

<http://researchoutput.csu.edu.au>

This is the Author's version of the paper published as:

**Author:** Simpson and M. Donna

**Author Address:** masimpson@csu.edu.au

**Title:** Introduction to disease state management

**Year:** 2007

**Journal:** Australian Pharmacist

**Volume:** 26

**Issue:** 1

**Pages:** 37-41

**Date:** January

**ISSN:** 0728-4632

**DOI:** <http://www.psa.org.au/site.php?id=1503>

**Keywords:** chronic disease state management

**Call Number:** CSU279983

# Australian Pharmacist

Chronic Disease State Management; 1500-2000 Words + Vancouver referencing

Actual count - 2141 text and in-text citations only; including references - 2562

## Introduction

In recent decades individuals, especially in more developed nations, have experienced rising life expectancy coupled with potentially detrimental lifestyle choices and environmental factors such as smoking, physical inactivity, unhealthful dietary choices, and air and water pollution (1). It is asserted that this combination is contributing to “an epidemic of chronic illness” (1, 2). This is of concern as there is no cure currently for most, if not all, chronic conditions. Table 1 outlines the contrasting characteristics of acute compared to chronic conditions, which illustrates the impact on patients and health systems.

The World Health Organisation (WHO) has identified that chronic diseases which currently contribute to significant individual morbidity will become the leading cause of disability by 2020 (3). Of concern, chronic diseases are the largest contributor to expenditure on healthcare throughout the developed world (4-6). Further, it is estimated that the impact of chronic disease is likely to intensify with the aging of the ‘baby boomer’ generation (4, although the prevalence of chronic conditions has grown in almost every age cohort [Lorig, 2001 #11).

The medical care paradigms addressing care generally, and chronic diseases more particularly, have evolved from a predominantly benign paternalism by health professionals to one where individuals assume primary responsibility for their own health (4, 7) and form a partnership with healthcare professionals to manage their condition(s) (8, 9). The individual burden of chronic disease is frequently magnified in individuals as many live with more than a single chronic condition (1). It is estimated that 40% of people have one comorbidity, and in individuals aged 60 years and over, the average is 2.2 chronic conditions (10, 11).

## Chronic Disease: A challenge for Australia

In Australia, chronic diseases account for approximately two-thirds of healthcare expenditure (12).

The characteristics of chronic disease, as outlined in table 1, impact on individuals living with them. From the patient’s perspective they are ever-present; require behaviour change; often need continuous medication usage; are often emotionally distressing and increasingly restrict activities such as work (e.g. may be only able to work part-time) or leisure (e.g. may have to give up a valued sport, or may need to increase physical activity and lose the time for less active, but enjoyable, tasks such as knitting or reading) (13).

Chronic disease poses particular challenges in a nation such as Australia with such a broad geographic spread. This can be particularly critical in rural and remote areas which are generally undersupplied with healthcare professionals (14).

### **Department of Health and Ageing – Chronic Disease Strategy for Australia**

In November 2005 the Australian Health Ministers' Conference (AHMC) endorsed a National Chronic Disease Strategy (NCDS) (<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/pg-ncds>).

Key features of the strategy include an emphasis on a preventative health approach, disease self-management, and a more integrated and multidisciplinary service provision. Five chronic diseases are particularly targeted: asthma, cancer, diabetes, cardiovascular, and musculoskeletal diseases (12).

Prior to endorsement of the NCDS, a variety of disease self-management models were evaluated in government funded projects across Australia in areas such as Tasmania (14) and Katherine (Northern Territory) (15). In addition, the federally funded More Allied Health Services (MAHS) Program is intended to assist people living in rural areas through further access to allied health care. It is also intended to develop and maintain linkages between allied health care and general practice (<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pcd-programs-mahs>). This implies considerable change in primary health care delivery, and the need to educate patients/carers and health professionals to successfully interact in this new model.

One of the questions arising from this new model is who should provide care and support. Whilst general practice has been restructured in some ways which can be used to facilitate disease self-management such as the introduction of practice nurses, in an overburdened healthcare system it is always necessary to consider who provides greatest access and who provides greatest value?

### **Chronic Disease Self-management**

It has been asserted that effective management of a chronic disease requires significant commitment by individuals affected with a chronic condition, their carers or families, and the healthcare professionals assisting in their care. The essential components of everyday care include:

- Undertaking health-promoting activities – physical, psychological and spiritual
- Successfully interacting with care providers to ensure mutually satisfactory outcomes
- Maintaining adherence to care recommendations and treatment plans

- Evaluating health on a regular basis and seeking care or assistance when appropriate
- Making adjustments to the tasks of daily living and daily activities to accommodate the chronic condition (10).

Thus patient care and lifestyle activities significantly impact on health status, and likely slow deterioration (8). However the capacity, mentally or physically, to self-manage differs across the patient population of any chronic disease so management strategies need to be individualised to reflect these differences.

Historically, management of chronic illness has been compromised by patient non-adherence to treatment regimens including medication schedules (16). In the USA it has been established that 20% of prescriptions are never dispensed; 50% of patients make significant errors in taking medications; and 50% of individuals who start lifestyle change programs fail to complete those programs (16), and it is likely that the situation in Australia is comparable.

As pharmacists, many of us are possibly horrified at these data, however, we need to be mindful that it is not only those individuals affected with chronic illness who may not pursue health promoting activities – how many of us exercise regularly?; floss after meals?; consistently eat nutritiously?; undertake stress-reduction/relaxation activities? and drink moderately, if we choose to consume alcohol? The point is that if change were fun and easy, we could and would all do it, yet we don't. This is an important point to keep in mind when interacting with patients with chronic illnesses – we are asking them to change their behaviours. Therefore patients need more than just information to assist them to effectively change to better manage their chronic condition(s).

A 2004 study (13) investigated what patients wanted to have available to manage their chronic condition(s). These were established to be:

- Access to information about the condition and potential treatments
- Likely impact on future life and lifestyle
- Ready access to care
- Continuity of and coordination of care
- Ways to cope with symptoms, disability and loss of independence (13)

### **A role for pharmacy?**

There are many opportunities for pharmacists to become or remain involved in chronic disease self-management. Some of you may restrict your involvement to formal medication reviews and counselling, whilst others may become more actively involved in patient education about disease states, lifestyle factors and strategies to assist self-medication (or assisted medication with a carer).

Overseas research (17, 18) may provide a further incentive for pharmacist involvement in chronic disease self-management as studies have demonstrated that improved chronic disease management results when multidisciplinary teams and non-GP providers are actively included in the patient's resource "pool". Further a 2003 survey of Australian general practitioners (17) established that they experience struggle and conflict as they attempt to provide effective care for patients with chronic diseases in a health system that has been established as an 'encounter' approach better suited to acute care. Some of the survey respondents disclosed that they were unaware of all the skills and services available in their communities and how to access them, but wished that they could just say (to the relevant person), "please do ....., to educate this patient".

Practice nurses where they are available and affordable (usually larger practices) were established to be employed to assist with patient education, recalls and reminders, attend to paperwork and coordinate care of the patients (17). As mentioned above, the economic impact of any healthcare initiative is always a factor, which may contribute to an increased perception of the value of services provided by pharmacy as one arm of a multidisciplinary healthcare team.

For those pharmacists seeking to become more involved, Pharmacy Self-Care Fact Cards are a valuable learning and patient education resource. Table 2. lists some of the eighty-six titles that may be most applicable to support individuals with chronic diseases. The self-care fact cards provide some basic information about the conditions and provide some appreciation of factors that may aggravate or improve that condition, lifestyle factors that impact, some indication of management, and a source or sources of additional information such as a web-site for a disease state organisation such as the National Heart Foundation. Depending on previous training and experience, pharmacists may also seek additional educational opportunities – these may be face-to-face, online (such as Pri-Med Pharmacy), reading journals, or by attending conferences with relevant themes such as the recently-held PAC 2006 "Living Longer-Living Better" 12<sup>th</sup> Pharmacy Australia Congress.

## **Consideration of case study – Ms. M.S.**

Look at Ms M.S. and see what opportunities you can find to assist her. There are numerous possibilities depending on the patient. For example, although she has had asthma 'all her life', does she understand what each of her medications does to help her manage? Would she benefit from an asthma Self Care Fact Card? Could she benefit from borrowing a patient education video that you might have in your resource library? Patients with accompanying young children or on a lunch hour may prefer this option.

How is she managing her arthritis? Would she benefit from being shown some assistive devices such as jar openers to support her in the activities of daily living? Is she choosing to use non-prescribed

medications such as glucosamine, aspirin or ibuprofen? You may wish to discuss her medication options with her remembering that the National Asthma Campaign recommends if patients with asthma have no history of NSAID sensitivity and no significant history of dietary sensitivities that trigger asthma, they may be offered a choice of analgesics that includes ibuprofen and aspirin.

When did you last discuss her device technique (if she is a regular patient), or could she benefit from such a discussion if she is new to your pharmacy? Does she need help to use the devices correctly? There are a number of devices available to assist in the use of metered dose inhalers and to turn turbuhalers – if you aren't sure, why not ask your company representative when next they visit.

Does Ms. M.S. live alone? Could she benefit from a discussion of safety alert devices (medication pendant alert – press for assistance) and/or medication alert bracelets/necklets that warn healthcare personnel of her condition(s)? If she doesn't live alone, are family members, partners or housemates aware of recommended first aid for asthma?

Does she know which devices need to be cleaned? Does she know how and how often? Many CMIs provide this sort of information.

Is Ms. M.S. an avid environmentalist? She may wish to know that plastic holders and caps of metered dose inhalers can be recycled safely with other plastic recyclables. She may also be interested to know that CFC-free metered dose inhalers were introduced in Australia from February 1, 1999, as an effective step in the conservation of the ozone layer.

These are certainly not all the opportunities to assist Ms M.S. with her chronic disease management – depending on her need for knowledge, her age, how well her asthma is maintained and many other variables, you may wish to offer other assistance or counselling.

### **Example of a collaborative student-run diabetes clinic**

Chronic disease self-management can sometimes seem to be an unattainable ideal for fully qualified and experienced practitioners, yet essential elements of such care have been demonstrated to operate effectively in a student-run diabetes clinic, the GOODLIFE diabetes clinic, attached to the University of Nebraska Medical Centre (19). The students were drawn from many disciplines including medicine, nursing, pharmacy, dietetics and others as relevant to the individual patient.

Diabetes was selected as a condition for students to learn to address as it is a chronic disease requiring a substantial commitment to self-care - involving at a minimum medication management, monitoring blood glucose, exercise, appropriate diet, foot care, regular monitoring of blood pressure. Patients attending the clinic on more than one occasion were found to have achieved weight loss, lowered blood pressure, blood glucose and cholesterol levels (19), reducing risk factors for complications of diabetes and for cardiovascular disease which remains a killer of individuals with diabetes.

## **Summary**

Chronic diseases by their very nature have long-term impacts on individuals living with them and on the healthcare system. Currently, there are no cures for chronic illnesses, so on-going self-management is required. This usually involves medication management, monitoring of some facet of the condition, dietary adjustment and lifestyle changes.

Studies are suggesting that no one healthcare professional can successfully manage all aspects of chronic disease care, so multidisciplinary care is necessary. Pharmacists have a role to play in chronic disease self-management by ensuring that patients have a basic understanding of their condition, their medications (including not only dose, form and frequency but also storage and administration), sources of support such as disease-specific groups, and fundamental diet and lifestyle changes that may be required.

## References

- 1. Coleman MT, Newton K. Supporting self-management in patients with chronic illness. *American Family Physician* 2005;72(8):1503-1510.**
- 2. Gross P, Leeder S, Lewis M. Australia confronts the challenge of chronic disease. *Medical Journal of Australia* 2003;179:233-234.**
- 3. Barlow JH, Wright CC, Turner AP, Bancroft GV. A 12-month follow-up study of self-management training for people with chronic disease: Are changes maintained over time? *British Journal of Health Psychology* 2005;10:589-599.**
- 4. Wright CC, Barlow JH, Turner AP, Bancroft GV. Self-management training for people with chronic disease: An exploratory study. *British Journal of Health Psychology* 2003;8:465-476.**
- 5. Glasgow R, Strycker L, Toobert D, Eakin E. A social-ecological approach to assessing support for disease self-management: the chronic illness resources survey. *Journal of Behavioral medicine* 2000;23(6):559-583.**
- 6. Cheah J. Chronic disease management: a Singapore perspective. *British Medical Journal* 2001;323:990-993.**
- 7. Fuller J, Harvey P, Misan G. Is client-centred care planning for chronic disease sustainable? Experience from rural South Australia. *Health***

**and Social care in the Community  
2004;12(4):318-326.**

- 8. Grantham G, McMillan V, Dunn S, Gassner L-A, Woodcock P. Patient self-medication: A change in hospital practice. Journal of Clinical Nursing 2006;15(8):962-970.**
- 9. Linnell K. Chronic Disease Self-Management: One Successful Program. Nursing Economic\$ 2005;23(4):189-198.**
- 10. Bayliss EA, Steiner JF, Fernald DH, Crane LA, Main DS. Descriptions of barriers to self-care by persons with comorbid chronic diseases. Annals of Family Medicine 2003;1:15-21.**
- 11. Lorig K, Sobel D, Stewart A, et al. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: A randomized trial. Medical Care 1999;37(1):5-14.**
- 12. Dowrick C. The chronic disease strategy for Australia. Medical Journal of Australia 2006;185(2):61-62.**
- 13. Holman H, Lorig K. Patient self-management: A key to effectiveness and efficiency in care of chronic disease. Public Health Reports 2004;119:239-243.**
- 14. Bell E, Orpin P. Self-management of chronic conditions: implications for rural physicians of a demonstration project down under. Canadian Journal of Rural Medicine 2006;11(1):33-40.**

- 15. Wakerman J, Chalmers E, Humphreys J, et al. Sustainable chronic disease management in remote Australia. Medical Journal of Australia 2005;183(10):S64-S68.**
- 16. Todd W, Ladon E. Disease management: Maximising treatment adherence and self-management. Disease Management and Health Outcomes 1998;3(1):1-10.**
- 17. Oldroyd J, Proudfoot J, Infante F, et al. Providing healthcare for people with chronic illness: The views of Australian GPs. Medical Journal of Australia 2003;179:30-33.**
- 18. Wagner E. The role of patient care teams in chronic disease management. British Medical Journal 2000;320(7234):569-572.**
- 19. Robinson WD, Barnacle RE, Pretorius R, Paulman A. An interdisciplinary student-run diabetes clinic: reflections on the collaborative training process. Families, Systems & Health 2004;22(4):490-496.**

Table 1. Characteristics of chronic compared to acute illnesses

Acute illness characteristics	Chronic illness descriptors
Sudden onset	Usually gradual onset; undulating course
Self-limiting condition	Develops over time
Often definite, single causative agent	Multifactorial causation – usually reflects interaction of biology; access to health services; lifestyle and environment
Diagnosis and prognosis usually accurate	Diagnosis may be uncertain for a while, prognosis may remain obscure
Specific prescribed or non-prescribed medications available	Prescribed or non prescribed medications may be utilised supplemented by lifestyle interventions and interaction with a broad range of health professionals such as occupational therapists, pharmacists, general practitioners, massage therapists and so forth

Cure likely	No cure available or likely, requires management over time
Minimal uncertainty	Uncertainty - persistent
Professionals knowledgeable; lay individuals often less knowledgeable	Professionals and lay individuals often partially knowledgeable (unless professional also lives with the same condition)

Source: Adapted from Holman & Lorig 2004

Table 2. Some Pharmacy Self-Care fact cards that may assist chronic disease management

<b>Self Care Card Title</b>	
<b>Arthritis</b>	<b>Diabetes</b>
<b>Asthma</b>	<b>High Blood Pressure</b>
<b>Asthma medication</b>	<b>Exercise &amp; the heart</b>
<b>Smoking</b>	<b>Staying a non-smoker</b>
<b>Nicotine replacement therapy</b>	<b>Relaxation techniques</b>
<b>Fat &amp; cholesterol</b>	<b>Weight &amp; health</b>

## Case Study – Assisting the patient with a chronic disease

Ms M.S is a female with a lifelong history of asthma who uses two metered dose inhalers, a turbuhaler (reliever) and an accuhaler (preventer + long acting  $\beta$  agonist) to manage her asthma. She is also affected with arthritis in both hands. She swims at least 3-4 times a week for 30 minutes.

# MCQs – provide 3 with answers only one of which is correct

Multiple choice questions – correct in bold

1. Which of the following provide the best answer to this question, “Why do we need to manage chronic conditions?”
  - a) There are no cures; they impact significantly on healthcare costs; they are a leading cause of death in most countries
  - b) They take as much time and effort as acute illnesses; often need continuous medication usage; there are no cures
  - c) They impact significantly on healthcare costs and individuals living with them know very little about them; they need lots of costly medications**
  - d) They impact significantly on healthcare costs; there are currently no cures; they require behaviour change; often need continuous medication usage
  
2. How do acute and chronic conditions vary? Which of the following provides the best response?
  - a) They are the same except for the duration because a condition becomes chronic after lasting 3 months
  - b) They are the same except for the duration because a condition becomes chronic after lasting a year or two
  - c) Acute conditions have usually a sudden onset; short duration; cure certain or very likely and chronic conditions have a gradual onset; cure unlikely and on-going**
  - d) They are the same except for duration and likelihood of cure with acute diseases tending to recur
  
3. Which of the following best describes pharmacist activities which might assist a patient with a chronic condition?
  - a) Providing a relevant self-care fact card; providing information about disease state organisation relevant to the condition; ensuring the patient is aware of the purpose, dose, dose form, frequency of medications**

- b) Sympathising each time they return with the condition growing steadily worse and/or increasing numbers of medications
- c) Carefully counsel them about their medications each and every time they attend your pharmacy even though they try to avoid you; checking how their condition is progressing; suggesting additional vitamins and herbal products as a 'tonic'
- d) Providing their medications as quickly as possible; having lots of patient information leaflets in the waiting area; alerting them to devices that may assist such as glucometers, peak flow meters and sphygmomanometers.

## REFERENCES

