



Original Research

Use of chronic disease management algorithms in Australian community pharmacies

Hana Morrissey, B.Pharm., F.A.C.P., A.A.C.P.A.^{a,*},
Patrick Ball, B.Sc.(Pharm), Ph.D., M.Sc.(Paeds & Child Hlth),
M.C.P.P.(UK), F.N.Z.C.P.^b,
David Jackson, B.Pharm., M.Sc., Ph.D.(Univ. Sydney),
Cert Arts(Massey, NZ), Grad Dipl Arts (History), (Massey, NZ)^c,
Louis Pilloto, B.Sc., M.B.B.S., Ph.D.^d, Sharon Nielsen, M.Phil.^e

^aSchool of Psychological and Clinical Sciences, Charles Darwin University, Ellengowan Drive, Darwin, NT 0909, Australia

^bPharmacy, Charles Darwin University, Ellengowan Drive, Darwin, NT 0909, Australia

^c29 Brentwood Avenue, Blackheath, NSW 2785, Australia

^dMurrumbidgee Medicare Local Ltd., 1/185 Morgan Street, Wagga Wagga, NSW 2650, Australia

^eQuantitative Consulting Unit, Charles Sturt University, Locked Bag 588, Wagga Wagga, NSW 2678, Australia

Abstract

Background: In Australia, standardized chronic disease management algorithms are available for medical practitioners, nursing practitioners and nurses through a range of sources including prescribing software, manuals and through government and not-for-profit non-government organizations. There is currently no standardized algorithm for pharmacist intervention in the management of chronic diseases.

Aim: To investigate if a collaborative community pharmacists and doctors' model of care in chronic disease management could improve patients' outcomes through ongoing monitoring of disease biochemical markers, robust self-management skills and better medication adherence.

Design: This project was a pilot pragmatic study, measuring the effect of the intervention by comparing the baseline and the end of the study patient health outcomes, to support future definitive studies. Algorithms for selected chronic conditions were designed, based on the World Health Organisation STEPS™ process and Central Australia Rural Practitioners' Association Standard Treatment Manual. They were evaluated in community pharmacies in 8 inland Australian small towns, mostly having only one pharmacy in order to avoid competition issues. The algorithms were reviewed by Murrumbidgee Medicare Local Ltd, New South Wales, Australia, Quality use of Medicines committee. They constitute a pharmacist-driven, doctor/pharmacist collaboration primary care model. The Pharmacy owners volunteered to take part in the study and patients were purposefully recruited by in-store invitation.

Results: Six out of 9 sites' pharmacists (67%) were fully capable of delivering the algorithm (each site had 3 pharmacists), one site (11%) with 2 pharmacists, found it too difficult and withdrew from the study, and 2 sites (22%, with one pharmacist at each site) stated that they were personally capable of delivering the algorithm but unable to do so due to workflow demands.

* Corresponding author. School of Psychological and Clinical Sciences, Charles Darwin University, Ellengowan Drive, Darwin, NT 0909, Australia. Tel.: +61 08 8649668.

E-mail address: Hana.morrissey@cdu.edu.au (H. Morrissey).

Conclusion: This primary care model can form the basis of workable collaboration between doctors and pharmacists ensuring continuity of care for patients. It has potential for rural and remote areas of Australia where this continuity of care may be problematic.

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Introduction

The international approach

In 2011 the United Nations (UN) made an announcement reporting on the top five areas of health concern to the international community are cardiovascular diseases, cancer, chronic lung diseases and diabetes and that they are the causes of three out of every five deaths globally.¹ In addition to those 4 areas, mental disorders constituted the fifth top non-communicable disease class and health priority. This project was designed to align with three of the main outputs called for in the UN announcement report¹

- The essential requirement for engagement of all local sectors, to develop effective plans for the prevention and control of chronic diseases.
- The urgent need for a global response, achieved through national-level plans to prevent and control chronic diseases, enshrined as a right for everyone to enjoy highest “attainable” standards of physical and mental health.
- Tobacco smoking, lifestyle, diet, obesity, low physical activity and the harm from alcohol over-consumption need to be effectively addressed.

The World Health Organisation (WHO) framework report provided some alarming statistics; globally, 36 million people died from chronic diseases, and 9 million people died before reaching the age of 60.² This report noted that the increase of uncontrolled chronic diseases doubles the risk of death from communicable diseases such as tuberculosis, malaria and human immunodeficiency virus.² The UN General Assembly report noted that identifying risk factors and preventative measures, screening, monitoring, treating and caring interventions are all essential in the effort to control chronic disease. The report noted contributors such as kidney, oral and eye diseases, tobacco, substance abuse and alcohol use, sedentary lifestyle, diet, aging, lack of education, gender, poverty and socioeconomic global deterioration, political and environmental changes are

all contributors, increasing the risk of chronic diseases and their burden.¹ Additionally, the UN report identified the challenges facing the world including the inequality of access to immediate and effective health care.¹ These challenges are also facing both Indigenous and non-Indigenous populations of the rural and remote Australian communities; due to the geographical spread of Australia.

The UN report recognized that strengthening the health system requires early detection and disease prevention. Reducing exposure to modifiable risks is considered a very effective measure that countries should explore. This would only be achieved by a coordinated effort of all health stakeholders. The final recommendation was to *reduce risk factors and create a health-promoting environment*¹ noting the need to establish plans for improving the continuity of health care through the equitable access to medications and monitoring. The UN report elaborated on how countries might strengthen their health policies and systems. Integration and coordination between health providers was seen to be an appropriate comprehensive strengthening approach for national primary care health systems.¹ In September 2011, the Global Health Council is a United States-based non-profit networking organization linking several hundred health non-governmental organizations (NGOs) around the world, meeting in New York, emphasized the pivotal involvement of the pharmacist providing the link of continuity of care and for “point of care” (PoC) monitoring or referral. Pharmacists may also provide the cheapest possible medication option to ensure the patient is receiving therapy at an affordable price.³

One of the recommendations of the Global Health Council panel was comprehensive screening. For example when a patient is screened for a particular condition such as anemia, they should also be screened for a range of communicable and non-communicable diseases. This will aid the early detection of disease and potentially reduce the overall cost of therapy.

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