practising excellent general care will be as great 30 years from now as they were 30 years ago. Research has shown that, despite initial concerns, greater electronic connections do not mean sacrificing local networks. In addition, new forms of connectedness in education and service delivery vastly expand the opportunities for lifelong rural and remote residents to gain health qualifications, find rewarding employment and develop professionally.

On the downside, patient use of email is low. Rural Australians do not appear to use the Internet as much as their metropolitan counterparts. However, there is much to hope for, and every reason to think, that Australia can solve the problems associated with a system of ‘connected’ rural health and make it come alive. As the new generation of health care students, you are the people who need to understand the challenges, refine the visions, and make it all happen.

Challenges for the learner and teacher

1. Look up the website of one of the professional clinical organisations that is not rural (eg a doctors or nurses group, such as a college). Does the organisation address rural issues specifically? What are the issues? Contrast these with the websites of specifically rural organisations, such as ACRRM and CRANA. What do they do? How are they different?
2. How are people recruited into rural and remote health practice? How can a metropolitan student or health care professional find out whether rural practice is for them?



Case study 15.2 A day in the eConnected life of a rural clinical educator and clinician

My typical day starts with a teleconference or videoconference. Through wireless and mobile phone eConnectivity, I can teleconference from home, in the car, from work, or away from home (for example at conferences) and receive my emails as well! During the teleconference, emails pile up in my inbox from all over Australia, and from colleagues and students around the world.

As I scan my email, I see notification of a new article in the *Rural and Remote Health (online)*. This journal allows authors from all over the world to submit papers online and follow their progress — unthinkable 10 years ago! eReviewing assists the international panel of reviewers and allows articles to be edited and published much more quickly than print publications.

Finally, there is an encrypted secure email, through my clinical email account, from a patient asking if I can write a repeat prescription for him, to be picked up at the clinic desk.

On my morning ward rounds, I use my handheld pocket PC to search UpToDate© or pharmaceutical databases and to log cases and procedures at the bedside, usually in conjunction with students or postgraduates. I also use the computer in my consulting room to search the web using databases such as MEDLINE, the Cochrane database, UpToDate©, and MIMS (Australian pharmaceutical database) for answers to clinical questions that arise during ward rounds or during clinics. During my clinic, a research question arises about the prevalence of obesity in the clinic population and a search of the clinic's electronic medical record/database yields the number of clients with a diagnosis of obesity in the practice. I can cross-reference this by searching Body Mass Index (BMI). The clinic hopes to use this information to argue for rural patient access to new obesity therapies that are currently only available at metropolitan hospitals; the clinical team hopes to have students do health checks and update their database; and the research team hopes to write a research grant to study the effect of availability of these therapies to the rural community when they don't have to travel to the city to access such therapies.

A patient comes in asking about shark cartilage as a treatment for his brain tumour. We search the 'Natural Medicines' database and decide that the therapy probably won't help and might have some risks based on his other medical problems. Instead, I ring another colleague to ask where I could get a second opinion about the patient's cancer treatment.

After clinic, I lead a student tutorial with a slide show using digital photos I have taken of dermatological problems. When I get home, I quickly check my email and find an email and photograph from a post-graduate trainee, who I have been assigned to as a 'distance mentor' for the last year, telling me that she is getting married and moving to the UK to do a year of training there.

I reflect on the wonders of being able to write a paper with colleagues from across the world in days rather than months. I also despair about keeping up with email, how to get rid of spam, and the email–mobile phone dilemma of being expected to respond immediately to all communications (because I must be connected, right?). I think there must be a research study in there about mental health and demands of connectedness in this way; but then I remember the studies showing that one of the best predictors of health and decreased mortality is being socially connected (through marriage or partnership, volunteering, and/or religious and social groups). So, the challenges and perils of being connected come back full circle, as I smile at the email from a former mentee, thanking me for being her 'distance mentor.' The attached pictures show her winning a 'best paper' award at a conference and her engagement party — it's all about being connected!

Discussion

As a ruraly-based clinician and medical educator, being 'connected' is essential to collect, process and disseminate information with students, clients and colleagues. The Australian Government Department of Health and Ageing (DoHA) funding for the UDRH and RCS programs has enabled the establishment of infrastructure networks to support videoconferencing and interactive eLearning across rural Australia. The rural satellite network regularly broadcasts educational programs. Interactive websites offer students cases, incorporating radiology, histology, microbiology, quizzes and feedback.

In the future, these formats will be embedded into training and, hopefully, teachers will be trained on how best to teach inclusively and interactively via videoconference.

Distance mentoring, and even remote clinical examinations currently being piloted by the Australian College of Rural and Remote Medicine (ACRRM), will be common, reducing the burden of travel for learners and examiners. However, research has shown that students still need face-to-face teaching and that it is hard to impart clinical and teamwork skills remotely. Bedside teaching will always be needed and computers will probably never replace a mentor.

Challenges for the learner and teacher

1. Consider the use of email between health care providers. What are the benefits and disadvantages for clients and providers? What are the privacy and appropriateness issues?
2. Discuss when and how ‘distance mentors’ could be useful for you. What are the barriers? Are there times when distance mentoring just cannot work?



Case study 15.3 A shared electronic health record for eHealth and eResearch

The Explorer Clinic in Port Abraham, a small coastal town in South Australia, is a large group general practice where the GPs and nursing staff access the same electronic health record (EHR). All appointment and billing information is managed by administrative staff who have separate security levels to access that part of the EHR system. Patient demographic details and clinical information are recorded in discrete fields (eg presenting symptoms, examination findings, management and diagnoses) and coded using the International Classification of Primary Care. Nursing staff perform and record all immunisations according to the childhood schedule (updated from the Internet) or opportunistic adult immunisations. Immunisations that are overdue generate a reminder at the start of a consultation.

In addition, following training and support, the clinicians in the Explorer Clinic are able to examine the EHR data for information about their clients and their professional practice. Clinical questions are generated from the database. These data mining activities are particularly useful because, unlike urban practices, rural practices serve the entire spectrum of their community over many generations.

Port Abraham is also part of a number of regional clinical networks defining ways to streamline care for particular groups of clients. An example is iCCnet SA, the Integrated Cardiovascular Clinical Network South Australia, which links rural GPs and hospitals with Adelaide-based cardiologists for interpretation of urgent ECGs, retrieval of urgent results and interventional managements of acute coronary events.

The Port Abraham Aboriginal Health Service (PAAHS) is located within the same building as the Explorer Clinic, but is separately managed by the local Indigenous community council. Several visiting GPs provide health services to Indigenous clients through the PAAHS; they keep hand-written patient records in manila folders. Indigenous clients use the other mainstream

health services in town for inpatient services, mental health services, after-hours care and secondary and tertiary care.

There is an ongoing debate as to whether Indigenous Australians should continue to have access to specific Indigenous health services or whether mainstream services should continue to adapt and improve their cultural security for Indigenous clients and staff.

A centralised or shared electronic record would enable all these services to access and contribute to a complete health record for each person, which should produce more effective coordinated care. Confidentiality of information in small towns is always important, but is a particularly sensitive issue for marginalised minority groups, such as the Indigenous community. While efficiency directs us to centralise health records for all services, community preferences might argue that privacy and security is more important for particular services or particular population groups.

Discussion

EHR, with security and confidentiality measures in place, can benefit health care and provide endless opportunities for eResearch. A shared EHR should let us consistently and accurately describe, document, share and use the information about people's journeys through the health care system, and about health outcomes at relevant points. The CONDUIT (Collaborative Network and Data Using IT, www.conduit.unimelb.edu.au) program in the Goulburn Murray Valley in Victoria uses record-linkage techniques and Internet-based technologies to link the health records of GPs and specialist health services, many of whom use different computer systems. This information network enables the sharing of information across the continuum of primary and secondary care to support clinical care, audit and research. The network of linked GP and health services information systems can improve safety and quality of care, quality of research, health planning and policy.

While information and communication technology, particularly the Internet, is being used as the vehicle for information sharing, the health card with a magnetic strip or computer chip (smartcard) is also being promoted. In this situation, the patient is the controller of information sharing. The proposed Health Access Card is an example, although it plans only to record uses of health services.

National health cards or information networks should and can improve health care and overcome access issues. Consensus on privacy, security and research protocols should facilitate research using linked and integrated databases from primary and secondary care. This should also allow us to provide state-of-the-art services for clients by allowing health care professionals full access to patient information, thus saving repeated investigations into, or morbidity from, adverse drug-drug interactions, and saving the health care system millions of dollars. The eResearch made possible would enable researchers to answer crucial questions, such as the national immunisation rate for influenza, or patient access to cardiac services.

However, despite much rhetoric in the past two decades, there is still a significant shortfall in the systems and resources needed to support the adoption of eHealth and a shared EHR (see also Table 14.1).

Many of the eChallenges for Australia relate to the vast distances; and thus the costs of physically installing the hardware for high-speed Internet and videoconferencing services. However, the benefits for Australia are huge, as we face critical shortages not only in health care providers, but also in educators for health care professionals. The relative smallness of the Australian population makes it feasible for us to be world leaders in these areas; but, the current structure within which funding of health services operates, particularly in terms of the division between federal, state and territory responsibilities makes it difficult to run collaborative projects across health services, or to provide education that is funded by different sectors.

Challenges for the learner and teacher

1. Consider whether you would change the current paper-based system at PAAHS. Why or why not?
2. Are there electronic medical record systems available that might provide privacy for Indigenous (and non-Indigenous) Australians?
3. Consider the national debate on ‘health smart cards’ that clients might carry with them. What advantages or problems might such a system create?

Scanning the horizon

At the beginning of this chapter we were presented with a scenario about Brian and the response to his serious tractor accident by connected health care professionals and teams. We learnt about CHIN supporting ‘communities of interest and practice’, providing access to shared decision making and common best practice. The scenario demonstrated the natural progression of electronic connectivity. The world is changing. This scenario is technically possible and such scenarios are becoming reality. Likewise, in the case studies in this section, we have seen examples of the benefits and challenges of current rural eHealth innovations.

There is a significant amount of eConnectivity and eConnectedness, mainly through the broadband programs and communication carriers. However, we are nowhere near to achieving the potential of eConnectivity to support and enhance eHealth, eLearning and eResearch. Examples through case studies are described as ‘innovation’, ‘advance’ or ‘project’ and are not being implemented as part of mainstream activities.

Will eHealth be an accepted routine part of rural health business in two, five or even ten years’ time when you may be a rural eHealth practitioner? Or will individual eHealth projects continue to be examples of the suboptimal implementation and use of eHealth tools, described as the rural eHealth paradox (Liaw and Humphreys 2006)? Will the digital divide of information haves and have-nots, knowers and know-nots, doers and do-nots continue to be a feature of rural health care?

Sir John Daniel, President of the Commonwealth of Learning asked: ‘What will it take to replace the digital divide with a digital dividend?’ (Daniel et al 2005). Is eHealth the solution to providing quality and cost-effective health services to the six million people in rural and remote Australia dispersed across 7.5 million square kilometres? Or is it just another over-hyped but underperforming attempt to connect technology to health care? Can we organise ourselves effectively to take advantage of technological opportunities?

D’Antoni (2002) outlined four questions about the usefulness of eLearning that are equally applicable to eHealth and eResearch:

- Is it accessible? For eHealth to have universal impact, practitioners and clients must be able to access it.
- Is it appropriate? Does it respond to rural health needs and suit cultural contexts?
- Is it quality-assured? Does eHealth promote trust and confidence?
- Is it affordable? If it is not affordable locally, digital dividend will not replace digital divide.

So, what does it take to make eHealth an integral part of the rural health landscape? Who must do what?

Governments can facilitate the context in which rural eHealth can flourish. They can surmount the barriers that limit the availability of bandwidth and address telecommunication affordability and legislation, and telecom company monopolies. They should specify national, state and territory policy and support an implementation plan for rural eHealth. Governments can legislate for benchmarks for adequate bandwidth and standards to enable cost-efficient and effective sharing of information in rural Australia.

Health care organisations, public and private, can provide infrastructure, skills training and professional support to rural health practitioners. They must also face important, sensitive, non-technical issues in developing eHealth:

- Institutional development and organisation — replacing existing policies and procedures conceived for a different health care environment and implementing change management structures that encompass cultural, organisational, operational and behavioural issues of introducing eHealth.
- Service issues — the choice of appropriate services for eHealth.
- Intrastate, interstate and national environment — partnerships and cooperation between public and private sectors to reduce the costs of eHealth resources.
- Management — overcoming the reluctance of managers to challenge their ICT specialists and engage in problematic issues in a systematic way.
- Decision making — taking decisions with a long-term perspective, looking beyond the present opportunity or budget cycle.

- Interprofessional teamwork — working with universities and other health education and training providers to prepare practitioners for inter-professional teamwork and facilitating a culture of eConnectivity.
- The concept of knowledge management (the creation, protection, development and sharing of knowledge assets) must be embraced as part of the paradigm shift in education from content only to content, process and meta-learning.
- Cultural safety and security issues must be addressed through improved connectivity and connectedness with patients and clients.

As current and future eHealth practitioners, we should harness our energies to the challenge of transforming the digital divide into a digital dividend for rural eHealth. Our aim must be to combine connectivity with health care resources so as to create an eHealth commons accessible to all rural and remote Australians.



Key points

- eConnectivity and eConnectedness is reducing the professional isolation of rural practitioners.
- New technological and academic support for practitioners is improving the range and quality of services to rural communities.
- A paradigm shift from baby boomer thinking to Generation Y thinking is required to bridge the digital divide and achieve a digital dividend.
- The digital dividend includes a shared electronic health record and decision-support systems that are routinely used by competent eHealth practitioners.



Recommended readings and resources

- Liaw S and Humphreys J (2006). The rural eHealth paradox — it's not just geography! *Australian Journal of Rural Health* 14:95–98.
- Gaster B, Knight CL, DeWitt DE, Sheffield JV, Assefi NP and Buchwald D (2003). Physicians' use of and attitudes toward electronic mail for patient communication. *Journal of General Internal Medicine* 18:385–389.
- Gates P and Urquhart J (2007). The electronic, 'paperless' medical office; has it arrived? *Internal Medicine Journal* 37(2):108–111.
- Hoffman DM (2007). The new era: going paperless with clinical software for physicians. *Internal Medicine Journal* 37(2):71–72.

These references discuss digital health practice and eHealth further. The paperless office is possible, but requires commitment and training of all staff; it is preferable, but not

absolutely essential, that at least one member of the practice has an interest and some expertise in computers.



Learning activities

1. Identify three databases on the web that would help you in your clinical field. How would they help you stay connected if you were in the rural workforce?
2. Research how patient access to web information about medical treatments helps or harms clients.
3. If you participate in a clinical placement opportunity, investigate what clinical information is available electronically at the site.
4. Write a paragraph sketch of a new initiative based on a problem you have seen in rural health. Who would be the major stakeholders (eg government, citizens, health services, etc)?



Part C

Resources



Resources

Joy Burch and Vicky Newman

Part C brings together all the learning and teaching resources used in this textbook. It also provides materials and activities that the learner and the teacher may find useful in their particular contexts, including:

- glossary and definitions
- learning activities, listed by chapter
- further reading, teaching and learning resources, including official reports, websites, CDs, DVDs and films, and resources listed alphabetically
- references listed alphabetically.

Glossary and definitions

Assimilation	A process where immigrants, or other minority groups, are ‘absorbed’ into a larger community. This presumes a loss of all characteristics that had previously made the newcomers different, ‘blending’ individuals into the larger society in a kind of multicultural melting pot.
Asylum seeker	‘A person having a well-founded fear of being persecuted for reasons of religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable, or owing to such fear, is unwilling to avail himself of the protection of that country’. (1951 United Nations Geneva Convention)
Broadband for Health	The Broadband for Health Program is an Australian Government program to provide broadband Internet access to GPs, Aboriginal Community Controlled Health Services, and community pharmacies nationwide.
Case study	Collects and presents detailed information about individuals or groups, often including accounts from study subjects. It may obtain data from a variety of sources, including interviews, focus group surveys and document analysis. A case study draws conclusions only about the participant or group it is examining and only in the context in which the participant or group exists for the purposes of the study. A case study does not seek generalisable ‘truths’ or cause and effect relationships. Results are generally presented in written form, but other media are becoming increasingly popular.
Community health service	Provides primary health care using a disease prevention and maintenance of health and wellbeing approach. Such services are usually staffed by interprofessional teams in the community or through outreach.
Cultural security, awareness, safety and competence	Cultural awareness and cultural safety are important foundations for the attainment of cultural security. A recognition and understanding of the uniqueness and diversity of Indigenous Australians, within geographical, historical, physical, social, cultural and language contexts, will assist in the development and maintenance of culturally secure health services and organisations, within which a clinically and culturally competent workforce provides culturally appropriate health services, which are culturally safe to patients and providers. Cultural security training provides a framework from which to work effectively and respectfully with different Aboriginal and Torres Strait Islander individuals, communities and organisations.
Defined catchment population	People in a defined ‘catchment’ category, usually a geographical area, but sometimes based on other criteria (eg ethnicity, language group). A defined geographical population will still contain people subgrouped according to particular differences (eg cultural affiliation, age, occupation, etc). Some subgroups will exist as distinct communities within the overall geographical population.

Duty of care	Common law, where a person has a duty to do everything reasonably practicable to protect others from harm.
Easy entry/gracious exit	A walk-in-walk-out general practice model enabling GPs to work as clinicians while the infrastructure for the practice is already in place. The model seeks to support both the desire of GPs for more predictable and less onerous work commitments and to reduce the need for any significant up-front financial investment on their part.
eHealth	Activities range from providing services and treatment for individuals, to monitoring and managing the health status of communities and populations, including electronic health records, 'telehealth' and online services, personal communication systems, and decision support tools. These are used by health organisations, health professionals, patients and the general community.
eLearning	Describes the use of information and communications technology for education and training. eLearning products, systems and services include course management systems (eg WebCT), and technology (eg computers, MP3 players and multimedia CD-ROMs). eLearning is particularly suited to distance education and flexible learning.
eResearch	The use of information and communications technology (ICT) to advance and enhance traditional research methodologies. Tools include broadband communication networks and data repositories, together with software and infrastructure services that enable secure connectivity and interoperability. ICT is helping entirely new fields of research to emerge through the use of data mining and analysis, advanced computational algorithms and resource-sharing networks.
Focus group	Essentially a group interview, usually involving between 5 to 15 people. Focus groups can be used to obtain a group perspective on a particular issue or experience, to obtain feedback on results from earlier studies, or to develop or test questionnaires.
Golden hour	The first hour after the occurrence of a multi-system trauma.
Health promotion	The process of enabling people to increase control over and to improve their health. To reach a state of complete physical, mental and social wellbeing, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and to change with the environment. Health is, therefore, seen as a resource for everyday life, not the object of living. Health is a positive concept emphasising social and personal resources, as well as physical capabilities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to wellbeing (WHO 1986).
Incidence (of a disease)	The number of new cases of a disease that occur during a specified period of time in a population at risk of the disease. Incidence is usually expressed as the number of cases per 1000 persons. The incidence rate is calculated by taking the number of new cases over a specified time period and expressing this as a proportion of the population.
Information and communication technology	The hardware, software and networking tools of eHealth.

Integrated health service	A model of health service provision that incorporates different elements of health care within a particular setting. Indigenous medical services are an example.
Integration	Incorporation of a minority group into a community, while maintaining group national and cultural identity.
Interoperability	<p>The Institute of Electrical and Electronics Engineers defines interoperability as the ability of two or more systems or components to exchange information and to use the information that has been exchanged. The ISO/IEC 2382-01, Information Technology Vocabulary, Fundamental Terms, defines interoperability as the capability to communicate, execute programs, or transfer data among various functional units in a manner that requires the user to have little or no knowledge of the unique characteristics of those units.</p> <p>Three dimensions of interoperability are described: technical, semantic and business process interoperability. Organisational issues include ownership (do people want to share their data?), staff (are people prepared to undergo training?) and usability.</p>
Interprofessional	Different professional groups teaching, learning and/or working together.
Meta-analysis	The statistical combining and analysis of data from separate, but comparable, studies of a problem. Meta-analysis yields a quantitative summary of the pooled results.
Metalearning	An awareness and understanding of the phenomenon of learning itself, as opposed to subject knowledge.
Native title	The <i>Native Title Act 1993</i> arose out of a High Court of Australia decision, which recognised for the first time the traditional native title rights to land ownership of Australia's Indigenous people.
Participant observation	Less commonly used than other qualitative methods in research, it involves a contextual, systematic collection of data as a result of social interaction between an observer and the participants.
Prevalence (of a disease)	The number of cases of disease that exists in a defined population at a particular point in time. The prevalence rate is determined by taking a cross-sectional count of disease (point prevalence) and expressing that as a proportion of the total population at that time.
Primary data	Information collected directly from a respondent population, as opposed to secondary or published data.
Primary health care	Socially appropriate, universally accessible, scientifically sound first-level care provided by a suitably trained workforce supported by integrated referral systems, and in a way that gives priority to those most at need, maximises community and individual self-reliance and participation, and involves collaboration with other sectors. It includes the following: health promotion, illness prevention, care of the sick, advocacy and community development (WHO 1978, 2003).

Public health	The National Public Health Partnership (1998) defines public health as ‘... the organised response by society to protect and promote health, and to prevent illness, injury and disability. The starting point for identifying public health issues, problems and priorities, and for designing and implementing interventions, in the population as a whole, or population subgroups.’
Refugee	A person who is outside his/her country of nationality or habitual residence; has a well-founded fear of persecution because of his/her race, religion, nationality, membership in a particular social group or political opinion; and is unable or unwilling to avail himself/herself of the protection of that country, or to return there, for fear of persecution (1951 United Nations Convention Relating to the Status of Refugees).
Settlement	The early stages of adaptation or acclimatisation of people who settle far from home.
Sociospatial	Relating to, or concerned with, the interaction of society and space.
Sociotechnical	Relating to, or concerned with, the interaction of social and technical factors.
Sustainability	The ability to continue an activity for a long period of time while maintaining diverse, healthy, socially, economically and environmentally productive ecosystems.
Systematic review	A review that has been prepared using a systematic approach to minimising biases and random errors. The components of the approach are documented in a materials and methods section. This approach does not need to include a quantitative synthesis of primary or original data to yield a summary statistic (meta-analysis); there are circumstances where this is not advisable or simply not possible. The core requirement is to explicitly and transparently control biases.
Telehealth	The practice of health care service using interactive audio, visual and data communications for the provision of health care delivery, diagnoses, consultation and treatment, as well as education and transfer of medical data.
Traditional owner groups	Kinship groups that express native title rights and a custodian relationship with the land from which they come. Sometimes these groups have formal structures and may be formally incorporated.
Warm-ware	The people who use or operate the software running on the hardware.

Abbreviations and acronyms

AARN	Association for Australian Rural Nurses (now ARNM)
ACCHO	Aboriginal Community Controlled Health Organisation
ACRRM	Australian College of Rural and Remote Medicine
ACT	Australian Capital Territory
ADHD	attention deficit hyperactivity disorder
AHW	Aboriginal and Torres Strait Islander Health Workers
AIHW	Australian Institute of Health and Welfare
AMA	Australian Medical Association
AMI	acute myocardial infarction
AMS	Aboriginal Medical Service
AQoL	Assessment of Quality of Life
ARHEN	Australian Rural Health Education Network
ARIA	Accessibility/Remoteness Index of Australia
ARNM	Australian Rural Nurses and Midwives
ARRWAG	Australian Rural and Remote Workforce Agencies Group
ASGC	Australian Standard Geographical Classification
CARPA	Central Australian Rural Practitioners Association
CHIN	Community Health Information Network
COAG	Council of Australian Governments
ComQoL	Comprehensive Quality of Life scale
CRANA	Council of Remote Area Nurses of Australia
DoHA	Department of Health and Ageing
ECG	electrocardiogram
EHR	electronic health record
EPC	Enhanced Primary Care (program)
EQ5D	European Quality of Life instrument
GI	glycaemic index
GIS	geographical information system
GP	general practitioner
GPRI	General Practice Rurality Index (Canada)
HDL	high-density lipoprotein
HIC	Health Insurance Commission
HIV	human immunodeficiency virus
HL7	Health Level 7
HRQoL	health-related quality of life
HU13	Health Utilities Index (Canada)
iCCnet SA	Integrated Cardiovascular Clinical Network South Australia

ICD10	International Classification of Diseases, 10 th version
ICPC2	International Classification of Primary Care, 2 nd edition
ICT	information and communication technology
IMG	international medical graduates
IPE	interprofessional education
IPP	interprofessional practice
ISDN	Integrated Services Digital Network
IT	information technology
KLC	Kimberley Land Council
KM	knowledge management
LOINC	Logical Observation Identifiers Names and Codes
MAHS	More Allied Health Services (program)
MAU	multi-attribute utility
MBS	Medicare Benefits Schedule
MPS	multipurpose service
NACCHO	National Aboriginal Community Controlled Health Organisation
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion
NETS	NSW Newborn & Paediatric Emergency Transport Service
NGO	nongovernment organisation
NHDD	National Health Data Dictionary
NHIM	National Health Information Model
NHMRC	National Health and Medical Research Council
NRHA	National Rural Health Alliance
NSW	New South Wales
NT	Northern Territory
PAAHS	Port Abraham Aboriginal Health Service
PACS	Picture Archive and Communications System
PAR	participatory action research
PATS	Patient Assistance Transport Scheme
PEDro	Physiotherapy Evidence Database
PHC	primary health care
PHCRED	Primary Health Care Research, Evaluation and Development (program)
PIRSA	Department of Primary Industries and Resources, South Australia
PTSD	posttraumatic stress disorder
Qld	Queensland
QUM	Quality Use of Medicines
RACGP	Royal Australian College of General Practitioners
RARA	Rural and Remote Area classification

RCS	Rural Clinical Schools
RDAA	Rural Doctors Association of Australia
RHSET	Rural Health Support, Education and Training (program)
RPIS	Regional Patient Information System
RRMA	Rural, Remote and Metropolitan Areas classification
RUSC	Rural Undergraduate Support and Coordination (program)
SA	South Australia
SARRAH	Services for Australian Rural and Remote Allied Health
SCORM	Sharable Content Object Reference Model
SF12	Medical Outcomes Study Short Form health survey (12 questions)
SF20	Medical Outcomes Study Short Form health survey (20 questions)
SF36	Medical Outcomes Study Short Form health survey (36 questions)
SF6D-2	American quality of wellbeing scale
SLA	statistical local area
SNOMEDCT	Systematised Nomenclature of Medicine — Clinical Terms
Tas	Tasmania
TPV	Temporary Protection Visa
TrUCs	Transforming Rural Urgent Care Systems
UDRH	University Departments of Rural Health
UK	United Kingdom
Vic	Victoria
WA	Western Australia
WHO	World Health Organization
WHO-QoL	World Health Organization Quality of Life instrument

Learning activities listed by chapter

Chapter 1 Rural and remote health — definitions, policy and priorities

1. Examine a state government health initiative (eg a Victorian stroke management plan) for any evidence of how the rural health issues are addressed. In particular, describe how the main Australian geographical classification systems have been applied.
2. Examine the rural health policy relevant to your profession and how it may affect you. Compare and contrast any differences between your state/jurisdiction and the Commonwealth.
3. List the main challenges to reducing the rural–urban health differentials in Australia.

Chapter 2 Understanding rural health — key concepts

1. Identify three positive aspects of rural health practice and three challenges or difficulties of rural health practice. Which of these would you particularly like, and which would you find most difficult?
2. Talk to a rural or an Aboriginal or Torres Strait Islander health practitioner about their experiences of the differences between rural and urban practice.
3. Identify some of the aspects of rural health practice that you have experienced or think you would experience as challenging and explain how you might overcome them.
4. For one hour, use the Internet to gather as much information as you can about a rural community. What does this information tell you about health needs and health care in the community? How might a practitioner use this information?
5. Get together in a group and play the roles of the different people described in the case study. Explain what you feel to the group and how you might address some of the problems facing you.
6. Stage a debate on the topic: ‘Every Australian has the right to health care’.

Chapter 3 Diversity, culture and place

1. Identify some elements of cultural capital that may privilege or exclude newcomers to rural communities.
2. Why might appreciation of diversity vary from community to community? Apart from migrant ethnic groups, which other groups may experience adverse effects on wellbeing in communities that are less tolerant of sociocultural diversity?
3. Identify some health risks that farmers and their families are exposed to working and living on a farm. How might you go about influencing their behaviour to reduce these risks?

4. Australia regularly experiences drought. Many commentators say that water will become scarcer as a result of global warming. What health and wellbeing implications might this have for farmers and other rural residents?
5. Should external agencies like the state health departments and ambulance services be concerned about social capital and community capacity? Why or why not?

Chapter 4 What makes communities tick?

1. Using a town or community you are familiar with, describe the process you would follow to complete the planning phase of a community development program.
2. Describe how you would ensure that a representative group from the community/communities are engaged in this process. What challenges might you face and how might you deal with them?
3. Describe how you would work with the community to influence cultural norms around drinking behaviour.
4. Describe some of the challenges and requirements of conducting a community-based evaluation as described in Case study 4.2.

Chapter 5 Health of rural populations

1. What are the main differences between the health of those living in rural and remote areas and those living in metropolitan areas?
2. List some of the determinants of health that may have impacted on your own health.
3. Case study 5.1 outlines some of the factors that may be associated with high rates of suicide of farmers. Can you think of any others?
4. Case study 5.2 describes an environmental health issue in Broken Hill. Find a local environmental health issue in your area and set out a plan of action for population health research and evaluation.
5. Port Pirie in South Australia has a lead problem similar to Broken Hill's. Compare and contrast the approaches taken to address the lead issue.

Chapter 6 Population health programs, performance measures and evaluation

1. Case study 6.2 outlines some of the issues arising from the experiences of Indigenous people travelling from rural to metropolitan centres to seek medical treatment. Think about the travel and accommodation arrangements where you are working/studying. Are there any beneficial changes you could make?
2. Case study 6.3 is set in an Indigenous community. Research the specific issues that need to be considered when carrying out research in Indigenous communities.
3. Consider a health promotion program in your area. How would you evaluate it?

4. What do you consider is important about collecting information on health-related quality of life?
5. Why is the AQoL (and/or HU13) considered more methodologically robust than other instruments available in the field?

Chapter 7 Health service models

The following tasks may be done individually or in groups. For many of these activities there is no current correct answer, so the next generation of health professionals should try to think through their own solutions.

1. Identify and describe what infrastructure and staff you would need to run a model primary health care practice.
2. What tasks do you think each of the health professionals working in the practice should be doing?
3. How could you use information and communication technology in modern health care delivery?
4. List three differences and three similarities in health care between clients in a capital city and clients in a small rural town with a population of 15 000.
5. How do you think doctors, nurses and allied health professionals should work together in primary health care?
6. As a group, research:
 - the role of hub-and-spoke regional health services in providing care in dispersed communities
 - the difference in practicing as a nurse, allied health professional or doctor working in a general hospital in a large country town compared with a metropolitan hospital
 - the differences and challenges that face Aboriginal and Torres Strait Islander Health Workers involved in a community-controlled health service
 - why specialists in obstetrics, orthopaedics, radiology and psychiatry are difficult to recruit, even to large country towns
 - a design of an ideal health service that incorporates GPs, nurses, allied health professionals and medical specialists working in a rural setting and compare this ideal with what occurs in the real world.

Chapter 8 Rural health workforce: planning and development for recruitment and retention

1. Describe the potential benefits of workforce retention to rural and remote health services and to rural and remote communities.

2. What factors (positive and negative) influence rural and remote health workforce recruitment and retention? Which of these factors is potentially amenable to intervention by:
 - rural health professionals themselves
 - health professional training programs (undergraduate and postgraduate)
 - rural communities
 - rural health services?
3. Using the case studies and your own rural health experiences, what strategies would you suggest for improving workforce recruitment and retention in a rural community known to you?
4. Using a rural community or region known to you, consider how workforce retention and local health services might be enhanced. Do not just consider the existing service arrangements but think about how to better integrate existing services and new services that complement or enhance existing services in ways that meet community needs and expectations.

Chapter 9 Supporting rural health professionals and their families

1. You are in a small rural town with only one pub. You are out for a social drink after knocking off when you see a patient (whom you know to have alcoholic liver disease and with whom you discussed just that morning the need to stop drinking) knocking back his fifth beer for the evening. As a medical student visiting the town on a rural attachment, what do you do? As the patient's GP, what do you do?
2. You are a health professional in a small town and are doing the shopping on Saturday morning. A patient corners you by the sliced bread counter and starts to tell you about their breathing problems. How do you respond?
3. You are the community nurse about to leave town for your first weekend off in three months. Just as you are about to walk out the door, your colleague rings and tells you she's sprained her ankle and can't drive to be on call this weekend. How do you respond?
4. If you were moving into rural practice, what would you be looking for in a rural community in terms of personal and family factors?

Chapter 10 Ways forward in Indigenous health

1. What impact does history have on the health and wellbeing of Aboriginal and Torres Strait Islander people?
2. How would an understanding of Aboriginal and Torres Strait Islander culture and protocols help you to deliver culturally secure health care?
3. How would an understanding of Aboriginal and Torres Strait Islander culture and protocols help you to undertake culturally secure research?

4. Reflect on the availability of resources in a remote Indigenous health service and how you, as a health professional, would work in this environment.
5. Describe how working as a health professional in an Indigenous community may challenge your beliefs and values.

Chapter 11 Rural clinical practice: a population health approach

1. Find a health issue in your community and research it on the Cochrane library.
2. We have completed the first two cells of a population response to falls prevention, targeted to older community dwelling adults; your task is to complete the other three cells using the questions provided.

Community development continuum	Ottawa Charter for Health Promotion	Falls prevention
Developmental casework	Develop personal skills	Bronwyn, the physiotherapist, reviews the bruising to Mrs Wilson's hip, sustained after a fall in her home. In the conduct of the health assessment, the physiotherapist begins to educate Mrs Wilson about the risks as they are identified. This visit to the physiotherapist is supported under the Australian Government Enhanced Primary Care Program.
Mutual support	Create supportive environments	The physiotherapist explores options for Mrs Wilson to attend a local exercise program. With the Indigenous and Torres Strait Islander Health Worker from the Aboriginal Medical Service and a Tai Chi instructor from the community, a Tai Chi class is started at the Aboriginal Medical Service, to which other local health practitioners can refer Indigenous clients. In addition to providing evidence-based exercise for falls prevention, the class is a venue for Mrs Wilson to meet others like her at risk of a falls injury.
Issues identification	Strengthen community action	What strategies could you suggest for strengthening community action? Which people and organisations would you approach to implement these strategies?
Participation and control of health services	Re-orient health services	Identify some strategies for participation and control of health services. What strategies could be put into place to reorient health services?
Social movements	Build health public policy	Can you identify strategies that would develop social movements and build health public policy?

Chapter 12 Strengthening interprofessional practice

- 1 Taking either case study above as a starting point, work in an interprofessional group to create a flowchart or storyboard of an appropriate clinical pathway that may be followed. Identify stages where interprofessional collaboration would be most important, and identify opportunities for improving current practice.
- 2 Interprofessional practice requires political, educational and professional support. Discuss strategies that will support the development of interprofessional practice in rural and remote areas from each of these perspectives.
- 3 Make an appointment with a health professional from a discipline other than your own and spend some time discussing the relevance of teamwork to clinical practice. The eight elements of successful teamwork described in Table 12.1 can guide your discussion.
- 4 Spend at least half a day in a clinical department other than that of your own discipline and observe how other health professionals perform their duties.
- 5 Describe and discuss with your peers two clinical cases you have observed, one that demonstrates effective collaborative care, and another that demonstrates opportunities for teamwork to be improved.
- 6 If you or one of your family members lived in a remote area of Australia and had a terminal illness, what would the health care challenges be? How would you overcome these problems and what resources would you need?

Chapter 13 Cycles of settlement: generating responsive health services for refugees in rural Australia

1. In small groups, contemplate the cultural shifts in Paulo's identity when he turns 25 years of age.
2. Generate some alternative paths Paulo may traverse and the contexts that may facilitate constructive development.
3. How might service providers participate in Paulo's future sense of purpose in the Australian context?
4. List practical life challenges you face in your own daily life (eg meaningful employment, paying monthly bills, finding or sustaining a constructive friendships and love relationships, maintaining a sense of belonging to place and 'home').
5. Discuss ways in which deficits in the areas listed above impact on your own physical, psychoemotional and social health.
6. How might someone with refugee experiences meet such challenges?
7. What support and duty of care might he or she require from health professionals along the way?

Chapter 14 eHealth, eLearning and eResearch for rural health practice

1. Identify an eHealth initiative intended to meet one of the current challenges faced by rural and remote health care services. Identify the extent to which the barriers to eHealth discussed in this chapter may be impacting on this initiative.
2. eHealth can never replace traditional face-to-face services. Discuss.
3. Review the videoconferencing program outlined in Case Study 14.1. Using the principles for local organisations, develop a strategy to facilitate more effective use of the videoconferencing facility.
4. Find three consumer health education sites and evaluate them using the principles listed above.
5. Prepare an annotated list of online databases and resources that support eResearch.
6. Discuss the differences between connectivity and interoperability from the eHealth perspective.

Chapter 15 A connected Australia — now and in the future

1. Identify three databases on the web that would help you in your clinical field. How would they help you stay connected if you were in the rural workforce?
2. Research how patient access to web information about medical treatments helps or harms clients.
3. If you participate in a clinical placement opportunity, investigate what clinical information is available electronically at the site.
4. Write a paragraph sketch of a new initiative based on a problem you have seen in rural health. Who would be the major stakeholders (eg government, citizens, health services, etc)?

Other reading, teaching and learning resources

Useful books, articles and reports

- Altman JC, Gray MC and Levitus R (2005). *Policy Issues for the Community Development Employment Projects Scheme in Rural and Remote Australia*, Centre for Aboriginal Economic Policy Research, Canberra.
- Australian Bureau of Statistics (2004–05). *Regional Population Growth*, ABS, Canberra.
- Australian Bureau of Statistics (2006). *Australian Social Trends*, ABS, Canberra.
- Australian Health Ministers' Conference (2002). *Healthy Horizons: Outlook 2003–2007*, Australian Government Publishing Service, Canberra.
- Australian Institute of Health and Welfare (2003). *Rural, Regional and Remote Health, A Study on Mortality, Summary of Findings*, Rural Health Series 3, AIHW, Canberra.
- Australian Institute of Health and Welfare (2006). *Urban and Rural Variations in Child Oral Health*, DSRU research report 28, AIHW Dental Statistics and Research Unit, Canberra.
- Australian Institute of Health and Welfare and the Australian Bureau of Statistics (2005). *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2005*, AIHW and ABS, Canberra.
- Baum F, Bush R, Modra C, Murray C, Palmer C and Potter R (1999). *Building Healthy Communities: Health Development and Social Capital — Western Suburbs of Adelaide*, SA Community Health Research Unit and Department of Public Health, Flinders University of SA, Adelaide.
- Berkman L and Kawachi I (eds) (2000). *Social Epidemiology*, Oxford University Press, Oxford.
- Canyon DV and Speare R (eds) (2001). *Rural and Remote Environmental Health International*, the Australasian College of Tropical Medicine Publications, Castletown.
- Central Australian Rural Practitioners Association (2003). *CARPA Standard Treatment Manual: A Clinic Manual for Primary Health Care Practitioners in Remote and Rural Communities in Central and Northern Australia*, 4th edition, CARPA, Alice Springs.

- Commonwealth Department of Health and Aged Care (2001). *An Outline of the Practice Incentives Program July 2001*, DHAC, Canberra.
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- Commonwealth Department of Health and Ageing (2004). *Building Healthy Communities*, a guide for community projects, DoHA, Canberra.
- Conrick M (ed) (2006). *Health Informatics: Transforming Healthcare with Technology*, Thomson Social Science Press, South Melbourne.
- Department of Health and Community Services and Batchelor Institute of Indigenous Tertiary Education (2006). *Assessment of Client Need: Workshop Program for Home and Community Care (HACC)*, Home and Community Care Coordinators' training package, Batchelor Institute of Indigenous Tertiary Education, Northern Territory.
- Guyatt GH, Naylor CD, Juniper E, Heyland DK, Jaeschke R and Cook DJ (1997). Users' guides to the medical literature. XII. How to use articles about health-related quality of life. *Journal of the American Medical Association* 277(15):1232–1237.
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- Judd F, Jackson H, Fraser C, Murray G, Robins G and Komiti A (2006). Understanding suicide in Australian farmers. *Social Psychiatric Epidemiology* 41(1):1–10.
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- Knox S, Britt H, Pan Y, Miller GC, Bayram C, Valenti L, Charles J, Henderson J, Ng A and O'Halloran J (2005). *Locality Matters. The Influence of Geography on General Practice Activity in Australia 1998–2004*, a joint report by the University of Sydney and the Australian Institute of Health and Welfare, General Practice Series 17, AIHW, Canberra.
- Kretzmann JP and McKnight JL (2005). *A Community-Building Workbook*, Asset-Based Community Development Institute, Northwestern University, Illinois.
- Macquarie Area Health Service (2004). *Challenging Your Community to Better Health. A Health Lifestyle Resource Based on Experiences from the WellingTonne Challenge*, Macquarie Area Health Service.

- MedlinePlus (2006). *Farm Health and Safety*, the US National Library of Medicine and the National Institutes of Health.
<http://www.nlm.nih.gov/medlineplus/farmhealthandsafety.html> (Accessed 20 November 2006)
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- National Health and Medical Research Council (2002). *When it's Right in Front of You. Assisting Health Care Workers to Manage the Effects of Violence in Rural and Remote Australia*, NHMRC, Canberra.
- Pope J and Deeble J (2003). *Reality Bites: Rural and Remote Group Workforce Information ARRWAG. A Preliminary Analysis of the Australian Rural and Remote Workforce Agencies Group Minimum Data Set*, National Centre for Epidemiology and Population Health, Australian National University, Canberra.
- Regional Development Council (1999). *Living in the Regions: The Views of Western Australians*, the Gascoyne Report, Government of Western Australia, Perth.
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http://www.cucrh.uwa.edu.au/projects/files/Role_of_women_in_farm.pdf
- Social Policy and Social Work (SWAP). *Introduction to Interprofessional Education*. The Higher Education Academy, online article.
<http://www.swap.ac.uk/learning/ipe.asp>
- Stewart JF and Carter KD (1999). *Adult Access to Dental Care, Rural and Remote Dwellers*, Dental Statistics and Research Series 17, Australian Institute of Health and Welfare, Canberra.
- Victorian Government Department of Sustainability and Environment (2005). *Regional Matters, an Atlas of Regional Victoria 2005*, DSE, Melbourne.
- Welch N (2000). *Toward an Understanding of the Determinants of Rural Health*, National Rural Health Alliance, Canberra.
- Whetton S (2005). *Health Informatics: A Sociotechnical Perspective*, Oxford University Press, USA.
- Wilkinson D, Hays R, Strasser R and Worley R (eds) (2002). *Handbook of Rural Medicine in Australia*, Oxford University Press, Melbourne.

Useful Internet sites

ABC (Australian Broadcasting Corporation) Rural Online

<http://www.abc.net.au/rural>

ABCD (Asset-Based Community Development) Institute

<http://www.northwestern.edu/ipr/abcd.html>

Aboriginal community controlled health services

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-oatsih-servicespage.htm>

Agency for Healthcare Research and Quality (AHRQ)

<http://www.ahrq.gov>

Australian and New Zealand Journal of Public Health

<http://www.blackwellpublishing.com/journal.asp?ref=1336-2000>

Australian Bureau of Statistics

<http://www.abs.gov.au>

Australian College of Rural and Remote Medicine (ACRRM)

<http://www.acrrm.org.au>

Australian Government Department of Health and Ageing

<http://www.health.gov.au>

Australian Indigenous Doctors Association

<http://www.aida.org.au>

Australian Indigenous Health *in*fonet

<http://www.healthinfont.ecu.edu.au>

Australian Institute for Aboriginal and Torres Strait Islander Studies

<http://www.aiatsis.gov.au>

Australian Institute of Health and Welfare

<http://meteor.aihw.gov.au/content/index.phtml/itemId/181162>

Australian Journal of Rural Health

<http://nrha.ruralhealth.org.au/ajrh>

Australian Rural and Remote Workforce Agencies Group

<http://www.arrwag.com.au>

Australian Rural Health Education Network

<http://www.arhen.org.au>

Australian Rural Nurses and Midwives (ARNM)

<http://www.arnm.asn.au>

British Medical Journal

<http://bmj.bmjournals.com>

British Medical Journal Clinical Evidence Online

<http://www.clinicalevidence.com/ceweb/index.jsp>

Central Australian Remote Practitioners Association (CARPA)

<http://www.carpa.org.au/fmanual.htm>

Centre for Advancement of Interprofessional Education (UK)

<http://www.caipe.org.uk/index.php>

Centre for Community Enterprise (Canada)

<http://www.cedworks.com/index.html>

Centre for General Practice Integration Studies

<http://www.commed.unsw.edu.au/cgpis>

Centre for Rural Studies and Enrichment (Canada)

<http://www.stpeterscollege.ca/crse/index.html>

Cochrane Effective Practice and Organisation of Care

<http://epoc.nicsl.com.au>

Cochrane Library

<http://www.thecochranelibrary.org>

Community Campus Partnerships for Health (CCPH)

<http://www.ccphe.info>

Council of Remote Area Nurses of Australia Inc (CRANA)

<http://www.crana.org.au>

Education for Health

<http://www.educationforhealth.org.uk>

e-Health, Australian Government Department of Health and Ageing

<http://www.health.gov.au/internet/wcms/publishing.nsf/content/e-health-3>

eMJA Medical Journal of Australia

<http://www.mja.com.au>

Health Care and Informatics Review Online

<http://hcro.enigma.co.nz/website/index.cfm>

Health Consumers of Rural and Remote Australia

<http://www.ruralhealth.org.au/hcrra/index.html>

HealthInsite

<http://www.healthinsite.gov.au>

HealthWiz

http://www.healthwiz.com.au/html_control/index_frame.htm

Human Rights and Equal Opportunities Commission, Healthy Community Projects,
Rural and Remote Health in Australia

http://www.hreoc.gov.au/HUMAN_RIGHTS/rural_health/index.html

Joanna Briggs Institute

<http://www.joannabriggs.edu.au/about/home.php>

Journal of Health Informatics

<http://ejhi.net/ojs/index.php/ejhi>

Journal of Rural and Community Development

<http://www.jrcd.ca>

Journal of Rural and Remote Health

<http://www.rrh.org.au>

Journal of Rural and Tropical Public Health

<http://www.jcu.edu.au/jrtph>

Medline (Pubmed)

<http://www.ncbi.nlm.nih.gov>

National Aboriginal Community Controlled Health Organisation (NACCHO)

<http://www.naccho.org.au>

National Health and Medical Research Council

<http://www.nhmrc.gov.au>

National Rural Health Alliance

<http://nrha.ruralhealth.org.au>

New Rural Economy Project (Canada)

<http://nre.concordia.ca>

Primary Health Care Research and Information Service

<http://www.phcris.org.au/publications/ebulletin>

Rural and Remote Medical Education Online (RRMEO)

<http://www.acrrm.org.au/main.asp?NodeID=192>

Rural Clinical Schools:

- Flinders University Rural Clinical School
<http://furcs.flinders.edu.au/>

- James Cook University Rural Clinical School
<http://www.jcu.edu.au/medicine/sites/index.htm>
- Monash University School of Rural Health
<http://www.med.monash.edu.au/srh/>
- Northern Territory Rural Clinical School
<http://www.ntmed.flinders.edu.au/index.html>
- The Australian National University Rural Clinical School
http://medicalschoo.anu.edu.au/sgprih/1rural_clinical_school/index.asp
- The Rural Clinical School of the University of Western Australia and the University of Notre Dame Australia
<http://rcs.uwa.edu.au/index.cfm>
- The University of Adelaide Spencer Gulf Rural Health School
<http://sgrhs.unisa.edu.au/>
- The University of Melbourne Rural Clinical School
<http://www.ruralhealth.unimelb.edu.au/undergraduate%20study/rural%20clinical%20school/>
- The University of New South Wales School of Rural Health
<http://rcs.med.unsw.edu.au/>
- The University of Newcastle Rural Clinical School
<http://www.newcastle.edu.au/school/medprac-pop/precincts.html>
- The University of Queensland Rural Clinical Division
<http://www.som.uq.edu.au/som/about/divisions/rural/index.htm>
- The University of Sydney School of Rural Health
<http://www.dubbo.med.usyd.edu.au/>
- The University of Tasmania Rural Clinical School
<http://www.rcs.utas.edu.au/>

Rural Doctors Association of Australia
<http://www.rdaa.com.au>

Rural Health Education Foundation
<http://www.rhef.com.au>

Services for Australian Rural and Remote Allied Health (SARRAH)
<http://www.sarrah.org.au>

Social Policy and Social Work, the Higher Education Academy
<http://www.swap.ac.uk/learning/ipe.asp>

State Workforce Agencies:

- NSW: <http://www.nswrdn.com.au>
- NT: <http://www.gpphcnt.org.au>

- Qld: <http://www.healthworkforce.com.au>
- SA: <http://www.ruraldoc.com.au>
- Tas: <http://www.gpatlas.org.au>
- Vic: <http://www.rwav.com.au>
- WA: <http://www.wacrrm.uwa.edu.au>

The Electronic Journal of Health Informatics
<http://ejhi.net/ojs/index.php/ejhi>

University Departments of Rural Health:

- Broken Hill Department of Rural Health (University of Sydney)
<http://www.drh.med.usyd.edu.au>
- Centre for Remote Health, Alice Springs (Flinders University and Charles Darwin University)
<http://crh.flinders.edu.au>
- Combined Universities Centre for Rural Health (University of Western Australia, Curtin University of Technology and Edith Cowan University)
<http://www.cucrh.uwa.edu.au>
- Greater Green Triangle University Department of Rural Health, Warrnambool (Flinders University and Deakin University)
<http://www.greaterhealth.org>
- Monash University Department of Rural & Indigenous Health
<http://www.med.monash.edu.au/srh>
- Mount Isa Centre for Rural and Remote Health (James Cook University)
<http://www.micrrh.jcu.edu.au>
- Northern New South Wales University Department of Rural Health, Tamworth (University of Newcastle and University of New England)
[http://www.newcastle.edu.au/faculty-old/health/initiatives/rhi/Northern Rivers](http://www.newcastle.edu.au/faculty-old/health/initiatives/rhi/Northern%20Rivers)
- Northern Rivers University Department of Rural Health (University of Sydney and Southern Cross University)
<http://www.nrudrh.edu.au>
- Spencer Gulf Rural Health School
<http://sgrhs.unisa.edu.au>
- University Department of Rural Health, Tasmania (University of Tasmania)
<http://www.ruralhealth.utas.edu.au>
- University Departments of Rural Health
<http://www.arhen.org.au>
- University of Melbourne Department of Rural Health (Shepparton)
<http://www.ruralhealth.unimelb.edu.au>

University of British Columbia Interprofessional Website
<http://www.interprofessional.ubc.ca>

University of Melbourne School of Rural Health (learning links)
<http://www.ruralhealth.unimelb.edu.au/undergraduate%20study/learning%20links>

World Health Organisation of Family Doctors (WONCA)
<http://www.globalfamilydoctor.com>

World Health Organization (WHO)
<http://www.who.int/en>

DVDs and videos

Ballangarry D (2002). *Big Girls Don't Cry*, NIDF series 5, Australian Film Commission.

Bradbury D (1989). *State of Shock*, Ronin Films, Canberra.

Harrison K and Freedman R (2005). *Crossing the Line*, Change Focus Media, available from Ronin Films.

Marcom Projects and SBS Australia (2005). *Bush Doctor*, DVD, Marcom Projects Pty Ltd, Australia–New Zealand.

O'Brien G and Plooij D (1973). *Culture Training Manual for Medical Workers in Aboriginal Communities*, School of Social Sciences, Flinders University, Adelaide. Converted to hypertext in 1995 by Dr Hugh Nelson.
<http://www.medicineau.net.au/AbHealth/contents.htm>

Roy P (1997). *A Dying Shame*, VHS, Iguana Films in cooperation with Norddeutscher Rundfunk, Canberra.

SBS Australia (1989). *Cross Currents*, VHS, Marcom Projects Pty Ltd.

The Rural Health Education Foundation has many videos, DVDs and podcasts available on the Internet.
<http://www.rhef.com.au/order/order.html>

Kristine Battye

Kristine Battye is the Director of Kristine Battye Consulting Pty Ltd, a consultancy established in 2001. She has worked extensively in regionally focused health service planning and re-engineering, rural health workforce development, and project management and evaluation; in rural and remote environments and with Indigenous communities in Queensland, the Northern Territory and New South Wales. She currently holds an adjunct appointment as an Associate Professor at James Cook University. Kristine commenced her professional life as an agricultural scientist, completing her PhD in reproductive physiology in 1992, and hence has an eclectic publication list.

John Beard

John Beard is Head of the Northern Rivers University Department of Rural Health, New South Wales, and has held senior positions in public health in Australia since 1991. He had previously worked as a rural general practitioner, and in a community-controlled Aboriginal medical service. He is a member of the international editorial board of the journal *Public Health*, and is a Fellow of the New York Academy of Medicine and the Royal Institute of Public Health. He has been a chief investigator on over A\$9 million in nationally competitive grants, and publishes extensively in national and international journals.

Lisa Bourke

Lisa Bourke, PhD, is an Associate Professor at the School of Rural Health, University of Melbourne. She is a rural sociologist who has conducted social research in rural communities for over 17 years. Lisa's main research interests are rural young people, Indigenous health, community development and marginalised health consumers, with a focus on the various methods appropriate for rural research. She trained in the United States of America in both qualitative and quantitative methods and, since returning to Australia, has worked in rural Queensland, New South Wales and now Shepparton, Victoria. She has taught undergraduate and postgraduate students and has published extensively in both national and international journals, including co-editing the rural sociology text *Rurality Bites: The Social and Environmental Transformation of Rural Australia* (Lockie and Bourke 2001). In addition, she has received funding for more than 20 research projects, ranging from national studies to local community projects.

Rosalind Bull

Rosalind Bull is an Associate Professor at the School of Nursing and Midwifery at the University of Tasmania. Rosalind has a background in paediatric and acute-care nursing and has most recently worked in rural health at the University Department of Rural Health, Tasmania. She has a strong teaching and learning background and has a particular

interest in interprofessional approaches to education and practice that contribute to changing practice roles. She is currently involved in the development and trial of a national online interprofessional preparation program for rurally located clinical educators.

Janice Chesters

Janice Chesters is the Deputy Director of Monash University's Department of Rural and Indigenous Health in Moe, Victoria. Janice has broadened her career beyond mental health research to investigate rural workforce issues, theoretical and applied medical education, migrant health, rural health in general, and Indigenous issues. Janice's teaching and publications have been able to highlight the complexity and diversity of rural places.

Juli Coffin

Juli Coffin is currently the Senior Lecturer in Aboriginal Health at the Combined Universities Centre for Rural Health in Western Australia. Juli has spent most of her life in the Pilbara, where many of her family members still reside, but more recently has lived in the Geraldton area. She was the convenor of the Australian Rural Health Education Network (ARHEN) Indigenous Staff Network for 7 years and is currently completing a PhD in Yamaji country around demystifying bullying from an Aboriginal perspective. Juli has a strong community engagement and cultural security focus, has worked in education, health and Aboriginal languages for many years, and is still a strong, active member of several national and state committees.

Amy Creighton

Amy Creighton is a Gomeri Murri woman from north-west New South Wales who has lived and worked in her traditional area most of her life. She is the Indigenous Health Project Coordinator at the Northern New South Wales Department of Rural Health in Tamworth and the current chairperson of the Australian Rural Health Education Network (ARHEN) Indigenous Staff Network. Her career spans 30 years working holistically within the areas of health, education, housing, employment and welfare. Amy acknowledges her family which has helped to shape her identity and instilled in her a strong sense of cultural pride. Amy is passionate about social justice and ensuring that Aboriginal people have fair and equitable access to services that respect, acknowledge and accept the true history of Australia.

Jennifer Critchley

Jennifer Critchley lives on a farm in north-east Victoria. She has an emergency nursing background and has been involved in nursing education for some years. Jennifer is an active member of Australian Rural Nurses and Midwives (ARNM) and her main interests are rural health education and rural women's health. She is currently the Acting Director of the University Department of Rural Health at the University of Melbourne, and is involved in both undergraduate and postgraduate health professional education.

Andrew Crowden

Andrew Crowden is an academic at the University of Melbourne's School of Rural Health in Ballarat. He has a nursing background, postgraduate qualifications in mental health and bioethics, and over 20 years of experience in health care research and education. Andrew is Chairperson of Austin Health's Human Research Ethics Committee.

Dawn DeWitt

Dawn DeWitt grew up in rural Wisconsin, United States of America, completed a Master of Science at Cambridge, a Doctor of Medicine at Harvard, general medicine specialty training at the University of Washington (UW), and moved to Australia in 2003. She is currently the Head of School and Clinical Dean at the University of Melbourne's School of Rural Health, and a practicing rural physician. Voted one of the 'Best Doctors in America' in 2002, and having received several teaching awards, she received the inaugural UW Early Career Achievement Award in 2006. Her research interests in diabetes, rural/community-based medical education, electronic medical education, career choice, and personal-professional balance have led to multiple publications, including two books on community-based teaching.

Marlene Drysdale

Marlene Drysdale is currently Associate Professor and Head of the Indigenous Health Unit at Monash University's Department of Rural and Indigenous Health. Marlene has lived in various places around Australia and for the past 19 years worked in rural Victoria in Aboriginal education and health, with a strong community focus. Marlene's family ties are in Wiradjeri country in New South Wales. Marlene is currently completing a PhD entitled *Reconciliation in Australia: A Study of Communication Strategies and Symbolism*. Marlene has been an active member of state and national committees on education and health matters.

Angela Durey

Angela Durey has lived in England, Ghana and Australia. Before becoming a medical anthropologist, she worked as a nurse in England, Australia and India, and as a family therapist in Australia. She is interested in issues related to rural health, recruitment and retention and the role gender plays in the expectations and experiences of rural health professionals and their spouses/partners. She currently works as a Lecturer in Teaching and Learning at the Combined Universities Centre for Rural Health in Geraldton, Western Australia.

Lyn Fragar

Lyn Fragar is a public health physician who has a long-standing interest in the health and safety of rural people, particularly those whose work and life is in agriculture. She has worked in rural medicine in Papua New Guinea and New South Wales. She is the

founding director of the Australian Agricultural Health Centre, Australia's leading centre of research and development in the field of agricultural health and safety.

Jeffrey Fuller

Jeffrey Fuller trained as a mental health and community health nurse, with postgraduate qualifications in public health. He has worked for over 20 years in Australian interprofessional public health settings, including as a manager in community health services and for the last 10 years in university posts. His current post is the Director of Education, Department of Rural Health (Lismore), University of Sydney and before that he was the foundation Director of Public Health at the Spencer Gulf Rural Health School in South Australia. His research interests are in rural mental health, Indigenous and cross-cultural health servicing and public health program planning. His teaching interests are in community health and interdisciplinary teamwork. He was the chief investigator on a recent national survey of rural financial counsellors on their mental health service links and he is joint chief investigator on a grant from the Australian Rotary Health Research Fund 'Building mental health awareness and support networks in rural Australian communities — a service delivery evaluation'. He is also the lead investigator on a research grant from the Australian Primary Health Care Research Institute, 'Process tools for evidence-policy transfer in Indigenous-mainstream primary health care partnerships'. Both current projects are piloting the use of social network analysis tools to both describe, and then improve, service partnerships.

Marisa Gilles

Marisa Gilles is a general practitioner who graduated in the United Kingdom in 1983. She became an Australian citizen in 1992. She is a public health physician with over 13 years of experience in rural and remote health care delivery. She holds a Masters in Public Health from the University of Queensland and a Masters in Applied Epidemiology from the Australian National University and is a Fellow of the Australian Faculty of Public Health Medicine of the Royal Australian College of Physicians. She has lived and worked in Alice Springs, Carnarvon and Geraldton. While Director of the Gascoyne Public and Community Health Unit from 1998 until 2003, Marisa's driving force was to expose and address inequity. As well as her passion for rural and Aboriginal health, her interests include prison health, bloodborne viral diseases, sexually transmitted infections and the role of the arts in health.

Andrew Harris

Andrew Harris currently holds a position as Associate Lecturer with the University Department of Rural Health, Tasmania and is conducting research into culturally appropriate counselling approaches for African men. He was formerly the Coordinator of the Phoenix Centre, the Tasmanian support service for survivors of torture and trauma.

John Humphreys

John Humphreys is Professor of Rural Health Research in the School of Rural Health at Monash University Bendigo. John is well known for his academic expertise and research on health service provision in rural and remote areas of Australia, rural workforce recruitment and retention, rural health policy and the evaluation of rural health programs. He has undertaken extensive fieldwork on rural health issues throughout rural and remote regions of Queensland, New South Wales and Victoria, and has published widely in books and journals. In addition to his academic career, John has worked in both the Victorian and the Commonwealth departments of health. John has taken a lead role in developing national rural health policies and is currently a member of several advisory committees for the Australian Government Department of Health and Ageing.

Peter Jones

Peter Jones is a consultant academic general paediatrician and lives in Tamworth with his family. He graduated from Sydney University's Medical School in 1988 and completed his clinical paediatric training in Canberra, Sydney, London and Newcastle. Peter completed his PhD in childhood asthma at Newcastle University in 2000. In 2002, he was appointed as a Director of the University Department of Rural Health in Tamworth. In 2006, he was also made Director of the University of Newcastle's Rural Clinical School, which is also based in Tamworth. He is an expert in both undergraduate and postgraduate medical education and has developed innovative workforce models for both rural specialist doctors and general practitioners. His current research interests include improving the quality of health care in rural areas, with a focus on improving health outcomes for rural mothers and their children.

Sue Kilpatrick

Sue Kilpatrick is an Associate Professor and Director of the University Department of Rural Health, University of Tasmania. She is also a Director of the Australian Rural Health Education Network and a member of the Tasmanian Early Years Foundation Board. Previously, she was Director of the Centre for Research and Learning in Regional Australia. Sue has been a member of reference groups on Australian national projects and initiatives, including the Australian Bureau of Statistics' development of social capital indicators. Her research focuses on rural issues, including social capital, vocational education and training, learning in rural industries, community capacity, and health and workforce issues. She has published extensively in these areas while working as a consultant and researcher with rural communities.

Ann Larson

Ann Larson is the Director of the Combined Universities Centre for Rural Health, Western Australia's only university department of rural health. As a demographer, Ann has a background in primary health care evaluation in Asia, Melanesia, and rural and Indigenous Australia. She has published some 50 peer-reviewed papers and chapters and, through her research and teaching, strives to improve the health of disadvantaged people

through better quality and more responsive health care and more equitable distribution of opportunities.

Quynh Lê

Quynh Lê is a Lecturer in Rural Health and the Graduate Research Coordinator at the University Department of Rural Health, Tasmania. Her current research interests include social determinants of health through multilevel analysis and spatial analysis, population health, health informatics and intercultural health. Her research-enhancing activities include co-editor of the online international research journal *Language, Society and Culture* (since 1997), manager of the International Conference on Science, Mathematics and Technology Education (1997) and she has a wide range of publications on health, cultures, education, and information technology.

Peg LeVine

Peg LeVine, PhD, is a clinical psychologist and Asian specialist with seasoned fieldwork in remote traumatic zones, such as Cambodia, Laos and Nepal. She is engaged in international mental health policy development in South-east Asia. She has trained in psychiatry in Japan and takes a contextual and emic approach to treatment of trauma in the refugee health field. She is an Associate Professor of Rural Mental Health at the University Department of Rural Health, Tasmania, and a senior research fellow at the Monash Asia Institute at Monash University in Melbourne.

Siaw-Teng Liaw

Siaw-Teng Liaw is Chair of Rural Health at the University of Melbourne and has a clinical background in rural medicine and academic general practice. He has significant expertise and experience with multi-methods research as applied to health services, systems and informatics research, and education. His interests centre on the safety, quality and integration of care across primary and secondary care settings in the clinical domains of therapeutics and prescribing, asthma, falls prevention, diabetes, and cancer risks screening and counselling. His current interest is record linkage and decision support applications to support better clinical care, population health and research. He was a member of the National Electronic Decision Support Taskforce, involved in the implementation and evaluation of such large-scale programs as the Victorian Clinicians' Health Channel, MediConnect and HealthConnect, and has conducted a number of studies on eHealth and electronic decision support. He consults and advises on a number of health informatics, primary care and health terminology issues. He is a member of the National Health and Medical Research Council (NHMRC) Human Genetics Advisory Committee and the National Prescribing Service Pharmaceutical Decision Support Working Group.

Helen Malcolm

Helen Malcolm was born and educated in Shepparton, Victoria. Before becoming a doctor, she worked as an entomologist at the National Museum of Victoria, then as a

teacher, before working at an orphanage in Bangladesh. After medical training, she practised in rural Victoria, United Kingdom and Tanzania in East Africa before becoming a general practitioner in rural Tasmania and Victoria. Helen is currently Associate Professor in Rural Medicine and Associate Head of the University of Tasmania's Rural Clinical School in Burnie, and continues to work in general practice, youth health and refugee health. She is also an Anglican priest. Helen has done some mental health research, as this is her special interest within medicine.

Jenny May

Jenny May is a rural general practitioner academic based in the Northern New South Wales University Department of Rural Health in Tamworth, northern New South Wales. She is a practising clinician with interests in women's health, mental health and the development of rural general practice models. She is currently the Deputy Chair of the National Rural Health Alliance.

Gary Misan

Gary Misan is an Associate Professor at the Spencer Gulf Rural Health School (SGRHS) based in Whyalla, South Australia. He is Head of Research for the School as well as a key researcher with the University of South Australia (UniSA) Centre for Rural Health and Community Development and a Research Associate of the UniSA Nutritional Physiology Research Centre. Gary's research interests include metabolic syndrome, chronic disease self-management, quality use of medicines, and early detection and management of chronic disease in Aboriginal communities. Gary is currently Project Manager for the Whyalla Shape Up for Life community-based diet and exercise study and was Project Director for the Sharing Health Care SA Chronic Disease Self-management Project which finished in 2005. He is also an accredited Chronic Disease Self Management (CDSM) Leader and licensed dual energy X-ray absorptiometry (DEXA) operator as well as a pharmacist. He has substantial research project management experience and has obtained over A\$3 million in research and project funding since joining SGRHS. He has over 40 peer-reviewed publications to his credit.

Jonathan Newbury

Jonathan Newbury is Head of the Spencer Gulf Rural Health School (SGRHS) and Professor of Rural Health at the University of Adelaide and the University of South Australia. He began his professional career as a procedural general practitioner in rural Victoria and moved to Adelaide to lead the rural medical education programs for the University of Adelaide medical school 10 years ago. He has worked in rural areas north and west of Adelaide that include rural pastoral and cropping country, beachside holiday and retirement areas with fishing as the main industry, and the mining towns of Whyalla (iron ore and steel production) and Roxby Downs (copper and uranium). He now lives in Port Lincoln and works clinically as a general practitioner two half days each week. SGRHS is based in Whyalla and manages clinical teaching for health professional students through the area bordering on the Spencer Gulf, South Australia.

Sue Page

Sue Page is at the Northern Rivers University Department of Rural Health (a collaborative venture of the University of Sydney and Southern Cross University) and Chair of the North Coast Area Health Service Advisory Council. A rural general practitioner and visiting medical officer at Ballina District Hospital and St Vincent's Hospital in Lismore, she is on the Board of the New South Wales (NSW) Clinical Excellence Commission and of the Northern Rivers Division of General Practice. Sue is a NSW ministerial appointee to several committees, including the Health Care Advisory Council, Expert Advisory Group on Drugs and Alcohol, and the Rural Health Priority Taskforce; and has been a Commonwealth appointee to the Pharmacy Professional Programs and Services Advisory Committee, Australian Medical Workforce Advisory Committee and both the Medical Indemnity Policy Review Panels. She was President of the NSW Rural Doctors' Association from 2002 to 2003 and President of the Rural Doctors' Association of Australia (RDAA) from 2004 to 2005, and is currently the RDAA representative on the National Rural Women's Coalition.

Collette Sheridan

Collette Sheridan is a general practitioner (GP) based in Shepparton, Victoria, where she combines clinical practice with a part-time appointment at the School of Rural Health, University of Melbourne as a Senior Lecturer. Collette graduated from the University of Queensland and, after postgraduate training, settled in Gladstone, Queensland, where she worked as a busy GP-obstetrician for 14 years. After a year's sabbatical in the United Kingdom, Collette relocated to Shepparton and completed her Masters in Public Health, including research investigating fetal growth assessment using customised growth charts. Her current research interests include women's health, especially antenatal care, and medical education, focusing on general practice and communication skills. In 2005, she presented the findings of her research work at the annual conference of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists. She has authored and co-authored papers on fetal growth, antenatal care and rural health. Collette is also the current Vice-president of the Bogong Regional Training Network, responsible for GP education in north-east Victoria, and is an associate of the Australian National Piano Award, held biennially in Shepparton.

Juanita Sherwood

Juanita Sherwood is an Indigenous woman with a professional background in Aboriginal and Torres Strait Islander health and education which spans 26 years. Juanita has worked in rural, remote and urban communities in the Northern Territory, New South Wales and Queensland, and is now working for Queensland Health as Principal Policy Program Manager in the Aboriginal and Torres Strait Islander Health Directorate, Northern Area Health Service.

Sundram Sivamalai

Sundram Sivamalai is a Senior Lecturer at the School of Rural Health, Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne. He is the Coordinator of the Rural Health Module, which is one of the specialty units of the Medical Undergraduate Program. Sundram has a background in health, education, administration and research. He has been an academic for 19 years in the tertiary sector. Apart from academic life, he has worked with the new migrants in regional Australia for 25 years. Sundram was awarded the Centenary Medal by the Australian Government in recognition of his outstanding contribution to migrants in rural Australia. Currently, he is the Regional Chairperson for the Federation of Ethnic Communities' Councils of Australia.

Tony Smith

Tony Smith is Senior Lecturer in Medical Radiation Science at the School of Health Sciences, Faculty of Health at the University of Newcastle. He is located in Tamworth in the Northern New South Wales University Department of Rural Health. Tony has been a radiographer for more than 30 years and has worked in a variety of medical imaging facilities — rural and metropolitan, public and private. He has almost 20 years of teaching and research experience in medical imaging and has maintained part-time or casual clinical practice throughout that time. He has a particular interest in the provision of rural and remote radiographic services by rural general practitioners and nurses where no radiographer is available. In his current position, he also coordinates the interprofessional education program across a range of disciplines.

Nick Stone

Nick Stone has a background in education and training, performs various consultancy roles and is completing a PhD entitled 'Assessing Intercultural Effectiveness in Management' at the University of Melbourne. Previously, he was a Senior Lecturer, School of Primary Health Care at Monash University. He coordinated the establishment of interprofessional education (IPE) initiatives involving students from a range of health disciplines. Before that, he managed the Rural Interprofessional Education (RIPE) project at the University of Melbourne for more than 5 years. He is an active member of the Australian Rural Health Education Network (ARHEN) IPE Group. He has conducted and published work related to a range of IPE and education-related research and activities.

Judy Taylor

Judy Taylor has a background in senior management in the public sector in regional Queensland, with responsibility for planning, monitoring and evaluating community health and social care initiatives. After joining the Spencer Gulf Rural Health School (SGRHS) in 1999, she built on this experience by completing a PhD in rural community involvement in health service development. As research manager, she was involved in disparate applied research and evaluations in Indigenous health, mental health, family violence, and rural health model development. She now directs the Primary Health Care

Research Evaluation and Development Program and is enthusiastically involved in building research capacity. Her research interests are focused on the community determinants of health, capturing and measuring community factors that are related to implementing community health programs, engaging in health planning, and health service development. Soon she will publish a book for Oxford University Press with colleagues David Wilkinson and Brian Cheers, *Working with Communities in Health and Human Services*. She is a key researcher in the newly established joint University of South Australia — SGRHS Centre for Rural Health and Community Development.

Craig Veitch

Craig Veitch is the inaugural Professor of Rural Health at James Cook University's (JCU's) School of Medicine. He heads the Rural Health Research Unit, is the Director of the JCU Primary Health Care Research Evaluation and Development Program, and has a Research Cluster Chair in the Australian Institute of Tropical Medicine. He initially trained as a radiation therapist, working in Australia and the United Kingdom for 15 years. He subsequently studied epidemiology and health services research and has worked in the fields of primary health care, rural health, and health workforce research for the past 17 years. His research interests include rural health, health care seeking and decision making, primary health care, health workforce, rural road safety, rural cancer patients' experiences and health care decisions, and after hours primary health care. He has published widely in international journals and been a keynote speaker at many international rural events. Professor Veitch is on the editorial board of the e-journal *Rural and Remote Health* and the editorial advisory panel of *Annals of Family Medicine*.

John Wakerman

John Wakerman is a public health medicine specialist and general practitioner with a background in remote primary health care services, as a clinician, senior manager, researcher and educator. His current appointment is as the inaugural Director of the Centre for Remote Health. His interests include health services research, postgraduate management education, and he continues to work as a general practitioner in Alice Springs. At the time of writing, he is the Chair of the National Rural Health Alliance.

Sue Whetton

Sue Whetton is the primary author and content editor for the text *Health Informatics: A Socio-technical Perspective* (Whetton 2005b). She is a member of the editorial board of the electronic *Journal of Health Informatics*. Sue established, and currently coordinates, the eHealth Graduate Program at the University of Tasmania. Her varied career includes teaching, working with disadvantaged groups, lecturing in sociology and working as an independent consultant. Sue has published and presented at conferences in both health informatics and flexible education. She is currently studying for her PhD, exploring the influence of discourses on the emergence of health informatics as a discipline and a profession.

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