

Report to the Health Quality & Safety Commission from the New Zealand Guidelines Group

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## **Health Literacy and Medication Safety**

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Environmental scan of tools, resources, systems,  
repositories, processes and personnel



September 2011

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PO Box 25496

Wellington 6146

Published by the New Zealand Guidelines Group for

Health Quality & Safety Commission

PO Box 10 665, Wellington 6143, New Zealand

ISBN (Electronic): 978-1-877509-51-3

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**Suggested citation**

New Zealand Guidelines Group. Health literacy and medication safety: environmental scan of tools, resources, systems, repositories, processes and personnel. Wellington: New Zealand Guidelines Group; 2011.

**Access to document**

An electronic copy is available at [www.nzgg.org.nz](http://www.nzgg.org.nz) – search on publication title.

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## Acknowledgements

New Zealand Guidelines Group is grateful for assistance and advice in the preparation of this report from the following organisations:

- Bpac<sup>nz</sup> Ltd
- Counties Manukau DHB
- Heart Foundation
- Māori Pharmacists Association
- Mauri Ora Associates
- PHARMAC
- Pharmacy Guild of New Zealand
- Roberts Ngaruawahia Pharmacy
- University of Auckland
- Waikato Community Pharmacy Group.

Particularly useful input and peer review of this report has been provided by Susan Reid of Workbase.

# **1 Executive summary**

## **1.1 Purpose**

The purpose of this environmental scan carried out by the New Zealand Guidelines Group (NZGG) is to provide examples of important health literacy processes and initiatives underway in New Zealand that are associated with medication safety. This report details results of the scan and covers health literacy tools, resources, systems, repositories, processes, personnel and/or other methods currently used to improve consumers' engagement with health and disability services associated with medication safety.

## **1.2 Background**

The concept of health literacy is relatively new to New Zealand. A number of research projects are either underway or recently completed, but as yet there is little published data available, especially on effective interventions for improving health literacy, that are specific to New Zealand. This environmental scan represents an opportunity to collect early, qualitative data on developing approaches and on those apparently few areas/initiatives where health literacy in medication safety is being more directly addressed.

## **1.3 Introduction**

NZGG and the Health Quality and Safety Commission (HQSC) have adopted the following definition of health literacy and associated commentary:

The degree to which individuals can obtain, process and understand health information and services they need to make appropriate health decisions.

Health literacy represents a constellation of skills necessary for people to function effectively in the health care and disability support environment and act appropriately on health care information. These skills include the ability to interpret documents, read and write prose (print literacy), use quantitative information (numeracy) and speak and listen effectively (oral literacy).

## **1.4 Summary of findings**

Attention to health literacy with respect to medication safety beyond the provision of written resources and dedicated websites is rare. Below, examples of health literacy initiatives identified in the scan are presented under two headings – 'broadly relevant activities' and 'purposive interventions'.

### **Broadly relevant activities**

In the context of health literacy as defined above, the following activities are aimed at improving the knowledge of either health professionals or patients; however, they generally comprise only written materials, which employ only a subset of the communication forms represented in the definition of health literacy.

- DHB yellow cards
- Bpac<sup>nz</sup> Ltd
- University of Auckland, School of Pharmacy
- Māori Pharmacists Association
- Pharmacy Guild of New Zealand
- Health TV

### **Purposive interventions**

For all that this exercise is a scan, not a stocktake, 'purposive interventions' in health literacy appear to be limited to seven initiatives.

- The project that Mauri Ora Associates is leading for the Ministry of Health (including a module on health literacy developed by Workbase), which is a cultural competency training tool that aims 'to increase accessibility to cultural competence training and establish a base level of cultural competence and health literacy awareness amongst health care practitioners and other professional bodies throughout New Zealand'.
- The efforts of Ngaruawahia pharmacists Mary and Steve Roberts in addressing poor health literacy among their predominantly lower socioeconomic community.
- The use of DHB-funded Medication Utilisation Reviews (MURs), which utilise suitably-trained pharmacists to provide identified 'at risk' patients with the knowledge, resources and tools that are fundamental to medicines' use as a component of self-management of their condition.
- The Workbase initiative, which involves the establishment of a dedicated website aimed at raising the awareness of health literacy, especially for health care providers and health care organisations.
- The University of Auckland/Workbase international research project aimed at strengthening health literacy among indigenous people living with cardiovascular disease.

- The joint health education venture between PHARMAC, Mauri Ora Associates and the Māori Pharmacists Association to develop and provide a course designed for Community/Māori Health Workers to increase their awareness and understanding of the appropriate use, storage and disposal of medicines.
- The emerging shift in emphasis of the Heart Foundation from predominantly written materials to more interactive resources that focus on the patient's understanding of their heart condition and the medications required to manage it.

Among those few organisations and individuals who do make conscious address of health literacy, there is a deliberate emphasis on models of adult learning, drawing formally, or not, on precepts, principles and theories of learning theory and pedagogy. Often within this, there is an emphasis on starting with what people currently know and want to know, and on strongly interactive communication methods, sometimes including graphics and animation.

## **1.5 Conclusions and recommendations**

This scan has identified that beyond the provision of written resources and dedicated websites, attention to health literacy with respect to medication safety is rare. Despite a thorough search, only half a dozen or so examples of purposive interventions in health literacy around medication safety were seen.

Much of the health sector appears largely unaware of the relevance of adult learning theory to health literacy (in either medication safety or more broadly). For all patient-mediated self-management (such as taking medication), an ability of health professionals routinely to create effective learning opportunities for patients in the course of meeting health needs appears underdeveloped.

NZGG recommends that the HQSC:

1. note that understanding in the sector of how to improve health literacy appears limited and that examples of purposive health literacy improvement work in medication safety are very few in number
2. note that most health practitioners appear largely unaware of adult learning theory or practice as a body of knowledge
3. note the significant advantage that techniques of learning theory apply across different topic areas and content types, and can reasonably be presumed to be replicable across topics, provided that health practitioners know how to apply them

4. note that although it is important to address health literacy at 'systemic' and 'organisational' levels, the most immediate task for the health sector is to upskill the health workforce in the application of learning theory to health service delivery
  5. note the importance of Community Health Workers in lifting health literacy, especially among Māori and Pacific people
  6. agree that in the context of medication safety, it is a priority to demonstrate to community pharmacy that health literacy improvement in medication safety is broader than simply providing written information and very brief verbal information
  7. initiate a well-publicised demonstration project in community pharmacy based on health literacy improvement, perhaps developing the methods in use by Mary Roberts. The project should be evaluated and publicised. It should be targeted at community pharmacy and led by practicing community pharmacists
  8. work with the members of the Health Forum (of which HQSC is a member) to initiate a national meeting or conference in health literacy improvement, with a focus on workforce skills. Potential aims of such a meeting could be to:
    - share successful examples of health literacy intervention and identify areas for improvement
    - acknowledge the highly complementary areas of expertise of health professionals and adult learning professionals
    - provide a forum for debate on the training needs in adult learning theory of the health workforce
    - identify opportunities for meeting those needs in the context of current New Zealand health workforce development strategies.
- Note:** there may be opportunities to collaborate with others in the sector who may be planning health literacy-themed events.
9. request the HQSC's Medication Safety Expert Advisory Group identify at least three classes of drugs where significant safety issues arise, for which health literacy improvement could substantially assist safer patient adherence
  10. investigate options for HQSC-brokered access to a high-quality library of web-based videos on the pathophysiology of common conditions, and on the therapeutic action of common drugs, including those in the classes to be identified by the Medication Safety Expert Advisory Group (see recommendation 9 above). This could potentially be arranged via a licensing agreement with an international developer/publisher of such

video resources that are scientifically accurate, of high production quality, easily viewed by common web browsers and embeddable into one or more New Zealand-branded health-oriented web portals

11. investigate options for including in the new Community Pharmacy Services Agreement (currently under negotiation by DHBNZ) some formal requirements for health literacy improvement beyond the dispensing of medicines and associated patient counselling. Such requirements would likely be broad initially, and could be developed to become more specific in future contract negotiation rounds.

## 2 Background: health literacy in New Zealand

### 2.1 Statistics

New Zealand's health literacy statistics come from the Adult Literacy and Life Skills Survey (ALL) conducted in New Zealand in 2006, which tested the literacy, numeracy and problem-solving skills of a large sample of New Zealanders aged 16–65 years. The Ministry of Health's report, *Kōrero Mārama: Health Literacy and Māori* published in February 2010, presented findings on health literacy by gender, location, age, level of education, labour force status and household income.<sup>1</sup>

Kōrero Mārama (2010)<sup>2</sup> reported that:

- 56.2% of adult New Zealanders have poor health literacy skills, scoring below the minimum required to meet the demands of everyday life and work
- four out of five Māori males and three out of four Māori females have poor health literacy skills
- Māori who live in a rural location have on average the poorest health literacy skills, closely followed by Māori who live in an urban location
- Māori in the age groups 50–65 years, 16–18 years and 19–24 years have the poorest health literacy compared to the rest of the population. This is particularly concerning because over half of the Māori population (53%) was less than 25 years of age at the 2006 census. Also, older age groups have high levels of health need and are generally high users of health services
- Māori and non-Māori with a tertiary education are more likely to have good health literacy skills compared with those who have lower levels of education. This is consistent with international evidence
- Māori across all labour force status types have poorer health literacy skills compared with non-Māori, but Māori who are unemployed or looking for work have the poorest health literacy skills of all groups
- Māori have poorer health literacy statistics across gender, age and location than non-Māori.

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<sup>1</sup><http://www.moh.govt.nz/moh.nsf/indexmh/korero-marama-health-literacy-maori-feb2010?Open>  
Accessed 25/7/2011

<sup>2</sup><http://www.healthliteracy.org.nz/about-health-literacy/health-literacy-statistics/> Accessed 25/7/2011

### 3 Data collection

The method for this environmental scan consisted of personal communications via telephone and email between NZGG analysts and key people and organisations in the health and disability sector known to have an interest or responsibility in ensuring the safe and effective use of medicines. The respondents were provided with a definition of health literacy (see section 1.3 above) and asked to identify any initiatives underway within their organisations, or at a regional or national level, which they felt addressed health literacy in the sphere of medication safety.

**Note:** This is an environmental scan of health literacy initiatives, not a stock take. While several initiatives have been replicated across the health and disability sector (eg, Medicines Utilisation Review), this scan limits the reporting of such initiatives to one example only of each initiative.

## 4 Broadly relevant activities

In the context of health literacy as defined earlier, while the following activities are aimed at improving the knowledge of either health professionals or patients, they generally comprise only written materials, which are only a subset of the communication forms represented in the definition of health literacy.

### 4.1 DHB Yellow cards

One way that several DHBs seek to address health literacy (related to medication safety) on discharge from hospital is with 'Yellow Card' or 'SAM Card' systems. These DHBs provide the cards on discharge to patients who are believed to be at risk due to apparently poor understanding of their medication, multiple medications, a documented history of poor medication compliance or the MDTs feel they are a necessary component of the rehabilitation process.

They present medicine information in the simplest possible format, clearly describing:

- the name of the medication (generic and common names)
- the time(s) of day it should be taken
- what it is for (in plain English)
- any special instructions including (i) what to look for regarding adverse reactions and (ii) what to do about them if they do occur.

The cards are prepared by hospital pharmacists and where possible the pharmacists provide one-to-one patient counselling prior to discharge. To target DHB resources, the cards are provided mainly to patients being discharged to the community (as opposed to residential care) from rehabilitation wards. An example of a Yellow Card can be found in Appendix 4.

As part of their eMedicines Reconciliation programme, Counties Manukau DHB is currently proposing an eYellow Card that will be generated for all patients as part of the electronic discharge process.

### 4.2 Bpac<sup>nz</sup> Ltd

Bpac<sup>nz</sup> Ltd (Best Practice Advocacy Centre) is an independent organisation that promotes health care interventions that they claim meet patients' needs, are evidence based, cost-effective and suitable for the New Zealand context. Bpac<sup>nz</sup> Ltd has five shareholders – ProCare Health, South Link Health, General Practice NZ, Pegasus Health and the University of Otago.

Their major resource is *Best Practice Journal*, a 6-weekly publication distributed free to all general practitioners, practice nurses and community pharmacies. Specific issues have been devoted to Māori health, including a guide to assist understanding of Rongoā Māori treatments, and useful tips on

how to build trusting therapeutic relationships and engage Māori patients in their health issues.

While the bulk of Bpac<sup>NZ</sup> Ltd resources are provided for general practitioners, they do provide a number of patient resources, including plain English brochures for practice staff to use when counselling patients. These cover a variety of topics – those relating to medication safety include:

- *General information on medicine brand changes*
- *Patient information for those beginning warfarin therapy*
- *Patient information on back-pocket prescriptions.*

### **4.3 University of Auckland, School of Pharmacy**

This scan included an approach to the School of Pharmacy at the University of Auckland to provide information on programmes the school has put in place for their students that highlight and address the implications of poor health literacy on health outcomes, especially those relating to medication safety (see responses received below).

- Outlined course components of the B. Pharm degree that are likely relevant to considerations of health literacy (for example ‘Pharmacotherapy’ and ‘Pharmacy Practice’ courses which ‘concentrate on medicines use in patients’).
- Identified emphases in courses on pharmacist–patient communication and its role in both safety and adherence; students are said to learn to empathise with patients in order to help the students understand what the patient needs to know, wants to know, might like to know. Some brief attention is said to be given to cultural differences in health beliefs and the influence this might have on health literacy.
- Identified a current student research project into how widely the information panels on ‘general sales medicines’ are understood.

### **4.4 Māori Pharmacists Association**

Ngā Kaitiaki o Te Puna Rongoā o Aotearoa – the Māori Pharmacists Association advises:

Health literacy is of huge concern and we are trying to educate pharmacists to be aware of this as part of a Cultural Competency Workshop we have developed. On an informal basis all of our members are well aware of ‘He Korero Marama’ and those of us working in predominantly Māori communities spend considerable time with whānau de-jargonising and ensuring understanding.

## 4.5 Pharmacy Guild of New Zealand

In response to an approach, the Pharmacy Guild identified its provision of printed matter for distribution by member pharmacists to patients as its main contribution to health literacy. The guild provided several examples of its resources, such as 'Heart Health', 'Warfarin Management' and 'Weight Management' cards. These wallet-sized cards carry a key message about the topic in plain English 'Quick Facts' that include 'Do' and 'Do Not' advice and a table for recording measurements.

Other printed matter includes: a medication record card for pharmacists to complete (this is similar to the DHB Yellow Card); 'How to Use' pamphlets that carry a description of how a particular medication should be used (eg, eye ointment) and a generic message on the back on how to use medicines safely; and printed health messages on paper bags (which the Pharmacy Guild believes are very effective).

The Guild published a paper on health literacy in May 2006<sup>3</sup> titled *Literacy is a Health Issue* (see Appendix 5). Some important and broad-ranging principles are identified in that document, although NZGG has not identified any particular developments or programmes of work instigated by the Guild following release of the paper.

## 4.6 Health TV

Health TV [www.htv.co.nz](http://www.htv.co.nz) is a niche advertising company. The company provides closed circuit television broadcasts, containing health-related messages, in medical centre and hospital waiting rooms. Health TV's directors believe that consumers are more receptive to health messages via TV than via posters, brochures etc.

Programming focuses on national health targets relating to smoking cessation, diabetes management, heart care, immunisation, and breast and cervical screening programmes. The service is funded through a variety of channels including individual medical centres, PHOs, Māori and Pacific health care providers and DHBs. PHARMAC has also funded education programmes on the network based on their 'Generic Medicines' and the 'Wise Use of Antibiotics' campaigns.

There are currently 125 sites spread across the major metropolitan centres as well as sites in Northland, Waikato and Bay of Plenty. The service uses digital technology that allows for individual programming for market segments. These segments are defined, for example, via the demographics of individual medical practices (which practices provide to Health TV).

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<sup>3</sup> Pharmacy Guild of New Zealand, undated. [www.pgnz.org.nz](http://www.pgnz.org.nz) (accessed 25/7/2011). NZGG has verified a May 2006 publication date consistent with web access reference dates.

## 5 Purposive interventions

The scan identified a common theme across the following purposive interventions with regular reference to the 'Ask Me 3' campaign – a patient education programme developed by the National Patient Safety Foundation<sup>4</sup> that is designed to promote communication between health care providers and patients in order to improve health outcomes. The programme encourages patients to understand the answers to three questions.

1. What is my main problem?
2. What do I need to do?
3. Why is it important for me to do this?

The campaign suggests patients should be encouraged to ask their providers these three simple but essential questions in every health care interaction. Likewise, providers should always encourage their patients to understand the answers to these three questions.

### 5.1 Mauri Ora Associates

Mauri Ora Associates has been in existence since 2000 and provides consultancy in Māori health and Māori education. Broadly it aims to improve the cultural competence of New Zealand health service providers. This scan has included some consideration of developments in cultural competency, since these are seen by NZGG as integral to the development of health literacy awareness especially in the Māori Community Health Worker (CHW) workforce.

The CHW workforce is an important tool for empowering patients, whānau and hapū to manage their health. The size of the national health literacy development task especially among Māori and Pacific people, the credibility of CHWs in the communities they serve and the expanding size of the CHW workforce leads NZGG to consider that CHWs can be pivotal in lifting health literacy levels including in the sphere of medication safety. Part of the skill-building in this workforce involves improved cultural competency training.

Mauri Ora Associates provides a range of cultural competency and Māori health courses, and training. More recently a foundation cultural competency course that includes a section on health literacy was developed. This development was in conjunction with Workbase (see section 5.5), a not-for-profit organisation which has been working in the field of health literacy since 2000.

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<sup>4</sup><http://www.npsf.org/askme3/> Accessed 22/7/2011

## 5.2 Roberts Ngaruawahia Pharmacy

Mary Roberts and her husband Steve Roberts are pharmacists working from their community pharmacy in Ngaruawahia. They have developed a 'Checklist for Assessing Health Literacy' (see Appendix 1). In the course of a research project she conducted in 2006 to adapt the TOFHLA<sup>5</sup> tool for use in her local, predominantly lower socioeconomic community, Mary came to consider that:

- the most commonly-used definition of health literacy focuses on literacy and numeracy skills, but limits the problem of literacy to the competence and capacity of individuals. This fails to acknowledge health system contributors such as attitudes, knowledge and skills of health practitioners, barriers around access and navigation, interpretation, presentation, administrative requirements, timeliness, and funding issues and constraints
- formal or informal judgments of health literacy are too often based on a normative, clinical approach. This positions poor health literacy as an individual deficit. There is a high risk of a person who is identified with poor health literacy being judged or stigmatised by that judgment and a risk that an opportunity to improve their health literacy, and therefore power over their health condition, is not identified.

Their 'Checklist for Assessing Health Literacy' seeks to identify patients with poor health literacy, at risk of poor compliance or self-medication errors, without labelling them. Instead, it makes the pharmacists more conscious of the areas in which they can work with these patients towards positive health outcomes. For example it includes items such as:

- recognising that a person's health literacy level may be significantly worse than their general literacy
- using reflective questions to explore what knowledge or misconceptions patients may have around medicines or their health condition
- assessing patient's medication histories and constantly monitoring for patterns of adherence, changes in drugs, dose or prescriber
- prioritising information about patient's medication, and in most cases limiting it to the three most critical points necessary to ensure maximum health benefit.

Within their practice they have adopted the following WHO definition of health literacy<sup>6</sup> as they feel it fits better with the patient-centred philosophy that they subscribe to and they believe it is more likely to provide positive outcomes for the patient:

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<sup>5</sup>TOFHLA - *Test of Functional Health Literacy in Adults*

<sup>6</sup>Nutbeam, D. (1998). Health promotion glossary. *Health promotion international*, 13, 349-364.

Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand, and use information in ways which promote and maintain good health. Health literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment.

Mary and Steve believe that successful work with patients is rooted in communication, and recognition of the patient's prior knowledge and capabilities as the cornerstone on which to build. On the basis of their experience using their checklist, Mary and Steve have made a number of changes in the way they engage and interact with their patients. Important examples of these are:

- focusing on the fact that medicines adherence and/or use is often strongly based in terms of the patient's beliefs and perceptions around medicines
- Recognising that patients with poor health literacy are often reluctant to engage with those whom they would assume to have good health literacy
- finding out what patients know and/or believe, and addressing any gaps or misinformation in a supportive and accepting manner that does not dismiss or diminish the patient or their 'trusted source'. This source could be friends or family who themselves may not have access to good quality information or a good understanding of the patient's medication or medical condition
- adopting a 'teach back' method, either on its own or in conjunction with other strategies such as utilising a variety of resources, predominantly visual but sometimes written.

Appendix 1 provides detail of the changes they have implemented in their practice over the past 5 years. It is worth noting that the work Mary and Steve have put in is voluntary. There is currently no support or formal requirement on community pharmacies to address health literacy as part of service delivery, and indeed the work in Ngaruawahia is the only example of its type identified in this scan.

### **5.3 Medicines Use Review**

This review has appraised Medicines Use Review (MUR) as relevant to issues of health literacy in medication safety because it identifies the issues a patient may be experiencing with their medication on an individual basis

and provides them with the knowledge, resources and tools that are fundamental to medicines use as a component of self-management of their condition.

MUR is a service provided by pharmacists as specified in the DHBNZ National Framework for Pharmacist Services. The Pharmacy Council of New Zealand (PCNZ) outlines the principles, boundary determinants and competence standards of MUR (see Appendix 2), and the New Zealand College of Pharmacists provides a PCNZ-accredited training course that enables and supports pharmacists to provide MUR services (see Appendix 3).

Included among the principles of MUR (as defined by the PCNZ) are:

1. MUR aims to help the patient find out more about the medicines they are taking, identify any problems they may be having with their medicines and improve the effectiveness of the medicines being taken. This includes complementary medicines and relevant lifestyle issues
2. MUR is a therapeutic relationship between the pharmacist and the patient. The pharmacist actively elicits the patient's viewpoint/perspective. There is mutual agreement between the pharmacist and the patient in determining the recommendations. Any changes arising from the MUR are agreed with the patient
3. MUR requires formal documentation of the review process including problems identified, goals set, the action plan, recommendations made (to patient, GP or other health professionals), implementation of any changes and follow-up. The impact of any change should be evaluated and documented
4. MUR assists in identifying patients who require referral to other medicines management services due to either poor understanding of their current medicine regimens or more complex medicine regimens. Examples of these services include Medicines Oversight (a service which enables providers to visit older people in their homes at previously agreed times to observe and assist the taking of prescribed medicines) and Supported Transfer and Accelerated Rehabilitation Teams (a short-term service that enables the seamless discharge from hospitals back into the community).

#### **5.4 Waikato MUR Service**

The Waikato DHB currently funds a MUR service, capped at 40 reviews per pharmacy per annum for each accredited pharmacy. The service is managed by the Waikato Community Pharmacy Group (WCPG) and is subject to certain eligibility criteria to ensure those most in need/at risk can access the service within the capped budget. The criteria are those living independently (eg, not in a residential care facility) who have cardiovascular disease, diabetes, respiratory disease or are on four or more regular medications.

WCPG report increasing numbers of referrals from the hospital Chronic Care Management (CCM) pharmacists who have a role in facilitating a safe transition for patients back into the community following discharge and regular monitoring by their community pharmacy to avoid unnecessary hospital readmission (these patients are commonly referred to by health professionals as 'frequent flyers'). There are increasing numbers of referrals from PHO Disease State Management (DSM) nurses, Waikato DHB heart failure and cardiac rehabilitation Clinical Nurse Specialists (CNSs) and some GPs. Non-accredited pharmacists can also identify and refer patients they feel would benefit from the service, eg, those that only pick up medication intermittently, or ask unusual or inappropriate questions about their medications, suggesting a poor level of health literacy.

The WCPG has employed a mobile MUR pharmacist to ensure better coverage of the Waikato region as there are currently only 15 pharmacies actively providing the service themselves, while others are unable to provide the service due to their sole practitioner status.

One of the key roles of the mobile MUR pharmacist is to ensure the service is properly targeting those with a poor understanding of their medications and adherence issues. The Mobile MUR pharmacist service has worked to achieve this by promoting the service to Māori health providers, to marae and kaumātua groups and also by facilitating medication education forums at these venues. These promotions encourage the community stakeholders to identify individuals who may benefit from help with their medications.

The 15 pharmacies providing the MUR service directly to their patients provide good coverage of the high needs areas of Ngaruawahia, Huntly, Thames, Tokoroa, Morrinsville, Matamata, Putaruru, Te Awamutu, Taumarunui and several in Hamilton. On average about 20–25 MURs are carried out per month across these pharmacies.

## 5.5 Workbase

Workbase is a not-for-profit organisation committed to improving the literacy, language and numeracy skills of New Zealanders. Its strategy is to work in partnership with organisations to build literacy, language and numeracy. Workbase has developed a website, Health Literacy New Zealand<sup>7</sup>, which is dedicated to raising the awareness of health literacy, especially for health care providers and health care organisations. Workbase recently worked closely with Mauri Ora Associates on the development of a foundation cultural competency course that includes a section on health literacy (see Section 5.1)

Susan Reid, Consulting Services Manager for Workbase, is collaborating with Dr Sue Crengle of the University of Auckland in their study '*Strengthening*

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<sup>7</sup><http://www.healthliteracy.org.nz/> Accessed 29/08/2011

*health literacy among Indigenous people living with cardiovascular disease, their families and health care providers*<sup>8</sup> (see section 5.6).

Ms Reid emphasises that learners – including patients using health services – require a ‘schema’ or framework within which to organise new information. At the same time, as a learner’s knowledge grows, so does that larger schema and this prepares the way for assimilation of new knowledge. Ms Reid also stresses the importance of repeating and reinforcing messages at every opportunity, and cites research that many learners require 40 exposures to a new term before it becomes fully familiar and understood.

At Workbase, interventions to improve health literacy are framed in terms of a four-level approach:

- intervention at consumer level
- intervention at the workforce skills level
- intervention at the organisational level among health service providers
- intervention at whole-system level.

Some concluding comments in these terms are provided in section 6.0 ‘Conclusions and recommendations’.

## **5.6 University of Auckland Research Project**

In summary, this cohort study will research the application of Nutbeam’s conceptual model<sup>9</sup> to improving the health literacy of Māori living with cardiovascular disease, with particular emphasis on health literacy as an asset which can be developed, not as a non-modifiable risk factor. The research project, which is split between 100 urban Māori (Te Hononga O Tamaki Me Hoturoa), and 100 rural Māori (Ngati Porou Hauora), will also investigate the demands imposed by health professionals, health services and health environments. Examples of these health literacy demands are:

- communication between patient/whānau and health professionals
- demands of documents/resources
- systems/service issues eg, signage etc.

The focus is on developing patient’s health literacy (skills and knowledge) in terms of their cardiovascular disease and the medications used in cardiovascular disease management.<sup>10</sup>

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<sup>8</sup><http://www.healthnavigator.org.nz/wp-content/uploads/2011/04/Intervening-to-improve-health-literacy-a-project-in-progress-Sue-Crengle.pdf> Accessed 29/08/2011.

<sup>9</sup>Nutbeam, D. The evolving concept of health literacy. *Social Science & Medicine* 67 (2008), 2072–2078.

<sup>10</sup>CVD was chosen as it is a major cause of mortality and morbidity, has well-described ethnic disparities, and the researchers considered self-management, especially knowledge about CVD risk factors and medications, as central to effective CVD management.

Pre-measures consist of a one-hour intervention (in the context of usual care for CVD) delivered by a specially-trained nurse using a modified 'Ask Me 3' tool. There is no formal measurement of health literacy (although a proxy health literacy measure is used), but specific measures for:

- CVD medication and target knowledge
- confidence in self-management
- engaging with health professionals.

Post-measures are carried out at three-month intervals (to coincide with regular follow-up) and if necessary there is a repeat intervention or variation as required and re-measure.

Case studies will be used to capture:

- whether the implementation of the intervention has resulted in any changes in the health literacy demands of the environment
- the impacts of the intervention on health service resources and staff
- sustainability within the service
- transferability to other sites.

## **5.7 PHARMAC**

'He Rongoā Pai, He Oranga Whānau – Whānau staying well with medicines', is a joint health education venture between PHARMAC, Mauri Ora Associates and the Māori Pharmacists Association. The facilitators represent some of New Zealand's leading Māori professionals in Māori medicine, primary care, and pharmacology. A section on Rongoā Māori has also been included and is facilitated by kairongoā from within the communities.

The course is designed for Community/Māori Health Workers to increase their awareness and understanding of the appropriate use, storage and disposal of medicines. The main aim of the programme is to support these workers and whānau to safely and effectively use medication and rongoā and to recognise the positive and negative qualities of medicines. The programme has been delivered to approximately 400 CHWs nationwide, mostly working for Māori health providers and DHB health services.

## **5.8 Heart Foundation**

The Heart Foundation advises that it is embracing a significant shift to better ground its patient communications more firmly in health literacy improvement. In contrast to a traditional emphasis on written material and instruction, the Foundation is developing an initiative called 'Ask-Tell-Ask'. In brief summary, it is understood the initiative will recruit both consumers and primary care providers to participate in an interactive learning session where patients will

be encouraged to ask questions about their condition and their medications. NZGG has sighted some very summary material, but the planned campaign is proprietary to the Foundation and its materials are not publicly available.

## **6 Conclusions and recommendations**

### **6.1 Conclusions**

This scan has identified that beyond the provision of written resources and dedicated websites, attention to health literacy with respect to medication safety is rare. Despite a thorough search, only half a dozen or so examples of purposive interventions in health literacy around medication safety were seen.

Outside those examples, many respondents to this scan made little real distinction between intervening in health literacy and providing written materials. Even among those who did (eg, the School of Pharmacy, University of Auckland and the Māori Pharmacists Association), there appeared to be relatively little formal emphasis placed on health literacy.

Much of the health sector appears largely unaware of the relevance of adult learning theory to health literacy (in either medication safety or more broadly). For all patient-mediated self-management (such as taking medications), an ability of health professionals routinely to create effective learning opportunities for patients in the course of meeting health needs appears underdeveloped. This finding is not a criticism of New Zealand health practitioners; rather, it is an indication that the problem is systemic throughout the health sector.

Among those organisations or individual health practitioners who have embraced concepts and practices of health literacy improvement in their clinical practice (such as the purposive examples given in this report), the results are reported to be positive and rewarding, though no robust evaluation data is available to date.

In terms of Workbase's four level framework, this scan has identified some measures aimed at both consumers and health professionals, but we have seen only one example of efforts to make organisational address of health literacy (Roberts Pharmacy in Ngaruawahia) and no health sector 'systemic' address (although the commissioning of this report by HQSC represents the start of such thinking).

Finally, the results of this scan are presented here as they have been described by informants. Note that there remain debates of definition and method, sometimes between different stakeholders consulted in this report. Example issues are; the merits of various approaches, the fidelity of local projects to evidence around health literacy improvement and issues of language (ie, need to avoid 'deficit' modelling).

None of these debates detract from the constructive work which is occurring, but these will be important points for debate in defining any national programme of work around health literacy, in medication safety or more broadly.'

## 6.2 Recommendations

### **NZGG recommends that the HQSC:**

1. note that understanding in the sector of how to improve health literacy appears limited and that examples of purposive health literacy improvement work in medication safety are very few in number
2. note that most health practitioners appear largely unaware of adult learning theory or practice as a body of knowledge
3. note the significant advantage that techniques of learning theory apply across different topic areas and content types, and can reasonably be presumed to be replicable across topics, provided that health practitioners know how to apply them
4. note that although it is important to address health literacy at 'systemic' and 'organisational' levels, the most immediate task for the health sector is to upskill the health workforce in the application of learning theory to health service delivery
5. note the importance of Community Health Workers in lifting health literacy, especially among Māori and Pacific people
6. agree that in the context of medication safety, it is a priority to demonstrate to community pharmacy that health literacy improvement in medication safety is broader than simply providing written information and very brief verbal information
7. initiate a well-publicised demonstration project in community pharmacy based on health literacy improvement, perhaps developing the methods in use by Mary Roberts. The project should be evaluated and publicised. It should be targeted at community pharmacy and led by practicing community pharmacists
8. work with the members of the Health Forum (of which HQSC is a member) to initiate a national meeting or conference in health literacy improvement, with a focus on workforce skills. Potential aims of such a meeting could be to:
  - share successful examples of health literacy intervention, and identify areas for improvement
  - acknowledge the highly complementary areas of expertise of health professionals and adult learning professionals

- provide a forum for debate on the training needs in adult learning theory of the health workforce
- identify opportunities for meeting those needs in the context of current New Zealand health workforce development strategies

**Note:** there may be opportunities to collaborate with others in the sector who may be planning health literacy-themed events.

9. request that the HQSC's Medication Safety Expert Advisory Group identifies at least three classes of drugs where significant safety issues arise, for which health literacy improvement could substantially assist safer patient adherence
10. investigate options for HQSC-brokered access to a high-quality library of web-based videos on the pathophysiology of common conditions, and on the therapeutic action of common drugs, including those in the classes to be identified by the Medication Safety Expert Advisory Group (see recommendation 9 above). This could potentially be arranged via a licensing agreement with an international developer/publisher of such video resources that are scientifically accurate, of high production quality, easily viewed by common web browsers and embeddable into one or more New Zealand-branded health-oriented web portals
11. investigate options for including in the new Community Pharmacy Services Agreement (currently under negotiation by DHBNZ) some formal requirements for health literacy improvement beyond the dispensing of medicines and associated patient counselling. Such requirements would likely be broad initially, and could be developed to become more specific in future contract negotiation rounds.

## **Appendix 1: Roberts Ngaruawahia Pharmacy.**

The following summary of health literacy work in practice at two Ngaruawahia pharmacies was provided by Mary Roberts.<sup>11</sup>

### **What has integrating health literacy meant to our practice?**

As our knowledge and experience around health literacy has increased we have developed and introduced a number of changes in the approaches that we use when engaging and interacting with our patients/customers. The following list has been developed over the last 5 years; however, the degree to which we can implement it is hampered by the current lack of resourcing for both health literacy and community pharmacy.

1. Change in organisational culture to a 'predominately oral interaction/intervention' approach. This includes the strategies below.
  - Recognise and acknowledge that our role is not to improve the patient's literacy. Health literacy goes way beyond reading and writing – it is about adapting practice to give patients knowledge and skills that allow them to self-manage, feel more at ease and able to make informed decisions within the healthcare environment, and particularly in (but not limited to) relationship to medicines.
  - Identify those patients who have difficulty around health literacy through observation and a checklist.
  - Central to all these strategies is developing a strong rapport and a relationship with all our patients (not just those that we know or suspect may have low health literacy). Without this relationship it is unlikely that health literacy issues can be ameliorated – this is often due to the burden of shame that exists for those with low health literacy, and the fact that those who have either low or borderline health literacy have many effective strategies for avoiding situations within the health environment where it may be unmasked. We have recognised and acknowledged that our participation within the Ngaruawahia and wider communities over the last 26 years means that we 'have an edge' – we have pre-existing relationships to build on, and we have a responsibility to our community to do our best. We operate a stewardship model – which is critical to the success of working within a health literacy paradigm, rather than a corporate model.
  - Recognise that 'access' is a rate-limiting step in terms of health literacy. Who do they have to go through to get to us (the pharmacist)? What are staff attitudes like? What are our behaviours like? How do we acknowledge and engage those who we have identified as having low health literacy? These questions need to be addressed if the patient is to benefit.

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<sup>11</sup> Intellectual property of J. Mary and/or Stephen Roberts. Not to be reproduced directly or indirectly without permission and acknowledgement.

- Recognise that a person's health literacy level may be significantly worse than their general literacy. They may be literate within a context of familiar terms, content and settings, but functionally illiterate when outside of these, such as in a healthcare setting.
- Use reflective questions to explore what knowledge/misconceptions patients may have around medicines/their health conditions.
- Assessing patient's medication histories and constantly monitoring for patterns of adherence, changes or drug, dose, prescriber etc.
- Prioritising information about patient's medication – and in most cases limiting it to the 3 most critical points necessary to ensure maximum health benefit. ( We have identified up to 22 points that may need to be covered).
- In the case of chronic medications/conditions we try to expand and add on to this information at each contact – check what they have retained – go over or elucidate on what they know and then add one more relevant point, thereby building patient knowledge and increasing their health literacy about both that product and usually their health condition.
- Use the strategy of 'storytelling' as a means to educate – have a range of 'stories' that we use to explain both medicines and patients health condition. This form of education places an emphasis on the use of simple 'jargon-free' language to convey messages. They encompass a range of medications and conditions – they vary according to the 'audience' and while all are used by the pharmacists, some are also used by our dispensary technicians when giving out medicines. Some examples would be around taking medication on an empty stomach, explaining how SSRI's work, explaining atrial fibrillation – all in plain English with limited or no jargon and all giving reasons why.
- Teach back method – used on its own or in conjunction with other strategies.
- Range of materials – predominately visual – sometimes with written information.
- Compliance/Adherence/Concordance. (Cramer 1991, Allan et al 1992) noted that:
  - compliance has been defined as 'the extent to which a person's behaviour (in terms of taking medication, following diets, or executing lifestyle changes) coincides with medical advice' ie, the patient is passive
  - adherence recognises the autonomy of the patient and requires his or her agreement to the recommendations of the healthcare professional and is defined as: 'the extent to which a patient's behaviour corresponds to the treatment plan developed by the healthcare professional' ie, the good patient

- concordance takes this a step further embodying a frank exchange of information, negotiation and a spirit of cooperation ie, the patient self-manages.

This coincides with Nutbeam's proposed continuum of health literacy skills.

- Functional health literacy – sufficient basic skills in reading and writing to be able to navigate the health system.
- Communicative/interactive health literacy – more advanced cognitive and literacy skills, which together with social skills can be used to participate actively in everyday activities to extract information and derive meaning from different forms of communication and to apply new information to changing circumstances.
- Critical literacy – as above as well as applying and analysing information critically in order to exert greater control over life events and situations.

This provides useful discussion – particularly in setting goals in terms of managing health literacy within the community pharmacy environment. We aim to successfully initiate the prescribed treatment and support the patient throughout the treatment process. Since health literacy is likely to continue to decrease in older people, concordance and critical literacy may be a goal that is well beyond the capacities of many of our patients, and indeed not seen as a priority by some patients for themselves. Therefore some of the goals around health literacy could be seen as aspirational rather than as achievable. However any skills, knowledge, ease that we can support our patients in developing is of great benefit.

- Use of 'Belief's about Medicine' – (Prof Rob Horne London University). Based on the perceptions and practicalities model of adherence – assessing whether patients are unintentionally non-adherent (traditional area of intervention in pharmacy) based on practical barriers, or intentional non-adherence – which is based on perceptual barriers. Permission was given to us by Prof Horne to use 'Beliefs about medicines questionnaire' and the 'Necessity Concerns Framework' in our practice.
- These approaches focus on the fact that medicines adherence and/or use is often strongly based in terms of the patient's beliefs and perceptions around the medicines. Those patients with low health literacy are often reluctant to engage with those who they would assume or are likely to have high levels of health literacy because of the risk of having their beliefs, perceptions, experiences negated and/or being stigmatised. As health care professionals our high levels of functional health literacy mean that we may not recognise these concerns and make assumptions about the level at which to 'engage' patients. Usually those to whom we are least drawn to engage are usually the people with whom we most need to interact.
- People with low literacy are less likely to have access to 'evidence-based' sources of health information. Instead they are most likely to go to sources

that they feel most comfortable with such as friends and family – who themselves may not have access to good quality information. The challenge is finding out what patients know/believe and addressing any gaps or misinformation in a supportive and accepting manner that does not dismiss or diminish the patient or their ‘trusted’ source. At times this is not for the faint hearted!

- Unit dose packs – often seen as a panacea for many problems.
  - Advantages
    - Organise medications and organise the day
    - Avoid the need to sort, work out dosage frequency
    - Build habit and certainty around medicines taking
    - Visual aid to medicines taking
    - More likely to make compliant
  - Disadvantages
    - Doesn’t organise their life
    - May be counter intuitive
    - Can be disempowering, takes away choice
    - Need for FHL assessment and MUR to discover rationale around medicine beliefs, behaviours and the direction of FHL status
    - May need to educate how to use as in chart format
    - Doesn’t address health literacy problems and may mask them

Unit dose packs are often started because the patient is having difficulties self-managing their medication. Across time the issues that have caused those difficulties are unlikely to disappear and although the pack may provide some resolution often for some years it is critical to remember that they are likely to reoccur. Most pharmacies don’t monitor for this – and certain valuable activities such as reminder services (we currently don’t provide this service) can act to mask situations where patients may be having difficulties. Our solution is to generate an Access Report monthly of blister patients – gives us information about when they are due – if early or late to pick up – it triggers a conversation.

- Decisional Balance tools – invaluable in helping patients to self-assess and set goals, develops the relationship between pharmacist and patient and provides means of negotiating common goals and aspirations.
- Motivational Interviewing/Health Behaviour change tools and strategies.

## 2. Change in organisation environment – physical and cultural.

- Cultural literacy and health literacy are inextricably intertwined.
- Recognised that one of the biggest barriers is around access. Although community pharmacies are 'public spaces' in the sense that anyone may come in, there are many other factors that act as barriers to access. We have completed and are working on a number of strategies to lessen these barriers.
- Te Reo Māori – consulted with kaumatua over a period of 4 years to develop signage in Te Reo Māori. At present, project is complete in Ngaruawahia Pharmacy. Signs are in Te Reo with English translations. While the signs may be able to be used elsewhere the emphasis was on using Te Reo that is specific to our region.
- Have living plants – reduce sterility and if they are healthy shows that we 'take care' of our environment.
- In the refit of what is now Ngaruawahia Pharmacy both the design and the colour palette were reflective of nature and our community. The deep red represents the earth, the black the rock that the earth stands upon, the cream the clouds, the wood the forests (Hakarimata) the blue neon the river(Waikato) and the sky, and the new green which covers the outside of the dispensary is in the shape of a koru – representing the renewal of health. The philosophy behind this was to create a warm embracing space from which the wellspring of health would arise. As the physical space is traversed the patient travels from the 'retail' space into comfortable and expansive waiting area, a dedicated counselling area through to the dispensary.
- Tainui gave permission for the commissioning of two works of art. The first was Kowhaiwhai patterns and Rongoa flowers that cover the counselling area to give privacy, and the design of a Pou – yet to be applied that will go across the top and down the sides of the front of the shop.
- The premises were blessed by our kaumatua before it re-opened. (Cultural literacy is an important contributor to health literacy).
- Other changes that are occurring are less visible but also important – Currently I am undertaking the Te Ara Reo course – improve my Te Reo Maori. Encourage other staff members who may be willing to also consider doing this.
- Our aim is to create a space that is reflective of Aotearoa/New Zealand. Up to this point in time there are very few pharmacies community or otherwise that reflect anything other than the traditional 'British' image of pharmacy. Since our population is 57% Maori hopefully these changes will be a start to make the space one in which they (as well as other New Zealanders) may feel more 'at ease'.

As I hope is evident Health Literacy both informs and is an integral part of the services that we provide.

As to developing guidelines, health literacy is not an area that is particularly amenable to guidelines and checklists, although they may provide broad outlines that encourage health professionals and provider organisations to start developing the field. Health Literacy is not predominately about reading and writing – as the domain of literacy is in the educational field. Instead it is predominantly about communication skills – most especially verbal and non-verbal, and the facilitation of services for patients. It requires a change in focus, for health professionals to develop new strategies around communication, to evaluate and be aware of our own behaviours and value sets, to be able to explain and educate in plain English/Te Reo/Mandarin etc, and to use feedback strategies that let us know how well we may have done that.

It is not about patient deficit, or improving the patient's ability to read and write – it is about enhancing and improving patient skills, making them feel at ease and able to navigate the health system. It is about removing the 'white coat' both metaphorically and literally in order to recognise and support the patient to manage and/or improve their health. It is also important to note the role of existing and potential support networks. It is our experience that partners, friends, caregivers or whānau/family can help patients navigate through the health literacy paradigm. This becomes particularly important when those support networks cease through a partner's illness, or a person's relocation or dislocation from their established community. When this happens the role of the provider and awareness of a person's health literacy become more important.