New Zealand health disparities—pharmacists' knowledge gaps and training needs

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ABSTRACT

INTRODUCTION: Reducing health disparities is a priority for the New Zealand (NZ) Government and the health care sector and, although not mandatory until 2012, Competence Standard 1 for NZ pharmacists has been revised to reflect this.

AIM: The main aim was to understand the information needs of pharmacists in the context of reducing health inequalities in NZ through undertaking a baseline study of pharmacists' knowledge of health status disparities, identifying relevant resources most commonly read by pharmacists, soliciting ideas on how the profession can contribute to reducing health disparities and gauging pharmacists' willingness to undergo further training.

METHOD: An anonymous, semi-structured questionnaire was posted out to 500 randomly selected practising pharmacists registered in NZ.

RESULTS: A 27% response rate was achieved. In general, responding pharmacists had good health disparity knowledge about asthma and the prevalence of cardiovascular disease, but were less knowledgeable about differences in life expectancies and some mortality rates. Responding pharmacists made a variety of achievable suggestions where pharmacists can contribute to decreasing health disparities. Eighty percent of respondents indicated they were interested in learning more about cultural competence and health disparities in their community.

DISCUSSION: Our results indicate a need for pharmacists to up-skill in the area of health disparities and cultural competence and for more effective promotion of the resources available to pharmacists to improve their knowledge in this area. The pharmacists in this study appear willing to undertake such study; however, due to the low response rate generalisations to all pharmacists practising in New Zealand cannot be made.

KEYWORDS: Pharmacists; New Zealand; health disparities; cultural competency

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Introduction

Providing comprehensive and appropriate care requires pharmacists to be well informed and actively engaged in addressing health disparities within their communities. Health disparities within the New Zealand population have been comprehensively documented with Maori (14.6% of the population) and some other ethnic groups having poorer health outcomes, higher rates of chronic disease, and dying earlier than other groups of New Zealanders.[1–3] Reducing these disparities is a key priority for the government and health care sector.[3,4] As the nation becomes more ethnically diverse, pharmacists will be required to help reduce these health disparities for their Maori patients, along with other groups who might be disadvantaged and marginalised in the health system.

The term 'health disparities' refers to a difference in health in which disadvantaged groups (for example the poor or ethnic minorities) experience worse health, or are at greater health

risks, than more advantaged groups. Cuellar and Fitzsimmons[5] and Rospond[6] describe the benefits of pharmacists becoming more culturally aware and knowledgeable about the health care issues of particular groups; these include becoming more effective practitioners, leading to improved quality of care for the communities they serve. Assessment against the Pharmacy Council's Competence Standards is a requirement for all pharmacists registering in the pharmacist scope of practice in accordance with New Zealand legislation (Health Practitioners Competence Assurance Act 2003). While the standards have remained relevant to the scope of practice for pharmacists since their implementation, Competence Standard 1 has recently been revised and expanded to include cultural competence and will become mandatory from 2012.[7]

The main aim of this project was to understand the information needs of pharmacists in the context of reducing health inequalities in New Zealand. Additional objectives were to undertake a baseline study of pharmacists' knowledge of New Zealand health status disparities, to identify relevant resources most commonly read by pharmacists, to solicit pharmacists' ideas on how the profession can contribute to reducing health disparities and to gauge pharmacists' willingness and education preferences to undergo further training in this area in order to become more culturally competent and knowledgeable. Some questions were also designed to bring about an increase in self-awareness of health disparities and the pharmacist's lack of knowledge in certain areas.

WHAT GAP THIS FILLS

What we already know: To the best of our knowledge, a baseline measurement of New Zealand practising pharmacists' knowledge of health disparities has not been attempted previously.

What this study adds: This study attempted to quantify the New Zealand health disparity knowledge of New Zealand's practising pharmacists. This is important as Competence Standard 1 for pharmacists has recently been revised by the Pharmacy Council to encompass cultural competence.

Methods

A semi-structured questionnaire was developed from a survey used to assess cultural competence of medical students in America, and adapted to address the aims of this study and the New Zealand context. The American questionnaire domains of 'exploring culture', 'perceptions of health disparities', 'knowledge of health disparities' and 'communication and language' were used, with some questions in each domain being reworded to suit a New Zealand environment, whilst within other domains completely new questions were developed.[8] In particular, knowledge questions focused on differences in life expectancy, and the prevalence of different medical conditions amongst key ethnic groups in New Zealand. A variety of open and structured questions were used, with the structured questions in the form of rating scales and multi-choice type answers.

The benefits of understanding and appreciating cultural issues include improved rapport and communication, increased patient compliance and satisfaction, and the potential to improve the efficacy and cost-effectiveness of health care delivery.

A pilot study with nine pharmacists from the Auckland School of Pharmacy teaching staff and the Pharmacy Council resulted in changes being made to the layout and wording of the questionnaire. The questionnaire can be found as an appendix in the web version of this paper.

A list of 1779 registered pharmacists who had consented to be contacted to participate in research was obtained from the Pharmacy Council of New Zealand. Pharmacists who had partici-

pated in the piloting process were removed from the list and a random sample of 500 pharmacists was generated from those remaining. A questionnaire together with a participant information sheet, a consent form and a uniquely numbered reply paid envelope was posted to each pharmacist. Four weeks after the initial questionnaire was sent out, a reminder letter along with an identical questionnaire was posted to all non-responders. In an attempt to increase the response rate, two appeals for replies were made on three closed pharmacist email chat groups.

Results from the quantitative questions were analysed in statistical software SPSS version 15, and a basic thematic analysis was carried out on the responses to the open questions. Ethics approval was obtained from The University of Auckland Human Participants Ethics Committee for three years on 14 October 2009 (ref. 2009/421).

Results

Of the 500 questionnaires mailed out to pharmacists, we received 132 completed questionnaires and 17 were returned unopened due to incorrectly addressed envelopes. The response rate for the survey was, therefore, 27.3% (n=132/483). Sixty-nine pharmacists (52%) requested a copy of the results summary on their signed consent forms.

Whilst the gender split was representative of the New Zealand pharmacist workforce, community pharmacists were under-represented, and hospital and other pharmacists over-represented relative to Pharmacy Council workforce data (see Table 1).[9]

Table 1. Demographics of responding pharmacists

	Study %	Practising Pharmacist Register (%)
Gender	**n=131**	
Male	40	41
Female	60	59
Year registered	**n=129**	
1950–1959	1	6
1960–1969	10	11
1970–1979	20	13
1980–1989	22	15
1990–1999	26	18
2000+	21	38
Where qualified	**n=132**	
Apprenticeship (NZ)	7	N/A
Central Institute of Technology	37	N/A
University of Otago	39	N/A
University of Auckland	7	N/A
Overseas	11	14
Where practising	**n=130**	
North Island	73	75
South Island	27	25
Area of practice	**n=132***	
Community	58	76
Hospital	24	10
Other	20	14

*Adds up to >100% as respondents could choose more than one option

Table 2. Sources of New Zealand health disparity information known about and read

Resource	Aware of % (n=127)	Read % (n=126)
NZ Ministry of Health Decades of Disparity series[1,11,12]	18	6
Hauora: Maori Standards of Health series[13]	27	12
The Maori Patient in your Practice. Guidelines on Maori cultural competence; ACC[14]	17	8
Maori Health Study Notes for Pharmacists; NZ College of Pharmacists 2005[15]	33	17
Best Practice Journal; Maori Health May 08 and July 09[16,17]	58	43

Ten multi-choice knowledge questions were asked in the questionnaire; however, one question (23.v) was excluded from the final analysis because poor wording, unidentified during development and piloting, led to ambiguity. It was found that, in general, responding pharmacists (n=132) had a good knowledge about health disparities in asthma, both medication use and mortality rates (67% and 57% correct responses) and the prevalence of cardiovascular disease (65% correct responses), but were less knowledgeable about differences in life expectancies (24% correct responses) and ischaemic heart disease and cancer mortality rates (37% and 39% correct responses).

Pharmacists were asked to report on their awareness of a range of key resources for information on New Zealand health disparities and whether they had read these. Results are shown in Table 2. In the main, no one resource was read by the majority, with many being aware of and reading from multiple sources.

When asked to comment on how pharmacists could help reduce health disparities, a number of themes emerged with 125 pharmacists supplying 236 responses. These related primarily to more education of patients regarding medications, medical conditions, and lifestyle (42), building up trust/rapport/relationships with individual patients (35), becoming more culturally competent and aware of health disparities (35), and communicating with patients more effectively (30).

Eighty percent (n=104/130) indicated that they were interested in learning more about cultural competence and health disparities in their community. The three most popular modes of learning selected by responding pharmacists (n=101) were via case studies (49.5%), self-directed learning (46.5%) and via computer, e.g. online learning (36.6%).

Discussion

We found that, despite pharmacists' growing awareness of the need to become more involved in helping reduce health disparities, there was a relatively poor level of knowledge about New Zealand issues, in particular in relation to differences in mortality for some conditions and life expectancy. In addition, there was a relatively low awareness of readily accessible resources. Our results indicate a need to both up-skill pharmacists and promote the resources available to pharmacists. Encouragingly, four-fifths of respondents indicated that they were interested in learning more about cultural competence and health disparities via a wide range of learning opportunities.

The benefits of understanding and appreciating cultural issues include improved rapport and communication, increased patient compliance and satisfaction, and the potential to improve the efficacy and cost-effectiveness of health care delivery.[5,10] In view of the results of this study, together with the requirement for all practising pharmacists to be able to demonstrate cultural competence from 2012, pharmacists need to be supported to become more aware of health disparities and skilled in matters pertaining to cultural competence. Pharmacy-specific cultural competence education programmes will soon be available.

Limitations

The poor response rate might indicate a lack of interest in, or awareness of, this subject matter. It also means that generalisation to all New Zealand pharmacists is not possible, and demographic data also indicate over-representation of certain groups.

It could be suggested that pharmacists with an interest in these issues and therefore a greater than average existing knowledge of health disparities might respond. This is supported by the large number of responding pharmacists who indicated that they wanted to learn more about health disparities and cultural competence (79.5%) and 52% of respondents requesting a summary of the results of the project. A telephone follow-up of non-responders to explore non-responder bias was unfortunately not possible as contact telephone numbers were unavailable.

Pharmacists were able to explore the answers to knowledge questions as the questionnaire was completed in their own time; however, despite this, many questions were incorrectly answered. It is likely that our data reflect poor knowledge levels; however, it is possible that outdated information sources may have been used.

Conclusion

The issues of poor knowledge of New Zealand health disparities and the factors that contribute to them need to be addressed if pharmacists are going to be able to reach their full potential in terms of contributing to a reduction in health disparities. However, knowledge on its own is not sufficient—cultural competence and cultural safety are also essential to ensure effective and appropriate practice with respect to reducing health disparities, leading to improved health and well-being for all New Zealanders.

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COMPETING INTERESTS
None declared.

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APPENDIX A: Health Disparity Knowledge Questionnaire

A. Demographic information

1. What is your gender? *(Please circle)* Female Male

2. In which country did you gain your Pharmacy qualification? .....

3. Did you gain this qualification through an apprenticeship or an institute? .....

4. If you graduated from an institute in NZ, please specify which institute .....

5. What year did you first register as a pharmacist (in any country)? .....

6. Where do you live? *(Please circle)* North Island South Island

7. What is your primary practice?
(You may circle more than one answer)

Rural	Urban
Community	Hospital
Industry	Teaching
IPA, PHO, DHB	Medical Centre
Shopping Mall	Other

8. Did you attend any of: *(Please tick)*
..... 2008 Pharmacy Council cultural competence meeting
..... 2009 Pharmacy Council cultural competence workshop
..... 2009 Pharmaceutical Society Regional Symposia
..... 2009 NZHPA Conference

B. Exploring culture

Culture plays an important role in our lives and has a way of shaping our values and beliefs from the early stage of our childhoods. Hence, a patient's cultural background and values influence their experience and interpretation of illness, just as your own cultural identity will influence your professional practice. In this way culture is different to race, which refers to a population that may be distinguished by physical characteristics, common history, nationality and geographic location.

9. How well are you able to describe the different cultures in your community? *(Please circle)*

Not at all$_1$ Barely$_2$ Fairly well$_3$ Very well$_4$

10. How well do you know the prevailing beliefs, customs, norms and values of the different cultures in your community? *(Please circle)*

Not at all$_1$ Barely$_2$ Fairly well$_3$ Very well$_4$

11. In your practice, how often does making assumptions about someone's culture impact on understanding why a patient may find it hard to adhere to a medication regimen? *(Please circle)*

Not at all$_1$ Seldom$_2$ Sometimes$_3$ Often$_4$

12. What other cultural factors, e.g. observing Ramadan, might affect adherence to a medication regimen?

. . . . . .

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. . . . . .

Rapport is the ability to build a climate of trust and respect. Having rapport does not mean that you have to agree, but that you understand where the other person is coming from.

13. In your opinion, could a lack of rapport and trust affect a patient's adherence to a medical regimen? *(Please circle)*

Not at all$_1$ Seldom$_2$ Sometimes$_3$ Often$_4$

14. What do you think may be some of the challenges associated with establishing rapport?

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15. In your experience does this apply more to particular cultural groups? If so, which groups?

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C. Perceptions and knowledge of health disparities

The World Health Organization defines health as "a state of complete physical, mental and social well-being". This definition recognises that health is far more than medical wellbeing. Patients can have complex views about health and the use of medicines.

16. What do you think is meant by the term 'health disparities'? *(Please tick ONE answer)*

..... Differences in medical treatment occurring in primary, secondary and tertiary health care

..... Gaps in the quality of health and health care across racial, ethnic and socioeconomic groups

..... Differences in health occurring during the ageing process

..... All of the above

17. Please rank the top *four* factors below that you believe contribute to health disparities in New Zealand. (Please rank 1–4 next to the factor, 1 having the most contribution and 4 having the least)

..... Fragmentation of care	..... Financial barriers
..... Physical barriers (e.g. distance to travel)	..... Information barriers between provider/patient
..... Differential access to care	..... Communication barriers
..... Lack of trust between practitioner/patient	..... Cultural barriers
..... Beliefs and behaviours	..... Health literacy
..... Language barriers	..... Bias and prejudice: stereotyping

18. Please give an indication of the three main health issues that may be faced by different cultures in your community in general.

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. . . . . .
. . . . . .

19. In what ways do you, as a pharmacist, think that you could help to decrease health disparities?

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. . . . . .
. . . . . .

20. How well could you describe different cultural models of health, e.g. Maori culture; Chinese culture? *(Please circle)*

Not at all$_1$ Barely$_2$ Fairly well$_3$ Very well$_4$

21. How often do difficulties arise in your practice with understanding a patient's health needs and wants? *(Please circle)*

Not at all$_1$ 1–5% of time$_2$ 6–30% of time$_3$ >30% of time$_4$

The following questions in this section consider knowledge of health disparities in New Zealand.

22. What is the difference in life expectancy between Maori and Non-Maori for a male born in 2001? *(Please tick)*

i. 4 years
ii. 6 years
iii. 8 years
iv. 10 years
v. Don't know

23. Approximately how many times higher is the death rate from ischaemic heart disease (IHD) for Maori compared to non-Maori? *(Please tick)*

    i. 2

    ii. 3

    iii. 4

    iv. 5

    v. Don't know

24. Using the ethnic groupings: Asian, Pacific, Maori or European/other (Please circle answers below):

    i. Which ethnic group has the highest rate of diagnosed diabetes?

    Asian Pacific Maori European/other Don't know

    ii. Which ethnic group has the lowest rate of diagnosed diabetes?

    Asian Pacific Maori European/other Don't know

    iii. All of these ethnic groups have more asthma reliever inhalers than preventer inhalers dispensed. In which ethnic groups is this disparity the greatest?

    Asian Pacific Maori European/other Don't know

    iv. Which ethnic group has the highest mortality rate from asthma?

    Asian Pacific Maori European/other Don't know

    v. Which ethnic group has the highest prevalence of cardiovascular disease?

    Asian Pacific Maori European/other Don't know

    vi. Which ethnic group currently has the greatest number of cardiac procedures such as cardiac artery bypass grafts (CABG)?

    Asian Pacific Maori European/other Don't know

    vii. Which ethnic group has the highest 'all cancer' mortality rate?

    Asian Pacific Maori European/other Don't know

D. Communication and language

25. How many languages used in your community can you or your staff greet customers in? *(Please circle)*

    One Two Three Four >Four

26. What are some of the problems in using an ad hoc interpreter (grandchild, friend, other patient) to help a patient's understanding?

. . . . . .

. . . . . .

27. Where would you go to get health information in different languages?

. . . . . .

. . . . . .

28. If practising in community pharmacy, is a copy of the Pharmacy Guild's translation kit available to you? *(Please circle)*

YES NO Not applicable

If yes, how often would you use it? *(Please circle)*

Daily Weekly Monthly Hardly ever Never

E. Resources

29. The following is a list of resources:

a. NZ Ministry of Health Decades of Disparities studies

b. Hauora Maori standards of health series which detail health inequalities between Maori and non-Maori in New Zealand

c. The Maori patient in your practice. Guidelines on Maori Cultural Competencies (ACC)

d. Maori Health—Study Notes for Pharmacists, NZ College of Pharmacists; 2005

e. bpac: Best Practice Journal, Maori Health: May 2008; July 2009.

i. Which of the above have you heard of? *(Please state corresponding letters)*

. . . . . .

ii. Which of the above have you read? *(Please state corresponding letters)*

. . . . . .

30. Would you be interested in learning more about cultural competence and health disparities in your community?

YES NO

If yes, what would be your preferred method of learning? *(Please tick)*

..... Case studies

..... Peer group study

..... Computer programmes

..... Workshops

..... Marae-based courses

..... Workplace-based training programme

..... Lecture setting

..... Self-directed learning

Any other suggestions?

. . . . . .

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Thank you for taking the time to complete this questionnaire.

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