EDUCATING TO IMPROVE POPULATION HEALTH OUTCOMES IN CHRONIC DISEASE:

A curriculum package to integrate a population health approach for the prevention, early detection and management of chronic disease when educating the primary health care workforce in remote and rural northern Australia.

Menzies School of Health Research

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What is this document?

This document is a package of materials that aims to assist health educators to integrate chronic disease education into existing and new programs, using a population health approach. It consists of:

• background reading about how this chronic disease package came about
• a curriculum framework upon which to develop new or adapt existing educational programs in a population health model
• a list of expected core outcomes for all graduate remote and rural primary health care practitioners working in the prevention, early detection and management of chronic disease
• an implementation framework to assist in conducting or managing orientation and professional development, including accredited programs
• some suggested teaching and learning approaches
• some tools and resources for educators to use.

What this document is NOT

• This is not a competency-based curriculum, but ‘an outcomes based curriculum’ – a different model. As it is not the intent to prescribe to the disciplines what they need to teach but to supplement and enhance what currently exists.
• This package is not intended to be given to students, but used by educators to assist them in the development of their programs.
• This is not a program to be conducted, but a curriculum framework that is to be selected from and then integrated into all workforce training.

Who is it for?

This package is designed for health educators across the disciplines to use in the development and implementation of their programs. The core expected outcomes, listed in the curriculum section, target all health practitioners who practise in remote, rural and discrete Indigenous communities across northern Australia. They include:

• Nurses
• Aboriginal and Torres Strait Islander health workers
• Doctors
• Health centre managers and
• Allied health professionals – audiologists, dietitians, health promotion officers, nutritionists, occupational therapists, public health professionals, physiotherapists, psychologists, podiatrists, radiographers, speech pathologists and social workers.
How is it used?

It is intended that this document will be integrated into all aspects of health professional education. This will enhance what exists and what is being developed, in an effort to bring about positive change in the prevention, early detection and management of chronic disease. Just like chronic disease itself, which affects all systems of the body – this curriculum should be liberally sprinkled throughout all orientation, professional development and accredited programs undertaken by remote and rural primary health care professionals to affect the required change.

Some examples
These are some real examples of how this document is currently being used:

- **In educating Indigenous health workers** – the core outcomes have been mapped against the national competency standards to ensure they are all covered and if not they were added or changed.

- **In conducting a chronic disease workshop** – the presentation of the existing workshop has been turned into a population health model. The content is related to antenatal care, babies, children, young people and adults across the lifespan. This ensures that the participants examine the issues using a whole-of-life or population focus, as opposed to looking at diseases and individuals. The prevention and early detection sessions, which originally occurred three days into the program, are now covered first.

- **In orientating all new staff** – those core prerequisites required by all health professionals prior to working with chronic disease in remote practice have been identified and included in their orientation program. Examples include – knowing a recall system exists and how to use it, population health approaches, patterns and prevalence of disease in the communities where they will work.
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Part 1 CURRICULUM

Section 1 Background

The problem

Internationally
Chronic conditions are currently responsible for sixty percent of the global disease burden, which is expected to rise to eighty percent by the year 2020 (WHO, 2002). This is one of the greatest challenges facing health care systems throughout the world and it places new long-term health and economic demands on health care systems as the population ages (WHO, 2002).

Indigenous populations
‘Chronic conditions are interdependent and intertwined with poverty’ and are fast being seen as the diseases of the lower socioeconomic groups (WHO, 2002 p 6). Poverty is also linked with cultural grouping. In most first world countries Indigenous people have made significant gains in their health status in the past twenty years (Ring and Firman, 1998). Indigenous Australians are the striking exception, experiencing 1.5 to 3 times the burden of disease of New Zealand Maoris and Indigenous Canadians, who experienced a comparable health status some thirty years ago. Compared with those living in poor countries such as Nigeria, Nepal, Bangladesh and India, life expectancy of Indigenous Australians also falls well behind (United Nations and AIHW, 2003)

What makes these figures more disturbing is that the burden of disease that Indigenous Australians suffer is largely preventable, yet chronic disease has reached epidemic proportions in the past decade. This is particularly true of renal disease, with renal failure doubling every three to four years in some states (Hoy et al., 1999). The Indigenous Australian diabetes rates are also the highest in the world on some indicators (AIHW, 2002).

Remote communities
The greatest burden of disease is found in those 1216 discrete remote Indigenous communities which house some 108 085 people, approximately one quarter of the Australian Indigenous population, of whom over half live in the Northern Territory (ABS, 2001b, Strong et al., 1998). Queensland has the second highest population of Indigenous Australians nationally, which includes some 30 000 Torres Strait Islanders (ABS, 2002f). Torres Strait Islanders also experience comparable levels of preventable chronic disease to Aborigines, in particular: diabetes which is suffered by 24 percent of those over 15 years, and more than doubles by the age of 35 years (Edwards and Madden, 2001). Many Indigenous people have more than one of these preventable diseases and associated co-morbidities such as depression (Weeramanthri et al., 2003).
The evidence

There is now strong evidence that under-nutrition and poor foetal growth, can predict the development of hypertension, diabetes, hyperlipidemia, ‘syndrome X’ and mortality from cardiovascular disease and chronic lung disease in adulthood (Barker, 1991). This is known as the ‘Barker hypothesis’ or the ‘early origins of chronic disease’. These are those external factors such as nutrition and smoking, that ‘program’ particular body systems during critical periods of growth, such as while in utero and in infancy, with long term direct consequences for adult chronic disease (Barker, Scrimshaw, cited Weeramanthri et al., 1999). Links between low birth-weight and the development of renal disease, cardiovascular disease and diabetes in adulthood have also been found (Barker, 1991, Cass, 2004, Hoy and et al, 1998).

Systematic chronic care model

To compound this problem health care systems have historically evolved around the concept of infectious disease, which address the patient’s episodic and urgent concerns (WHO, 2002). The adopted model has therefore become one of acute care. Patients and families struggling with chronic illness have different needs that require different solutions (Wagner, 1998). Evidence has emerged that those who redesign their care to use a comprehensive and systematic approach, expressly designed to help patients manage chronic disease, will do much better than those who continue to work from the acute paradigm (Wagner et al., 2001). The MacColl Institute in the USA has designed a chronic care model, which identifies the essential elements of a health care system that encourage high quality chronic disease care. These elements include:

- Reorientation of the health service
- Evidence based practice
- Patient centred support
- Efficient and effective care and teamwork
- The mobilisation of community resources to meet the needs of patients (Wagner, 2004). Refer to the Chronic Care Model in Part 2, 2.4, page 43, for more information.

There is now strong evidence that ‘health care systems for chronic conditions are most effective when they prioritise the health of a defined population rather than a single unit of patient seeking care’ (WHO, 2002 p 44). Therefore the use of a systematic population focused approach will have a greater effect on the patient’s health outcomes than individual care and will be far more financially efficient in the long run (Wagner, 1998, Wagner et al., 2001, WHO, 2002).
The Northern Australian response

The Northern Territory

In 1997, in response to the high prevalence and increasing incidence of chronic disease, the Northern Territory Department of Health and Community Services commenced a process that resulted in 1999 in the development of a Preventable Chronic Disease Strategy (PCDS) across the entire NT population (Weeramanthri et al., 2003). The 10 year objective of the strategy is to reduce the projected incidence and prevalence of the five common diseases and their underlying causes. The 3 year objective was to reduce the projected impact – hospitalisation, deaths and financial cost of the five common diseases in the Territory' (Weeramanthri et al., 2003 p 3). This 'whole of life strategy' focused on implementation in a primary health care setting supported by the medical evidence. Using a pragmatic and integrated approach they identified five chronic diseases – diabetes, hypertension, ischaemic heart disease and renal disease – due to their common underlying factors and their connections with metabolic syndrome; plus chronic airways disease due to its high impact and its inclusion in the Barker hypothesis (Weeramanthri et al., 2003).

From this work a simple three-point framework was developed – 1. Prevention (in preference to cure), 2. Early detection (as a way to prevent complications) and 3. Best practice management (Ashbridge cited: Weeramanthri et al., 2003).

Queensland

In 1999 an inter-sectoral planning meeting was convened to respond to the poor health, education and economic development of Indigenous people living in the Cape York Peninsula communities. This led to the development of the Enhanced Model of Primary Health Care (EMPHC) and a framework to describe the key elements for the model (CHIRRP, 2004a). A key component of the EMPHC is the Chronic Disease Strategy, which is based on the same three key areas as the Northern Territory (NT) model – prevention, early detection and management – using integrated approaches based on available medical evidence.

The diseases targeted are also diabetes, renal disease and chronic airways disease, plus cardiovascular disease, which includes: hypertension, ischaemic heart disease and rheumatic heart disease; and mental health and sexually transmitted infections. A unique feature of this process is that it was introduced as a collaborative practice model of service delivery, and is reportedly very successful in some remote communities where Indigenous health workers are encouraged, and supported, to take the lead.

Educating the workforce

With the two chronic disease strategies in place the challenge then became how to educate the remote and rural health workforce in practical ways to ensure that the health care needs of the communities were being addressed in a systematic way, based on the implementation of the chronic disease strategies.

The workforce has historically been structured to provide health care services to communities based largely on an acute medical model of care, originally developed to address infectious diseases – where there is an acute onset, accurate prognosis, short term treatment and a cure is usually likely. This model of practice emphasises triage, patient flow, short appointments, diagnosis and treatment of symptoms, reliance on laboratory tests and prescriptions, didactic patient education and patient initiated follow up (Wagner, 1998). The majority of the workforce has been, and continues to be, trained in large tertiary teaching hospitals and universities that promote this acute model of care, and the graduating workforce have become comfortable working in this way.
Yet what is required is a workforce who can work in the different ways required to prevent, detect and manage the current epidemic of chronic disease, rather than dealing with the acute results of chronic illness. As chronic disease often has a gradual onset, with multiple causes, uncertain prognosis, a rare cure and a lifelong duration, a new way of working is required. Patients and families struggling with chronic conditions have different needs. They require planned, regular interactions with their caregivers, with a focus on function and prevention of exacerbations and complications. This includes systematic assessment, attention to treatment guidelines, and behaviourally sophisticated support for the patient’s role as a self-manager, clinically relevant information systems and continuing follow up initiated by the provider (Wagner, 1998). This means that the training of the workforce needed to be reviewed and restructured, and the training facilitated using a systematic and population-based approach. As Weeramanthi et al (2003) advises:

‘A paradigm shift is needed – away from single diseases and towards a comprehensive and integrated approach’.

The PHERP Curriculum Project

To address these workforce education issues, the Australian Government Department of Health and Ageing funded, via the Public Health Education and Research Program (PHERP), several organisations to work together in the development of a chronic disease curriculum and workforce training resources to refocus the primary health care workforce across northern Australia. The partnership included three universities, industry partners and Indigenous organisations – Menzies School of Health Research, James Cook University, University of Queensland, Queensland Health, the Northern Territory Department of Health and Community Services, Apunipima Cape York Health Council and Aboriginal Medical Services Alliance of the Northern Territory.

The ultimate aim of the project was to reduce the impact of preventable chronic diseases, among high-risk populations in Northern Australia through an improved workforce capacity in rural, remote and Indigenous health services. (McDermott and O’Dea, 2001). It was hoped that this workforce would work collaboratively, creatively and reflectively together using a population health approach to primary care. The workforce could then communicate chronic disease health information effectively back to the community using a systematic approach.

This document is a result of that partnership. While the original intent was to develop a curriculum and training resources to support the workforce, the consultation phase found that the issues were so broad, and common across the disciplines, that one or two additional resources would provide little change in assisting the required paradigm shift. Due to the breadth of the work, and the integration of chronic disease into all areas, it was determined early in the project to prioritise the populations suffering the greatest burden of chronic disease. This resulted in the focus being placed on remote Indigenous communities. This leaves urban and rural communities to adapt this curriculum framework to suit their particular needs.

In May 2004 the project steering committee endorsed an innovative process that saw educators across all disciplines in northern Australia meeting together. In August 2004, 35 educators representing a cross section of health disciplines and industry groups attended a three-day workshop in Darwin. They discussed how they could refocus their orientation, professional development and accredited training programs towards a comprehensive, integrated and population based process, which would equip their staff to deliver the primary health care components of the NT’s and Qld Chronic Disease Strategies.
This workshop proved very successful and follow-up teleconferences with group participants assisted in evaluating progress. In particular the Indigenous Health Worker representatives have mapped the curriculum expected outcomes against the National Health Worker Competencies; the Centre for Remote Health have also mapped them against its multidisciplinary Masters in Remote Health Practice Program and James Cook University have included elements into their undergraduate nursing program. Work is being undertaken in both the NT and Qld to improve and adapt their orientation and professional development programs to include the core expected outcomes of this curriculum. The draft curriculum was also well circulated to other stakeholders for feedback, which has been included in this final document.

*This project has resulted in:*

1. a comprehensive report on the identified training needs
2. a curriculum framework that is comprehensive, practical, integrated, outcomes based, and focused on those things we can affect using a population health approach
3. a list of core expected outcomes for all remote and rural primary health care professionals who work in the prevention, early detection and management of chronic disease
4. an implementation model that can be incorporated in all workforce education and training across the disciplines
5. a web-based annotated bibliography that describes useful educational tools and resources and will be maintained and updated by the NT Chronic Disease Network as new resources are developed
6. a useful toolbox of resources for educators to reach into for those difficult to educate areas of population health, the social determinants of health, and health promotion
7. a web-based self-assessment tool for new staff to assess their levels of confidence in the achieving the core expected outcomes prior to starting in a new position.

When used as intended, these processes and documents will assist in providing more relevant orientation programs to prepare novices and experienced staff to use population health and systems based approaches to primary health care, and increase the capacity of staff to work in the prevention, early detection and management of chronic disease. This process has also assisted health educators across northern Australia to work together ‘across the border’, to discuss the issues, and find positive solutions to common problems.
Section 2 The Curriculum Framework

Introduction

During the consultation phase of this project one interviewee described the challenges of working in remote practice as:

“It’s like dropping a person into a war zone with their paints and easel and saying ‘paint’” (31).

This alerts us to the daily challenges educators face in the orientation, preparation and continuing education of remote health professionals to ensure that what they teach ‘applies to the realities’ that health professionals face in their daily work.

There are some unique features of remote health practice that need to be considered in the preparation of the workforce for these challenging roles.

Remote health practice:
• is strongly multidisciplinary in nature; with a large number of sole practitioners in any given discipline
• includes an extended clinical role
• involves providing health services to a small, highly mobile and dispersed population with poorer health status
• is distinctly cross-cultural
• often takes place in extreme climatic conditions with problematic transport
• can be geographically, professionally and socially isolating
• often has limited political clout and limited opportunity for change
• often has a high turnover of health professionals, which can result in poor continuity of programs (CRANA, Humphreys, Wakeman and Lenthall, cited: Smith, 2004a).

These factors were taken into consideration in developing the following curriculum framework.

The Curriculum Framework

This curriculum framework describes the overall intent, expected educational outcomes and implementation principles to educate remotely located primary health care staff to work effectively in the prevention, early detection and management of chronic disease.

The curriculum model is outcomes based, meaning it describes the ‘minimum expected educational outcomes’ of the participating workforce. It is intended to be integrated into all workforce training, vertically and horizontally – to orientate new staff, and in all professional development and accredited tertiary education programs. Educational providers have the role of ensuring that the content is well sprinkled throughout all new and existing programs.

Note: This is not intended to be a competency-based curriculum, as competencies are based on disciplinary standards and can only be defined by the professions. Refer to page 3 for a guide on how to use this curriculum framework; and the glossary on pages 45–46 for a description of some of the terms.
The Curriculum Model

This curriculum model is practical, integrated, and comprehensive. It was developed using four main foundations. It is:

1. **population health based** – It starts with pregnant women, babies, young children, youth, men, women and older people – through the health transitions of the lifespan.

2. **needs based** – It is structured to focus on those ‘areas of workforce need’ and where there are ‘identified skills gaps’ – prevention and early detection.

3. **impact focused** – It focuses on those things we can ‘impact upon’ – the social determinants of health; and those things we ‘can manage’ – chronic diseases identified in the chronic disease strategies.

4. **organised using the domains of remote practice** – It provides a list of expected core outcomes for all disciplines under the five integrated domains of remote practice.

![Curriculum Model Diagram]

**Figure 1 Curriculum Model**

**CURRICULUM MODEL**

**POPULATION HEALTH BASED**

Focuses on the health of the whole population across the lifespan: pregnant women, the foetus, babies, young children, young people, adults – men, women and older people.

- **Workforce needs**
  - Focus on areas of workforce need and identified skills gaps:
  - **PREVENTION** Planning, education, health promotion
  - **EARLY DETECTION** Brief interventions, systematic approach, protocols
  - **Management** Self management.

- **Impact upon**
  - **THE SOCIAL DETERMINANTS OF HEALTH:** employment: income and social status, food supply, housing, education, social support, environmental issues, alcohol and drugs, lifestyle: exercise.
  - **MANAGEMENT OF CHRONIC DISEASE:** diabetes, cardiovascular disease, renal disease, sexually transmitted infections, chronic obstructive pulmonary disease, mental health.

- **Domains of Remote Practice**
  - **POPULATION HEALTH** and the context of remote practice
  - **COMMUNICATION** and cultural skills
  - **SYSTEMS** and organisational approaches
  - **PROFESSIONAL**, legal and ethical role
  - **CLINICAL SKILLS** in remote primary health care practice.

**EXPECTED CORE OUTCOMES INTEGRATED INTO ALL WORKFORCE TRAINING**
The domains of remote practice

These domains of remote practice are those factors that represent the critical knowledge, skills and attitudes necessary for the prevention, early detection and management of chronic disease. They are relevant to every patient, community or interaction. These domains were developed by combining the existing domains of the various health disciplines listed on page 14.

They include:

1. **Population health and the context of remote practice** – epidemiology, patterns and prevalence of disease, community profiles; the social determinants of health; the impact of chronic disease on the family; understanding the health care system; public health, community development; and the sociopolitical, economic, geographical, cultural and family influences on health.

2. **Communication and cultural skills** – listening skills, hearing skills, cross-cultural skills, written skills, health promotion skills, cultural safety, respect for others and their decisions.

3. **Systems and organisational approaches** – using early detection screening tools, using patient record and recall systems, chronic disease registers, information technology, time management, follow up; leadership by managers.

4. **Professional, legal and ethical role** – multidisciplinary teamwork, maintaining medical records; confidentiality; ethics in managing chronic disease; duty of care; professional standards, self-care, disciplinary scope of practice.

5. **Clinical skills in remote primary health care practice** – core clinical skills; applying the knowledge of chronic conditions to clinical practice; physical examination, history taking; procedures; clinical decision making, investigations and the rational use of medicines.

Underlying principles

The curriculum is based on the following principles:

**Principle 1** *Population health focused* – all educational initiatives need to have a population health focus, i.e. how the issues affect specific population groups – pregnant women and the foetus, babies, school children, young people, adults, older people and gender specific issues.

**Principle 2** *Identifies core skills* – it provides a list of core expected knowledge, skills and attitudes expected of all remote and rural health professionals.

**Principle 3** *Needs based* – designed to focus on identified areas of need and skills gaps. These included: using a population health approach, the social determinants of health, prevention, early detection, community development and health promotion.

**Principle 4** *Remote Indigenous focused* – the curriculum materials are remote Indigenous focused, as that is where the greatest burden of disease is suffered. The materials can be easily adapted for other settings as required.

**Principle 5** *Applies to practice* – all educational materials developed, adapted and implemented will demonstrate how they apply to remote primary health care practice. Therefore particular educational strategies have been listed in Section 4.

**Principle 6** *Sustainable* – ownership is a key factor for sustainability. It is intended that those conducting orientation, professional development and accredited programs adapt these educational materials to make them suitable for their situation.
Principle 7 **Implementation strategy** – The curriculum framework includes an implementation strategy described in section 4. The strategy is broad and is based on:

- a set of prerequisites and underlying principles
- a series of steps that the community, policy makers, managers, educators, and the remote workforce can undertake to have an impact upon health outcomes
- a set of teaching and learning principles and approaches and
- some useful resource tools and a web-based annotated bibliography to support quality education which is linked to the chronic disease network.

Principle 8 **Evaluation** – all materials developed will have a monitoring and evaluation strategy attached to ensure the philosophy and intent is maintained and sustainable in the long term. Critical will be the orientation of educational staff to the underpinning philosophy and their commitment to maintain it.

**Assumptions**

This curriculum and implementation model includes the following assumptions.

a **Prerequisites:**

- Cross-cultural awareness – That all remote health practitioners have undertaken a cross-cultural awareness program as a minimum prerequisite.
- Other professional skills – That all remote health practitioners have undertaken, at graduate or postgraduate levels, those other important educational activities required to work in remote Indigenous communities; for example: self-care, advanced clinical skills; knowledge of Indigenous health status.

b **Role of Industry partners and the tertiary educational sector:**

- That employers of the remote health workforce and educational providers will see it as their responsibility to ensure this curriculum framework is integrated into workforce education and training, through the use of policy and strong leadership, as described in Section 4 – Implementation.
- That North Queensland considers adopting a similar model to the Pathways Program found throughout the Northern Territory from 2005, in the recruitment and orientation of their staff. This will assist in an effort to curb the high levels of staff turnover and increase the capacity of the entire workforce in dealing with chronic disease.

c **Cultural respect:**

That the local traditional values and beliefs of remote Indigenous people will be acknowledged, respected and incorporated into the program outcomes and implementation processes, lead by Indigenous people. This will assist in ensuring culturally safe practice within an empowered, respectful, multidisciplinary team.
Section 3  Expected core outcomes

These expected core outcomes were developed by examining curriculum, professional standards and the stated learning objectives, and/or core competencies, listed under the disciplines of:

- **Medicine** – General practice (RACGP Training Program, 1999), rural and remote medicine (ACRRM, 2002), the pilot remote vocational training stream (ACRRM and RACGP Training Program, 2000); CDAMS Indigenous Health Curriculum Framework (CDAMS, 2004)
- **Nursing** – Nursing competencies (ANC, 2000), remote area nurse competencies (CRANA and CRAMS, 2001); Orientation manual for the remote area nurse (Veivasenanavunua et al., 2003)
- **Indigenous health worker** – Population health competencies (CSHTA Ltd, 2004); National Strategic Framework (Standing Committee on Aboriginal and Torres Strait Islander Health, 2002)
- **Public Health** – Public health competencies (Human Capital Alliance, 2004)
- **Allied health** – Continuing education needs of allied health professionals in Central Australia (Glynn, 2003)

**Plus the following documents:**

- NT Preventable Chronic Disease Strategy (Weeramanthri et al., 2003)
- Nth Zone, Chronic Disease Strategy, Primary health care centre implementation manual; Standard treatment manual (CHIRRP, 2004a, 2004b)
- CA remote PHC atlas (Central Aust Dept Health and Community Services, 2003)
- Menzies School of Health Research – Guide to learning – Graduate Diploma and Master of Public Health (Menzies School of Health Research, 2004)
- PHERP project – results from the consultation process and educators’ workshop (Smith, 2004).

Expected core outcomes

The following list of expected core outcomes describes the minimum essential knowledge, skills and attitudes required of all remote health practitioners in the prevention, early detection and management of chronic disease in a discrete remote Indigenous community. They are listed under the five integrated domains of remote practice. To avoid duplication the required content is listed in *italics*.

*How to use this curriculum framework is listed on page 3.*
Remote Indigenous health practice differs from the practice of the health workforce in rural and metropolitan areas. It requires the practitioner to have a broader understanding of the issues that impact upon a community’s health and a more advanced scope of practice than their disciplinary colleagues in the city. In their role as a health service provider, the remote practitioner has the potential to influence change at the individual patient, family and community levels. This requires a knowledge of the profile and health status of the community, patterns and prevalence of disease, an understanding of the health care system, the impact of chronic disease on communities, the social determinants of health, public health, approaches to disease prevention and the historical, sociopolitical, economic, geographic, cultural and family influences on health.

The remote practitioner will be able to:

- **Community profile:**
  Describe the health status of the community in a way that considers:
  - demographic information – age and gender groups, cultural groupings, population, first language spoken, traditional health beliefs and practices
  - geographical issues that impact upon health status – access to food supply, employment status, access to services, social systems, leaders and key community stakeholders, policy, level of education, community wealth.

- **Public health:**
  Discuss the public health issues relevant to that community:
  - infrastructure, public health surveillance and procedures
  - disease control initiatives, environmental health issues
  - prevention and health promotion interventions.

- **Population health:**
  Work from a population health approach that considers:
  - health across the lifespan – pregnant women and the foetus, babies, children, young people, adults – men, women and older people
  - advocacy role – practical skills in promoting school attendance such as transport, school breakfast programs, ‘no school no pool’ policies
  - support for young women – to increase their educational opportunities, receive reproductive advice and improve environmental factors prior to delivery
  - the basic epidemiology of chronic disease – patterns and prevalence of disease in the whole population
  - the impact of chronic illness on the individual, the community and the nation using the chronic care model.
• **Social determinants:**
  Make the links between social factors and their affect on the health outcomes in that community:
  - poverty, nutrition, education and employment opportunities, social support, transport, control over ones life, self management
  - Barker hypothesis and health outcomes in adulthood
  - spiritual and cultural backgrounds
  - family relationships and support in relation to a chronic condition.

• **Community health action:**
  Facilitate community health action through community directed initiatives:
  - Participate in community based prevention and education strategies.
  - Share health information in ways that are understood by the community.
  - Inspire and maintain community interest in health issues through activities, such as: getting health on the agenda at community council meetings.
  - Act as an advocate as requested, to encourage good health decision making and improve health outcomes.
  - Advocate for good educational opportunities for children and women.

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**Domain 2  Communication and cultural skills**

Good communication skills are essential for all health professionals. These skills assist in understanding the illness from the patient’s experience of that illness and enable health professionals to transfer health information to patients, colleagues, communities and the health care system. They include good listening skills, good hearing skills, cross-cultural skills, written skills and, most importantly, respect for others and their decisions. This is especially so when working in a multidisciplinary team and cross-culturally with patients who have a chronic illness and who may hold different values and beliefs to the practitioner.

**The remote practitioner will be able to:**

• **Communication skills – Individual:**
  Use communication skills that reflect the particular needs of people in remote areas – gender, culture, age, first language, social status, level of education, health status and traditional health beliefs:
  - Confirm the patient’s understanding of the problem, advise and follow up.
  - Use an interpreter as required.
  - Involve the patient and family in how to best manage the problem.
  - Communicate health information in an empowering way that gives the patient skills to use the information.
  - Communicate management strategies that minimise harm.
• **Self management:**
  Develop long term professional relationships that help chronically ill patients to take responsibility for their own health:
  – Jointly negotiate an effective, realistic management plan that determines who else needs to be involved – carers / family members.
  – Agree on respective responsibilities and limits.
  – Appreciate the multiple issues experienced by the individual and their family and offer realistic support.
  – Build the patient's confidence in managing their own condition.
  – Find common ground with patients about their problems and expectations.
  – Positively reinforce any achievements, no matter how small (no growling).
  – Respond sensitively to fluctuations in the physical and mental state of chronically ill patients and their circumstances – family, cultural.
  – Clarify informed consent.

• **Cultural skills and respect:**
  Elicit the patient's health concerns in a culturally appropriate way that considers: their emotional state, state of health, social disadvantage, traditional health beliefs and cultural background:
  – Be respectful of other cultures – stand back, listen, summarise the problems, and place them in the cultural context in which the patient lives.
  – Respectfully seek appropriate cultural advice and traditional healing advice as required.

• **Teamwork:**
  Interact respectfully within the cross-cultural multidisciplinary team:
  – Participate, contribute and value contributions from all team members.
  – Maintain professional boundaries in all client interactions.
  – Encourage community representatives with particular interest in an issue to contribute to the team.

• **Brief interventions:**
  Discuss the principles and value of brief interventions, and promote small achievable changes:
  – Perform brief interventions as per the protocols re: smoking, passive smoking, nutrition, physical activity and alcohol intake as a routine part of the consultation and screening process.

• **Health promotion / education:**
  Use opportunities for health promotion and education that are relevant to, and owned by, the community:
  – Communicate meaningful health information to community groups that acknowledges expressed needs and facilitates and supports community driven initiatives.
  – Engage the community in identifying issues and planning action.
  – Advocate for the employment of local people within the system.
  – Engage the client group in a way that is appropriate to them.
  – Consider the health of the community in all interactions.
  – Participate in health education programs – school, workplace, store, canteen.
The use of a systematic approach to chronic disease prevention, early detection and management will result in improved health outcomes for individuals and the community (Wagner et al., 2001, Weeramanthri et al., 1999). Research tells us that those who redesign their health systems to use a comprehensive and systematic approach, expressly designed to help patients manage chronic disease, will do much better than those who continue to work from the acute paradigm (Wagner et al., 2001). This is especially so in remote Indigenous communities where there is a high turnover rate of staff, very high levels of chronic disease and where the acute paradigm prevails. This domain includes using: patient record, register and recall systems; time management, screening tools, care planning; the use of evidence based protocols and standards; and using information technology in an organised and systematic way.

The remote practitioner will be able to:

- **Record and recall systems:**
  Competently use the health centre's information and recall system – paper based or computerised:
  - Compile and use a population register appropriately.
  - Effectively compile and use a disease register.
  - Undertake reporting requirements.
  - Manage information and data systems relating to – clinical standards, guidelines and protocols for the early detection and management of chronic disease.
  - Discuss the importance of keeping records updated.
  - Use standard treatment protocols to guide clinical practice.
  - Use health information to inform the team, the patient, and their family.
  - Engage the community council in regular feedback regarding the community's health.

- **Time management and prioritisation:**
  Understand ways of organising and prioritising sufficient time to undertake chronic disease prevention, early detection and management activities:
  - Consult appropriately to gain community support for chronic disease work to take place as a priority on certain days in the community.
  - Anticipate demands of acute illness and flexibly structure time so that all other work can occur.
  - Be well organised and prioritise.
  - Access chronic disease resources outside the community.
  - Recognise one's own limitations within the professional and legislative guidelines and know when, and how, to refer.
Prevention

• **Pregnant women:**
  - Establish structured time to provide education to school groups about conception, pregnancy and the underlying determining factors that affect adult health outcomes.
  - Identify, record and monitor/follow up antenatal patients regularly.
  - Provide nutritional advice to pregnant women.
  - Advise women re: smoking, alcohol intake, and exercise during pregnancy.
  - Use brief interventions re smoking and alcohol cessation.
  - Monitor maternal weight during pregnancy.
  - Consider water supply, cost of food, socioeconomic status of the mother and negotiate a successful plan.
  - Describe the early indicators of pregnancy related problems (gestational diabetes, pre-eclampsia, intrauterine growth retardation) and intervene and refer as required.
  - Support women in improving their environmental factors prior to delivery.

• **Babies and children:**
  - Describe normal childhood development.
  - Identify abnormal indicators early.
  - Describe the factors that impact upon early childhood development.
  - Discuss the links between the determinants of health and chronic disease (Barker hypothesis, social determinants of health).
  - Provide nutritional advice relevant to the child’s age, food supply, family income and social situation.
  - Monitor the haemoglobin level of children to assess and implement a management plan for anaemia using dietary approach as indicated.
  - Initiate brief intervention whenever appropriate.
  - Participate in basic childhood immunisation programs.
  - Provide preventative health advice and intervene in those conditions that effect the normal childhood development and education – otitis media, urinary tract infections and upper respiratory tract infections.
  - Promote well being though education of the mother/family/carer to nutritional information – ‘the child’s growth story’.
  - Identify and follow up children at risk.
  - Maintain child health records.
  - Refer and follow up appropriately.

Early detection

• **Screening:**
Use screening procedures and investigations appropriately to identify asymptomatic individuals with risk factors and/or chronic conditions:
  - Describe the role of screening and the importance of follow up.
  - Competently perform, record and interpret results of growth assessment programs, school screening and adult health checks.
  - Implement and monitor structured community screening programs.
- Opportunistically target community wide programs.
- Incorporate brief interventions as a routine part of consultations as necessary.
- Practice opportunistic individual screening.
- Provide individuals with timely feedback of screening results.
- Follow up results with the patient and refer or manage appropriately.
- Provide appropriate information to the whole community on screening outcomes.
- Perform immunisation to reduce secondary prevention in adults.

Management

- **Care planning:**
  Perform care planning that involves the patient in the decision making:
  - Consider the burden of chronic disease on the individual and their family when planning the patient's management.
  - Explain the difference between the management of acute care and chronic disease and their interrelationships.
  - Include brief interventions in routine management of clients with chronic illness.
  - Provide culturally appropriate lifestyle advice – nutrition, physical activity, smoking, alcohol, e.g. hunting, promoting bush foods to those at risk or engaging in risky behaviour.
  - Appropriately involve those disciplines under Medicare.
  - Discuss strategies for time management, taking into consideration demands on time and effort when managing chronically ill patients.
  - Rationally use medicines.

- **Mental health:**
  Identify symptoms of depression, anxiety and behavioural disturbance in children and young people and offer appropriate support, intervention and referral as required:
  - Undertake a basic mental health screening and know when and how to refer appropriately.
  - Identify the effects of alcohol and substance abuse on the individual and the community and offer appropriate support and/or referral as required.
  - Describe the early indicators of mental illness and psychosis.
  - Identify and deal with the acute phase of psychotic conditions in the community in consultation with the district medical officer or psychiatrist.
  - Provide basic education and support to the family and the community in the event of an acute psychotic episode.
  - Describe the guidelines for transporting a psychotic patient.
  - Offer peer support to the remote practitioner when they have managed patients who have had acute psychotic episode.
  - Identify and use opportunities for mental health promotion at the individual and community level.

- **Pathology:**
  Use investigations appropriately, based on the standard treatment protocols, when managing chronic disease:
  - Provide further investigations, follow up and referral as appropriate.
Remote Indigenous Health Workers are the only health practitioners who are continuously placed in the position where they know most of their patients and where they are often required to treat their family and relatives. This raises many legal and ethical dilemmas, which are compounded by the cultural responsibilities that also need to be considered when managing chronically ill patients from a different gender or clan group. Remote health practitioners have different clinical roles, legislative requirements and professional standards to maintain. However, their professional roles all have some common elements:

- **Duty of care:**
  All health practitioners have a duty of care to the patient and are required to exercise due care and skill, and they can be held legally liable for any negligence. This is complicated in remote practice where most practitioners undertake a broader scope of professional practice than usual.

- **Confidentiality:**
  All are required to maintain confidentiality, which is more difficult in a remote community where everyone knows each other, or where the health practitioner might be required to treat relatives, friends and colleagues.

- **Ethical practice:**
  All practitioners are required to practice ethically which includes: doing no harm; doing good; deciding for oneself; acting fairly; distributing equitably and referring appropriately.

The remote practitioner will be able to:

- **Best Practice:**
  Keep abreast of best practice evidence and recent advances in technology in their own discipline:
  - Know where, and how, to find information about the prevention, early detection and management of chronic disease.
  - Understand and interpret the evidence base.
  - Link with professional networks and journals.
  - Use updated information to inform their own practice.
  - Use locally approved standard treatment protocols to guide all consultations.
  - Refer appropriately, or seek advice about how to do so.
  - Use the evidence base and feedback from systems approaches to provide advice to the community members about chronic disease activity, process, impact and prevention.

- **Ethics:**
  Appreciate and respect the different cultural frameworks for determining ethical behaviour in a remote community:
  - Discuss the ethical principles underlying the care of chronically ill patients in remote practice (informed consent, confidentiality, autonomy, and issues associated with dying).
  - Maintain client confidentiality.
  - Respect a patient’s right to refuse, or vary, treatment.
- Be aware of the local issues that might impact upon the decision to treat a patient locally or refer on.
- Advocate for the remote community in acquiring resources to enable comprehensive chronic disease care.

**Legislation:**

Have an understanding of the legislation governing their profession regarding notification of disease, birth, death, autopsy and consent.

**Teamwork:**

Work respectfully in a cross-cultural team:
- Understand and respect the different priorities, cultural considerations and family commitments of Indigenous team members.
- Discuss the role of the Indigenous health worker, health centre manager and other team members.
- Discuss, and work within, the different scope of practice of the remote health workforce, utilising available resources appropriately.

**Self-care:**

Discuss their own strengths, values, and vulnerabilities in maintaining a personal and professional balance when working in isolation:
- Identify the boundary issues relevant to working as a remote practitioner – caring for friends, relatives, colleagues, and patients with long term conditions.
- Debrief as required.
- Discuss self-care issues when working in a remote cross-cultural environment.
- Identify personal support mechanisms such as mentors, regular time out.

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**Domain 5  Clinical skills in remote primary health care practice**

To help prevent, detect and manage chronic disease in remote Indigenous communities all health professionals require a set of core clinical skills, plus their own disciplinary specific skills. They must also be able to ‘apply’ their knowledge to ensure they use a comprehensive, rational and patient centred approach. This domain includes: core clinical skills, applying knowledge of chronic conditions to clinical decision-making, physical examination skills, investigations and the rational use of medicine.

*Note:* There are numerous clinical skills in the care of pregnant women that are not included in this section, such as taking a foetal heart rate, as it was felt that these were skills that should only be used by a midwife or doctor. They were therefore not seen as ‘core skills’ for all health practitioners. It should however be noted that these are vitally important and should be included in programs for those practitioners.
The remote practitioner will be able to:

Early detection

Conduct screening and health education programs in the community:

- Use relevant investigations, appropriate screening protocols, reporting requirements, care planning, health promotion, education and referral and follow up processes for:
  - sexually transmitted infections
  - mental health / suicide risk
  - cardiovascular disease
  - diabetes and eye health
  - renal disease
  - respiratory disease
  - growth assessment processes
  - school screening procedures
  - children and young people
  - antenatal and postnatal care
  - adult health checks
  - men’s health checks
  - women’s health checks
  - older people’s health check.

Management

Recognise the indicators for the major chronic diseases and manage and/or refer:

- Take a history and perform physical examination relevant to the presenting problem as per clinical standard treatment manuals.

- Relate the clinical findings to a working diagnosis:
  - Consider the possibility of serious illness inherent in many commonly presenting symptoms, for example: sore leg in a child = potential for rheumatic fever.
  - Keep up to date with new information about chronic illnesses.
  - Actively manage high blood pressure and gestational diabetes during pregnancy.
  - Demonstrate a general understanding of the basic management of peritoneal dialysis and the work-up needs of patients planning to have renal transplants, sufficient to be able to advise or refer the patient appropriately.
  - Record and report using local tools and as per clinical standard treatment manuals.
  - Understand the risk factors for chronic disease.

- Referral:
  - Know when and how to refer appropriately.
  - Use shared care arrangements where accessible.

- Pathology:
  - Use investigations and interpret results to refine a working diagnosis and care plan.
  - Collect specimens and maintain cold chain as per protocols

- Prescribing:
  - Prescribe and/or dispense medications within the standard treatment protocols and disciplinary guidelines.

- Universal precautions:
  - Apply the principles of infection control and use universal precautions consistently.
Core clinical skills

The following list is the core minimum and essential clinical skills for remote nurses, doctors, Indigenous health workers and clinical health centre managers (adapted from CHIRRP, 2004b, p 81).

<table>
<thead>
<tr>
<th>General clinical skills</th>
<th>General equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can competently perform the following general clinical skills:</td>
<td>Can competently use and maintain the following minimum equipment:</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Body mass index (BMI) sheet</td>
</tr>
<tr>
<td>Blood glucose monitoring</td>
<td>Centrifuge</td>
</tr>
<tr>
<td>Capillary haemoglobin</td>
<td>Cold chain monitors</td>
</tr>
<tr>
<td>Dressings - basic</td>
<td>Electrocardiograph (ECG) machine</td>
</tr>
<tr>
<td>Electrocardiograph</td>
<td>Eye chart</td>
</tr>
<tr>
<td>Foot assessment and care - basic</td>
<td>Glomerulofiltration rate (GFR) calculator</td>
</tr>
<tr>
<td>Measurement – baby and adult:</td>
<td>(calculated creatinine clearance)</td>
</tr>
<tr>
<td>- Body mass index</td>
<td>Glucometer</td>
</tr>
<tr>
<td>- Head circumference (infants)</td>
<td>Haemocue machine</td>
</tr>
<tr>
<td>- Height</td>
<td>Infant length boards</td>
</tr>
<tr>
<td>- Length (infants)</td>
<td>Maintenance of fridges for specimen storage</td>
</tr>
<tr>
<td>- Waist circumference</td>
<td>Monofilament</td>
</tr>
<tr>
<td>- Weight</td>
<td>Nebuliser and spacers</td>
</tr>
<tr>
<td>Mental health assessment - basic</td>
<td>Ophthalmoscope</td>
</tr>
<tr>
<td>Oxygen saturation</td>
<td>Otoscope</td>
</tr>
<tr>
<td>Packaging and transport of specimens</td>
<td>Oxygen therapy</td>
</tr>
<tr>
<td>Peak flow</td>
<td>Oxygen therapy equipment</td>
</tr>
<tr>
<td>Phlebotomy / venepuncture</td>
<td>Pulse oximeter</td>
</tr>
<tr>
<td>Pulse rate</td>
<td>Scales for child and adult</td>
</tr>
<tr>
<td>Recording and reporting processes</td>
<td>Slit lamp</td>
</tr>
<tr>
<td>Respiration rate</td>
<td>Sphygmomanometer</td>
</tr>
<tr>
<td>Temperature</td>
<td>Spirometer</td>
</tr>
<tr>
<td>Urinalysis</td>
<td>Stadiometer</td>
</tr>
<tr>
<td>Urine specimen collection</td>
<td>Tape measures</td>
</tr>
<tr>
<td>Vaccinations - standard</td>
<td>Thermometer</td>
</tr>
<tr>
<td>Visual acuity.</td>
<td>Venepuncture equipment</td>
</tr>
</tbody>
</table>
Section 4 Implementation

Prerequisites

For the successful integration of the expected core outcomes of this curriculum into all workforce education and training, the following structures need to be in place:

Policy

Industry, employers and educational providers need to have written policy with input from the community and clinicians regarding:

- **Orientation programs**
  
  A structured orientation program is a prerequisite for any practitioner working in remote, rural and Indigenous communities. The Pathways Program from Central Australia offers a good model to follow or adapt.

  - The program should include the content that has been identified by the educational provider. *For example content such as: using a population health based systems approach; the social factors that determine health; the health status of the Indigenous population and the core clinical skills.*

- **Professional development and accredited programs**

  All existing and new professional development and accredited programs integrate the relevant expected core outcomes of the curriculum into their programs.

Commitment and Leadership

Strong commitment and leadership of managers towards implementation is required. This includes: policy developed and implemented; review of existing programs to include core content, release of staff to attend relevant programs, processes that enable the population health approach to be used in the primary health care setting.

Educating the educators

All education providers require information/training about how to implement and embed this curriculum into their existing and new programs across the disciplines.

Evaluation

Monitoring and evaluation of progress need to be built into all processes to ensure sustainability. During 2005 a periodic evaluation process will be undertaken to monitor the dissemination process, track any program changes and establish outcomes.
Figure 2 (below) describes the implementation cycle. It starts with policy, which is developed in consultation with the community based on needs, and the various roles of the stakeholders involved. This will ensure integration of the curriculum into all workforce training, which will improve workforce capacity and health outcomes.

**Figure 2 Implementation Model**

![Implementation Model Diagram]

- **THE COMMUNITY**
  Define needs based on health outcomes and contribute to policy.
- **INDUSTRY/EMPLOYERS**
  - Directors show commitment, leadership, ensure financial support and policy is in place.
  - Managers implement policy, advocate, plan, support and resource the educators and PHC workforce.
  - Educators undertake training. Adapt existing/develop new programs using a population health model, use listed resources.
  - PHC workforce undertake training, adopt population focus and systematic approach to prevention, early detection and management of chronic disease in the community.

Teaching and learning approaches

There are many commonalities between the health disciplines, and the degree of geographical remoteness affects the breadth and depth of the skills that the practitioner requires. There are two main factors that vary, both related to the scope of practice of the health professional.

1. **Context** – the remote context changes everything about a normal situation.
2. **Content** – irrespective of whether the practitioner is a nurse, doctor, social worker, or Indigenous health worker they will need to have: advanced clinical skills, emergency skills and cross-cultural skills, and an understanding of public health issues, health promotion, and how to use a primary health care approach. They will also need an understanding of the professional, legal, and ethical issues related to their field (Smith, 2004a).

As a result the following principles have been developed for the implementation of this curriculum.
Principles for teaching and learning

1 **Use a population based approach**
   This means all teaching and learning materials and lectures will consider the issue for discussion and place it in a population model. For example how diabetes affects: the pregnant women and the foetus; babies, children, young people, adults – noting any different needs for men, women or the aged.

2 **Application to practice**
   All materials will demonstrate how they 'apply them to the realities' of remote practice for the target group in the educational setting. The reason people don't change their practice is often that they cannot see how the educational materials apply to their own practice.

3 **Remote Indigenous focused**
   These materials are remote Indigenous focused and should be adapted for other settings as required. They should be implemented jointly with Indigenous people.

4 **Impact focused**
   All materials will focus on the community first and consider how those factors that affect health are impacting on the individual, ie. food supply, employment, poverty, education – the social determinants of health.

Potential teaching strategies

The main thrust of this particular curriculum is to educate the remote and rural health workforce in a different way from their previous educational experiences and often their current practice, which is usually more 'individual' focused. To achieve a population focus this means any workshops – orientation, professional development and accredited programs – need to be restructured into a population based approach using the principles listed above to create the required shift in the workforce. It's about HOW you do it; it's not so much about WHAT you do.

The best mode of learning is via experience. In the remote context, therefore, professionals require adequate and structured orientation to their work environment and ongoing mentoring, support and cultural liaison as appropriate.

Suggested strategies for workshops

- **Hold the workshops in the community**
  This provides an opportunity for all team members to be involved.

- **Apply the theory to practice**
  Use practical examples from the group, refer to the useful tools in part 2, use the talking circle, scenarios, case studies, videos, get the group to work through a problem putting it in the context in which they work.

- **Storytelling, songs, poems, personal stories, dance, art and histories**
  Storytelling is how we pass on our history from one generation to the next. It is a traditional mode of communication in Indigenous society and therefore a very appropriate means of applying remote Indigenous context to the content of this curriculum.

- **Demonstration**
  – particularly useful for clinical work.

- **Talking circle**
  This was developed by the First Nations People of Canada and can be a powerful teaching tool if used appropriately in a small group. How it works – students sit in a circle, a tool (feather, stick,
boomerang) is circulated clockwise and held by the person whose turn it is to speak. This is their opportunity to express their views. The rules are:
- what is said in this circle is confidential
- this is a safe environment
- no-one can speak unless it is their turn
- you may choose not to speak when your turn comes around
- you must be honest and respect the views of others.

- **Audiovisual**
  Use of films and video to stimulate discussion.

- **Case studies**
  Use real cases from the practitioner’s own experience to explain concepts, and the experience of the group to find solutions.

**Orientation – suggested strategies**
- **Orientation with the whole team in the remote community**
  This reinforces roles and responsibilities, helps refocus the team, and introduces the new staff member to the others in a formal way.

- **Mentoring opportunities**
  Mentor and support new staff to offer a supportive introduction to communities – email links, ring them, follow up, send useful information.

**Professional development – suggested strategies**
- **Case conferencing with the whole team**
  Set aside one afternoon a week to discuss relevant or challenging cases. Include the usual doctor, either on teleconference/videoconference – this reinforces the team approach while providing professional development for all staff. It also assists in the quality of care of the patient, as it is a more effective method of increasing chronic disease management and the roles and responsibilities of the team members.

- **Make time for professional development**
  Close the clinic one afternoon a week for professional development using a structured time plan. This would need to be negotiated with the community leaders and the community educated as to why this is important. One person could be allocated for absolute emergencies. Particular activities could include – case review, reviewing the activities of the GAA, STI screening, chronic disease register feedback, watching educational video/presentation, getting everyone to identify their particular educational needs and taking turns. The self-assessment tool could be used to identify educational needs.

**Distance learning**
- Using accredited education modules with feedback
- Videos, CDROMS, PowerPoint presentations with voiceovers
- Link up with existing disciplinary activities and university accredited programs.
Introduction
The consultative process revealed that there were certain areas that educators and the primary health care workforce find more challenging. Therefore, this section provides core educational support information in those identified areas.

It includes:
2.1 How to use a population health approach
2.2 What are the social determinants of health? And what does this mean for rural and remote Indigenous Australians?
2.3 What is health promotion? And how do I apply it to my practice?

and two tools:
2.4 The chronic care model by Wagner et al.
2.5 Where to find useful resources – how to access the annotated bibliography and self-assessment tool.
2.1 How to use a population health approach

The following has been adapted from: Baum, F, Putland, C, Lawless, A, Swerissen, H, Lewis, V and Weeks, A 2004, Chapter 1, The Primary health care workforce and the population health activities: Scope and potential, in: Thinking Populations: Population health and the primary health care workforce, Flinders University, Adelaide SA.

What does population health mean?

The term population health is a recent arrival in Australia and it overlaps significantly with public health. The term 'population health' is often preferred due to the tendency of people using the term 'public health' to refer to publicly funded health services.

In population health there is:
- a focus on populations as entities – as opposed to a focus on individuals who make up the population
- an emphasis on health promotion and disease prevention strategies at a population level
- concern with the underlying social, economic, biological, genetic, environmental and cultural determinants of health of the whole population.

Grasping the difference between a 'population health approach' and a 'public health approach', and a 'clinical' and an 'individual' approach is not easy. People assume that because interventions with individuals aim to improve health, then they must be good for the health of the population. To some extent this is true. But the essential thing about population health is the level of analysis, and the level at which intervention is aimed. The critical difference is between considering sick individuals and sick populations. For example, when working from a population health approach one would ask "why does this particular population have a high incidence of diabetes or renal disease?", whereas working from an individual level one might ask "why did this person develop diabetes or renal disease?".

Population health approaches are concerned with interventions that address the first question. They typically go 'upstream' to consider causes of ill-health and disability that are fundamental aspects of the social, political, economic and/or cultural aspects of the society. Most other health service provision focuses 'downstream' on dealing with individuals who have become sick or injured. This does not mean individual service provision operates in isolation from population health strategies, but that it informs, and may be a means of delivering, population health strategies. This is often identified when monitoring systems are in place, which pick up trends in the population's health.

Generally, population health deals with causes of ill health that are less immediately evident than the downstream factors that readily manifest themselves as illness in individuals.
What does this mean for the remote primary health care practitioner?

Primary health care practitioners, who work in remote or rural communities which experience extremely high levels of chronic illness, need to shift their view from a ‘downstream individual clinical’ focus, to an ‘upstream’ focus. The following are some examples of how this could be done.

Table 1  *Examples of clinical and population health responses to selected health issues*

<table>
<thead>
<tr>
<th>Issue</th>
<th>Individual/clinical perspective</th>
<th>Population health perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Care for the chronically ill</em></td>
<td>Provide individual care, support, medications, medical advice, etc.</td>
<td>Work to prevent causes of chronic illness in the community – food supply, education, environmental issues.</td>
</tr>
<tr>
<td><em>Domestic violence</em></td>
<td>Provide services to people who have suffered violence or who want to deal with their violent behaviour.</td>
<td>Legislation to make domestic violence illegal. Population based education about effects and alternatives to violence.</td>
</tr>
<tr>
<td><em>Tuberculosis</em></td>
<td>Treat infected people within appropriate guidelines and protocols.</td>
<td>Improve living conditions that lead to TB infection. Improve nutritional status of the population.</td>
</tr>
</tbody>
</table>
What does this mean for the educators?

Educators need to consider restructuring their existing programs to ensure they reflect the health of populations, as well as the individual clinical response. For example:

Table 2  *Examples of how educators might adapt health education programs from a clinical or individual approach and into a population health approach, for selected health issues.*

<table>
<thead>
<tr>
<th>Issue</th>
<th>Educating from an individual/clinical perspective</th>
<th>Educating from a population health approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood malnutrition</td>
<td>Educate about caring for a sick child – weighing, nutritional needs, monitoring, advising mothers and follow-up.</td>
<td>Develop programs that demonstrate how to facilitate community action re: improving environmental conditions – refrigeration, water supply, food handling, improving food supply; cultural factors; and by advocating for good educational opportunities for women and children.</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Educate practitioners about how anatomy and physiology of insulin production, to monitor blood glucose, relevant investigations, administer insulin, record and report progress.</td>
<td>Develop programs that describe how to: - improve socioeconomic factors that contribute towards diabetes; - consider how diabetes affects the entire population – pregnant women (gestational diabetes), children, young people, adults, older people – gender, cultural; - advocate to improve fresh fruit and vegetable supply for the whole population; - conduct health promotion programs to educate the population – weight control, cease smoking and increase physical activity; group support programs.</td>
</tr>
</tbody>
</table>

It is important to remember that small changes in the health of the general population are likely to have a greater impact on the health of the population, than changes in the health status of high risk or sick individuals (Rose cited: Baum 2004).
2.2 What are the social determinants of health?

What are the social determinants of health? And what does this mean for rural and remote Indigenous Australians? This section will be useful for those conducting programs about the factors that affect our health – in particular the health of Indigenous Australians living in remote and rural communities.

The following has been adapted with permission from – Smith J, *Australia's rural and remote health: A social justice perspective*, Tertiary Press, Melbourne, 2004. Chapter 8 in this book is also very useful for orientation as it applies the social determinants to the remote Indigenous context.

The determinants of health

The factors that determine whether we will be healthy or not are divided into two sections.

1. Those factors that we have little control over such as our gender, culture and genetic makeup
2. Those social factors that can impact upon our health such as our education, income and housing situation.

Gender

Being male or female determines our predisposition towards certain diseases, our longevity and our relative power in society through our roles, attitudes, behaviours and values that are determined by society (Health Canada, 2002). Attitudes to health also differ between the sexes. For example: men are more likely to increase their physical activity as an important healthy behaviour to lose weight, whereas women tend to focus more on social, environmental and dietary changes (AIHW, 2002a). These gender factors contribute towards determining our health status.

Culture

Cultures are made and change by humans. Therefore a person’s culture contributes towards their knowledge, attitudes and belief systems, which influence their health behaviours and their health status. Culture also contributes towards marginalisation of some groups, stigmatisation and devaluation of their language. These can be exacerbated by lack of access to culturally appropriate health care services (Health Canada, 2002). This is one reason why Indigenous groups worldwide prefer community-controlled health services; Indigenous people manage them.

Genetic makeup

The basic biology of the human body and our own genetic makeup predispose us to particular diseases or health problems, such as diabetes or haemophilia. Some diseases, like muscular dystrophy, result entirely from a person’s genetic makeup (AIHW, 2002a).

Social determinants

The social determinants of health make up those ‘social factors’ that can also affect our health, like our income, diet, level of education, environment and level of social support; and whether we choose to smoke, have ten children or work in stressful conditions (WHO, 1998). Each of these factors is important in its own right. At the same time, they are also interrelated.
For example: if a mother is a smoker, evidence suggests that she is more likely to come from a lower socioeconomic group, that she probably has a lower level of education, and is more likely to have a child with a low birth weight that may lead to health problems during childhood and adulthood. Research shows a strong relationship between the income level of the mother and the baby’s birth weight, and the mother’s level of coping skills and her sense of control over her own life circumstances (Labonte, 1998). Adding these factors to her genetic makeup, culture, level of education and environmental conditions will determine the future health status of the child. We also know that every additional year of education for the mother improves her health literacy and results in better health status for her child (Health Canada, 2002, McMurray, 2003). Therefore: ‘educate a woman – educate a nation’ (Health Canada 2002).

Determining Indigenous health

Table 2.3 applies the social determinants of health to the Australian rural and remote Indigenous health context.

<table>
<thead>
<tr>
<th>Social determinant of health</th>
<th>Rural and remote Indigenous health</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Income and social status</td>
<td>Many Indigenous Australians live below the poverty line, receiving a median income of $102 less per week than other Australians (ABS, 1999b). In remote areas the food budget can represent 56–89 per cent of the total Indigenous household income, compared with the national average of 18 per cent (Aust Indigenous HealthInfoNet, 2002). These factors affect every aspect of Indigenous lives including the ability to live in safe housing and to buy sufficient good quality food for their families, and it maintains their place at the bottom of the social hierarchy (Pearson, 2000). Cultural practices also dictate that food and other resources are shared between families.</td>
</tr>
<tr>
<td>2 Stress</td>
<td>Indigenous Australians were dispossessed of their land and traditions and thousands were stolen as children. They suffer an enormous burden of disease, low self-esteem, lack of control over their lives, enduring discrimination, high detention rates and traumatisation as a result. These factors accumulate during life and increase the chances of poor mental health, suicide and premature death, cardiovascular disease, hypertension and diabetes, all of which are much higher in the Indigenous population (Edwards and Madden, 2001). This means that Indigenous Australians are enmeshed in a system of welfare colonialism, from which it is difficult to recover until they can construct their lives in a viable and meaningful way that recognises their rights as a first nation and restores their control over their lives (Ober et al., 2000).</td>
</tr>
</tbody>
</table>
Social determinant of health | Rural and remote Indigenous health
---|---
3 Early child development | Indigenous Australians have a higher incidence of premature birth and low birth weight babies, a higher incidence of hearing problems, slower early growth, malnutrition, juvenile diabetes and communicable disease in early life (AIHW, 2002a). In rural areas Indigenous women have a higher incidence of smoking and poverty, and poorer access to prenatal care and nutritious food (Edwards and Madden, 2001). These factors during early life raise the risk of poor physical health and reduce physical, cognitive and emotional functioning in adulthood (WHO, 1998).

The important foundations of adulthood are laid in prenatal life and early childhood (WHO, 1998). Poor maternal diet, smoking and parental poverty can reduce prenatal and infant development. Slow early growth is associated with reduced renal, respiratory and cardiovascular functioning (WHO, 1998).

4 Education | Indigenous Australians in rural and remote areas have much less access to sound educational opportunities, especially in their secondary and tertiary years, unless they are prepared to go to boarding school. While the number of Indigenous students enrolled in higher education has doubled in the past decade, they still only make up 12 per cent compared with 33 per cent of other 19-year-olds (ABS, 2002d). In discrete remote communities it is much less than the national average. Indigenous people earn less than other Australians, and have less access to employment opportunities.

Education is directly related to employment and income, which in turn affects housing, nutrition and health. It provides people with skills to access health information; it also assists with problem solving and helps give them a sense of control over their life circumstances (Health Canada 2002).

Indigenous Australians in rural and remote areas have much less access to sound educational opportunities, especially in their secondary and tertiary years, unless they are prepared to go to boarding school. While the number of Indigenous students enrolled in higher education has doubled in the past decade, they still only make up 12 per cent compared with 33 per cent of other 19-year-olds (ABS, 2002d). In discrete remote communities it is much less than the national average. Indigenous people earn less than other Australians, and have less access to employment opportunities.

5 Employment and work conditions | Indigenous Australians have two-and-a-half times the national average unemployment rates (OATSIA, 2002a). Those in remote areas have much less access to employment due to distance, lack of opportunities and low levels of education, and most work for the CDEP program (Abbott, 2002). Lack of employment perpetuates the cycle of poverty and limits access to food, housing and education, resulting in a lack of control over one’s life circumstances and higher stress levels. These in turn ‘substantially increase the risk of premature death’ and cardiovascular disease, which is higher in the Indigenous population (WHO, 1998 p 18).

Unemployment, stressful or unsafe work and under-employment are associated with poorer health (Health Canada 2002). Healthier people have more control over their work and often live longer than those in more stressful or riskier work situations. Low control over one’s work is associated with low back pain and cardiovascular disease (WHO, 1998).

6 Social support | Indigenous people often have very strong social support and family networks. These social networks have a powerful protective effect on their health because they make people feel cared for, loved, respected and valued (WHO, 1998). However, decades of discriminatory policies and practices have created distrust and have resulted in a breakdown of family support structures, traditional laws and customs, resulting in increased drinking, violence, homicide, suicide and early death rates (Pearson, 2000).

Support from families, friends and communities helps people solve problems, deal with adversity and maintain a sense of mastery and control over their life circumstances (Health Canada 2002). Mutual trust and respect in the community protect people and their health (WHO, 1998).
<table>
<thead>
<tr>
<th>Social determinant of health</th>
<th>Rural and remote Indigenous health</th>
</tr>
</thead>
<tbody>
<tr>
<td>7  Addiction</td>
<td>Only half of Indigenous men and one-third of Indigenous women drink alcohol, compared to two-thirds of non-indigenous men and almost half non-indigenous women (Edwards and Madden, 2001). However, those who do drink have a higher incidence of drinking to dangerous levels (Edwards and Madden, 2001). Twice as many Indigenous Australians smoke and use illicit drugs than other Australians (AIHW, 2002a, Edwards and Madden, 2001).</td>
</tr>
<tr>
<td>8  Food, air and water: the physical environment</td>
<td>Indigenous Australians earn less than other Australians, which affects their ability to buy nutritious food and provide safe housing for their families. Those in rural and remote areas have much less access to good, healthy food choices, and pay almost twice as much for their food, than city people (Aust Indigenous HealthInfoNet, 2002). Indigenous Australians in rural and remote areas experience much less access to clean water supply, functional sewerage and waste disposal systems. They have less access to a reliable source of electricity to maintain their food supply (ABS, 2001b). Overcrowding in remote Indigenous communities is double the national average (ABS, 2001b). Basic maintenance of housing, generators for electricity supply and community facilities is poor (ABS, 2001b).</td>
</tr>
<tr>
<td>9  Transport and exercise</td>
<td>Rural and remote people exercise less than those in the city. They have much less access to services and often need to travel great distances for basic supplies, health services and education facilities. Indigenous Australians use health transport services five times more frequently than other Australians (Edwards and Madden, 2001).</td>
</tr>
<tr>
<td>10 Lifestyle choices</td>
<td>Remote Indigenous people have less access to lifestyle choices, less education about healthy choices, and therefore less control over their lives due to socioeconomic factors, stress and limited access to services. There is a growing recognition that personal life ‘choices’ are greatly influenced by the socioeconomic environments in which people live, learn, work and play (Health Canada, 2002).</td>
</tr>
</tbody>
</table>

Addiction: Alcohol dependence, illicit drug use and cigarette smoking are all closely associated with markers of social and economic disadvantage and worsening inequalities in health (WHO, 1998).

Food, air and water: the physical environment: Shortage of healthy food and lack of variety cause malnutrition and deficiency diseases. Access to good affordable food makes more difference to what people eat than does health education. People on low incomes – the elderly and unemployed – are least able to eat well (WHO, 1998). Factors related to housing, and the design of communities, can significantly affect physical and psychological well-being. Waste disposal and sewerage systems help prevent disease (Health Canada, 2002).

Transport and exercise: Healthy transport means reducing driving and encouraging more walking and cycling. It promotes a sense of well-being and protects older people from depression (WHO, 1998).

Lifestyle choices: Our lifestyle choices can prevent disease, help us cope with challenges, solve problems and make choices that enhance health and develop self-reliance (Health Canada, 2002).
Conclusion

Research tells us that to be poor means to be unhealthy (Health Canada, 2002, WHO, 1998). Poverty is linked with all aspects of people’s lives. It is linked with our ability to access a good education, which affects our ability to find a good job, which affects our type of housing and the food we can put on the table for our children. It is a vicious cycle that places us in a certain social class that in turn can continue the cycle of poverty. Research also tells us that living in rural and remote Australia means that we will probably be poorer, and certainly less healthy; especially if we are also Indigenous.

The way we define health differs between different groups and different cultures. Rural people view their health as the absence of disease and their ability to be productive, which is evidenced in their behaviours. They present later for treatment and consequently have poorer health outcomes than city-living Australians, as they see health services as curative services. Indigenous Australians also view their health differently from other Australians. They see health holistically – as including the social, emotional, spiritual and cultural well-being of the whole community – and place heavy emphasis on the land, dignity and community self-esteem (NAHS Evaluation Committee, 1994). Nevertheless, they also come off second best when we compare their health status with all the social determinants of health. These factors all increase with geographical remoteness.

Disturbingly, government-funded health services use international definitions of health, not the definitions used by rural and Indigenous peoples. These conflicting factors contribute significantly to the way in which health services are provided to rural, remote and Indigenous communities as they work from different foundations and value systems. Hence many health promotion initiatives are not taken up, or are rejected by rural and Indigenous people and the cycle of ill health continues.

We know that more doctors, nurses and hospitals do not make better health; they only provide health services and infrastructure, which contribute only 10 per cent towards health outcomes (McMurray, 1999). Nonetheless, rural health dollars are largely spent on providing workforce incentives and running innovative programs for health professionals rather than on those factors that make for better health, such as access to education, nutritious food, adequate income, control over one’s life, clean water and suitable housing. Additionally, the key factors that make for better health are funded from other government departments – housing, education and employment – outside the health department. A lack of coordination exists between the Commonwealth, state and regional health departments. Therefore the difficulties inherent in attempting to impact upon these other departments compound the problem.
2.3 What is Health Promotion?

Written by Jenni Judd, Senior Health Promotion and Policy Officer, Preventable Chronic Disease Program, NT Dept of Health and Community Services, Darwin; and adapted by Janie Smith.

Health promotion is the process of enabling people to increase control over and to improve their health (WHO 1984 cited: Catford, 2004). It is where individuals are viewed as health creators, rather than health consumers, knowing that the people themselves win health (Keleher and Murphy, 2004).

Many health professionals see health promotion as ‘only’ using pamphlets and posters to provide health information to patients. While these tools have their use, health promotion is far broader.

Principles for health promotion

The World Health Organisation determined the principles for health promotion in 1984 as:

1  **Population health focused**
   Health promotion involves the population as a whole in the context of their everyday life, rather than focusing on the individual at risk for specific diseases.

2  **Social determinants approach to promoting health**
   Health promotion is directed towards acting upon those things that determine whether we will be healthy or not – the determinants or causes of health – smoking, alcohol intake, exercise, nutrition, food supply, sewerage, water supply, social support and education.

3  **Combines a variety of methods**
   Health promotion combines diverse, but complementary methods or approaches, including – communication, education, legislation, fiscal measures, organisational change, community development and spontaneous local activities against health hazards.

4  **Building collaborative partnerships**
   Health promotion aims particularly at effective and concrete public participation.

5  **Health workforce role**
   Primary health care professionals have an important role in nurturing and enabling health promotion. They should therefore work outwards developing their special contributions in education and health advocacy – this is especially so for those working in remote cross-cultural environments (WHO 1984 cited: Catford, 2004).

Educating for health promotion

All members of the health workforce need the ability to provide prevention, early intervention and curative care for their clients. This requires a good understanding of health promotion, the social determinants of health and population health strategies and what they can do in their role to improve the health outcomes for all people, particularly those who suffer a high burden of chronic disease.

When educating the remote health workforce about health promotion strategies, particularly in remote Indigenous communities, it is important to therefore look at practical examples of how they could be using health promotion within the communities in which they work.
Table 4  *Examples of health promotion in action and what the remote health professional can do.*

<table>
<thead>
<tr>
<th>Problem</th>
<th>What can the remote health professional do?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lack of physical activity</strong></td>
<td>Advocate for:</td>
</tr>
<tr>
<td></td>
<td>• Shaded walkways to encourage people to walk</td>
</tr>
<tr>
<td></td>
<td>• Swimming pool installation to encourage physical activity, social interaction, improved self-esteem and prevention of otitis media and skin infections</td>
</tr>
<tr>
<td></td>
<td>• Community daily ‘walking drop-offs groups’</td>
</tr>
</tbody>
</table>

| **Obesity**               | Community – Work with the store to improve healthy food options: |
|                          | • Promote healthy take-away food at the store |
|                          | • ‘Shelf talkers’ in the store |
|                          | • Educate the community about healthy food options and physical activity |
|                          | • Target at risk groups – diabetics, school children, older people |
|                          | Individual – Use brief interventions in each consultation regarding food intake and the importance of physical activity: |
|                          | • Run videos in the clinic waiting room about nutrition |

| **Spread of disease**     | Work with the community to identify the environmental factors that cause disease in the community, and advocate for change – disposal of rubbish, nappies, electricity supply to refrigerate food and sewerage and maintenance systems. |
|                          | Work with the community council to develop environmental policy |

| **Diabetes**              | Support group – Assist in establishing a support group for diabetics in the community |
|                          | Community – Provide community education about prevention of diabetes – food supply, exercise, early origins of disease to school children, nutrition etc. |

| **Smoking**               | Individual – Brief interventions in each consultation |
|                          | Community – Smoke free zones in public buildings |
|                          | • Conducting education to school kids about smoking |
|                          | • Running smoking education programs as part of healthy heart week |
|                          | • Encouraging smoke free houses and not smoking around little kids. |
Health promotion should be everyone’s business

Health promotion being seen as ‘everyone’s business’ is a key to adequately preparing the primary health care workforce in the prevention, early detection and management of chronic disease. Given that health professionals generally have a one to one client interaction, conducting brief interventions is a core skill that enables them to influence some of the risk factors that contribute to chronic disease – nutrition, physical activity, smoking and alcohol intake.

Working with groups and communities are excellent approaches to improving health outcomes. They require innovative methods of organising remote and rural community health centres and better ways of utilising the skills of the health workforce. One good example includes using appropriate community consultation, to negotiate an afternoon where Aboriginal health workers and others go out of the clinic and conduct activities on identified health issues.

Putting theory into practice: a framework for health promotion action

A useful framework for health promotion action has been developed by Murphy and Keleher and is described in Figure 3 below (Keleher and Murphy, 2004). It sets out three main approaches for health promotion action:

• downstream primary care approaches
• midstream lifestyle/behaviourist approaches
• upstream sociological approaches.

Figure 3  A framework for health promotion action

<table>
<thead>
<tr>
<th>Downstream</th>
<th>Upstream</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTERVENTIONS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Disease prevention</strong></td>
<td><strong>Communication strategies</strong></td>
</tr>
<tr>
<td>Primary</td>
<td>Health information</td>
</tr>
<tr>
<td>Secondary</td>
<td>Behaviour change campaigns</td>
</tr>
<tr>
<td>Tertiary</td>
<td></td>
</tr>
</tbody>
</table>

Source: Murphy, B. and Keleher, H. 2003
Most health professionals may find that their work falls into the ‘downstream’ primary care approaches. The usefulness of this model is that it allows people to reflect on their current practice and to try to utilise methods that fall across the downstream, midstream and upstream interventions. The important thing to remember is that infrastructure and systems change can be made at the local level, and this will assist in improving health outcomes for all. Examples of this might include: having specific men and women’s areas in the clinic, or better access for young people. It is also important to recognise that integrated multi-level strategies and interventions require health and other sectors to work in partnership with the community to enhancing health.

**Good references for this information are found in:**


- World Health Organisation’s website: [www.who.int](http://www.who.int)
2.4 The chronic care model

The following chronic care model, found in: Wagner, E 1998, *Chronic disease management: What will it take to improve care for chronic illness. Effective Clinical Practice*. 1998;1:2-4, has been adapted for use in this document with permission from the American College of Physicians.

Background

Chronic conditions are a fact of life for many Australians who have their daily activities limited in some way because of their condition, and many are unable to live independently. As a result, many managed care and integrated delivery systems have taken a great interest in correcting the many deficiencies in the current management of diseases such as diabetes, heart disease, depression, asthma and others, most of which are based on the acute care paradigm. Those deficiencies include:

- rushed practitioners not following established practice guidelines
- lack of care coordination
- lack of active follow-up to ensure the best outcomes
- patients inadequately trained to manage their illnesses.

Overcoming these deficiencies will require nothing less than a transformation of health care, from a system that is essentially reactive – responding mainly when a person is sick – to one that is proactive and focused on keeping a person as healthy as possible (Wagner, 1998).

Evidence has emerged that those who redesign their care to use a comprehensive and systematic approach, expressly designed to help patients manage chronic disease, will do much better than those who continue to work from the acute paradigm (Wagner, 1998).

The Chronic Care Model

To speed this transition of health practice, Dr Ed Wagner and staff at the MacColl Institute for Healthcare Innovation in USA developed this chronic care model, which was further refined by The Robert Wood Johnson Foundation, based on input from a large panel of national experts. It is being widely used in Australia.

Figure 4, The Chronic Care Model, summarises the basic elements for improving care in health systems at the community, organisation, practice and patient levels.
The Chronic Care Model identifies the essential elements of a health care system that encourage high quality chronic disease care. These elements include:

- **Reorientation of the health service** – to create a culture, organisation and mechanisms that promote safe, high quality organised and planned care with strong leadership and support from management

- **Evidence based practice** – rely on a high grade evidence base and protocols to improve daily practice and outcomes

- **Patient centred support** – build around meeting the patient’s needs for confidence and skills in self management of their condition though education

- **Clinical information systems** – organise patient and population data to facilitate efficient and effective care and teamwork

- **The community** – mobilise community resources to meet the needs of patients – partnerships, policies and programs, plus cultural sensitivity and awareness (Wagner, 2004).

This model aims to result in informed activated self-managing patients and prepared, proactive teams of health professionals.

For further detailed information about the Chronic Care Model please refer to:
www.improvingchroniccare.org/change/index.html
2.5 Where to find resources

An annotated bibliography of useful chronic disease educational resources and a self-assessment tool have been developed and can be found on the following website:

**Glossary of terms**

**Acute care model** – A model of medical practice designed for acute care. It’s features emphasise triage, patient flow, short appointments, diagnosis and treatment of symptoms, reliance on laboratory tests and prescriptions, didactic patient education and patient initiated follow-up (Wagner, 1998).

**Acute conditions** – Those medical conditions with an acute onset, accurate prognosis, short-term treatment and where a cure is likely.

**Advocacy** – A process which openly aims to change laws, regulations, policy and organisational practices that impact upon the ability of the individual and communities to make healthy choices (Keleher and Murphy, 2004).

**Barker hypothesis** – The ‘early origins of chronic disease’. The environmental factors that ‘program’ particular body systems during critical periods of growth – in utero and infancy – with long term direct consequences for adult chronic disease (Barker, Scrimshaw, cited: Weeramanthri et al., 2003).

**Brief interventions** – Seizing opportunities as part of each consultation to advise about health promotion, in particular – smoking, nutrition, alcohol intake and physical activity.

**Burden of disease** – The physical, emotional, social and economic impact that disease, injury or disability places on the individual, the community and the nation.

**Chronic conditions** – Those long term medical conditions that have a gradual onset, multiple causes, uncertain prognosis, with usually a lifelong duration and an unlikely cure: diabetes, renal disease, cardiovascular disease, chronic obstructive pulmonary disease.

**Chronic care model** – A model of practice designed for chronic care. It includes planned systematic assessment, a focus on function and the prevention of exacerbations, attention to treatment guidelines, support for the patient’s role as a self-manager, clinically relevant information systems and continuing follow up initiated by the provider (Wagner, 1998).

**Community development** – Working with people and communities as they define their own goals, mobilise resources and develop action plans for addressing problems they collectively have identified (Wass, 2002).

**Curriculum framework** – The overall structure of the whole curriculum.

**Curriculum model** – The design and interlinking parts of the curriculum.

**Domains of remote practice** – The integrated organising structure of what is to be achieved in the curriculum, ie. the critical knowledge, skills and attitudes.

**Downstream approach** – Dealing with the individual who is sick or injured on a one to one basis.
**Health care systems** – The organising health services system.

**Individual approach** – Working with a patient on a one to one basis. It usually involves working on a presenting problem and on ‘downstream issues’.

**Metabolic syndrome or Syndrome X** – A cluster of disorders of the body’s metabolism, including: high blood pressure, high insulin levels, excess body weight and abnormal cholesterol levels, which when combined dramatically increase the likelihood of developing potentially life-threatening illness – diabetes, heart disease or stroke (Mayo Clinic, 2004).

**Population health focus / approach** – An approach to health that considers the ‘upstream’ issues of the entire population and specific population groups – pregnant women and the foetus, babies, school children, young people, adults, older people and gender specific issues; as opposed to the individual.

Outcomes based curriculum – Part of the curriculum model that states the breadth and depth of what the participants are to achieve as outcomes, as opposed to competencies or learning objectives.

**PHERP** – Public Health Education and Research Program.

**Self management** – An approach to managing chronic conditions that places the patient in control and includes a process of goal setting, empowering patient education, decision making, resource utilisation, forming patient health care provider partnership and taking action (Lorig and Holman, 2000).

**Upstream issues** – Those that affect the big picture or macro level – preventing illness from occurring, dealing with the causes of ill health and disability from the social, political, economic or cultural aspects.


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