Educational needs of practice nurses in mental health

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ABSTRACT

INTRODUCTION: Large numbers of patients see practice nurses (PNs) daily for their health care. Many of these patients will have a mental health need. International research suggests that practice nurses are undertaking mental health assessment and interventions without the requisite skills and knowledge.

AIM: To describe the needs of PNs in mental health education and to explore any involvement with patients with mental health concerns.

METHODS: Postal survey of PNs in Hawkes Bay and Tairawhiti regions. Analysis was by descriptive, correlation and inferential statistics and content analysis for open questions.

RESULTS: Fifty-two respondents completed the survey (response rate 36%) and the results demonstrate that these PNs are caring for patients with an extensive range of mental health concerns daily. Most common are people with depression and anxiety. The nurses perform a variety of mental health interventions such as counselling and advice on medication and have minimal confidence in their skill level. Their expressed learning needs included education on many mental health conditions including suicidal ideation, all types of depression and bipolar disorder, and of therapies such as cognitive behavioural therapy and family therapy.

DISCUSSION: PNs require education and support specifically designed to meet their identified needs in mental health to help improve care to patients. This will require collaboration between secondary mental health services, primary mental health nurses and tertiary institutions. With targeted education these nurses should become more confident and competent in their dealings with people who present to their practice with a mental health concern.

KEYWORDS: Education; mental health; practice nurse; survey; primary health care

Introduction

Internationally, a review of primary mental health policy has occurred which has led a shift in responsibility of care for patients with mild to moderate mental health concerns to the primary health sector.[1–5] In New Zealand (NZ), it is recognised that 80% of patients will visit their general practice at least once a year and 35% of the patients will have a mental illness.[6] However, in up to 50% of these patients, the existence of their mental illness goes undiagnosed and treated.

Practice nurses (PNs) are the largest group of primary health care nurses who work in general practice and an increasing number of patients visiting surgeries may only see a PN for care and treatment.[7] Given the number of patients who may experience a mental illness at some time in their lives, it is important that PNs can recognise and address patients' mental health concerns. Without knowing the basic mental health knowledge, skill level and educational needs of the PN it is difficult to know how prepared PNs are to implement the policy changes.

In recent years there has been a plethora of research which has looked at the provision of mental health services in the community and

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education of GPs;[6,8–10] yet there has been limited research that has examined the skill level of PNs caring for patients with a mental health concern. It is clear from international research that PNs encounter patients with mental health needs.[11–12] However, there is debate over the role PNs should take in the delivery of primary mental health care in relation to assessment, gatekeeping, management of care and liaison with GP and community psychiatric teams, therefore research in this topic is timely.[13–14]

Exact figures on the types of mental illness in primary health vary internationally and with age. In childhood anxiety disorders (16%), oppositional/conduct disorder (15%), substance abuse (12%) and depression (10%) dominate.[15] At adolescence one of the most significant mental health problems is drug and alcohol abuse.[16–17] In adults depression (20–40%) and anxiety (11–20%) are problematic.[6,18–20] Lastly, one-fifth of people aged 65 and older experience mental illness, with the most common conditions being dementia and depression.[21–22] Some people have comorbidity of simultaneous mental health problems or with physical problems.[9,18,23–25]

Therefore, it is important that patients from across the lifespan can be appropriately assessed and helped or referred to other health professionals in primary health. To date it is not known what part the PN plays in this process, which age groups of patients and mental health concerns they regularly deal with, what interventions the nurses perform or how prepared they are to deliver these interventions.

The aim of this research was to describe the involvement practice nurses have with patients with mental health issue and to identify the needs of PNs in mental health education.

Methods

In August 2008, a survey was carried out of PNs in the Tairawhiti District Health Board and Hawkes Bay regions. This method was chosen as it fits well with descriptive exploratory research, is relatively low cost and has the potential to obtain information from a large sample. Ethical approval for the study was granted by the Victoria University of Wellington Human Ethics Committee.

WHAT GAP THIS FILLS

What we already know: Practice nurses (PNs) provide patient care across a broad spectrum and have a role in primary mental health care. In New Zealand, primary health care has an expanded role in mental health care assessment and treatment. Practice nurses who are skilled and knowledgeable in primary mental health will be essential for improving mental health outcomes.

What this study adds: This study provides information about the extent of primary mental health activities undertaken by practice nurses and how confident the PNs are in providing mental health care. It identifies areas which deserve particular attention for education for practice nurses to enhance the service they provide and to ensure that patients and nurses are safe in their practice.

Study population

The target population included PNs in the Tairawhiti and Hawkes Bay region between Te Araroa to Taradale. In the absence of a master list of PNs in the region a list of general practices employing practice nurses across the region was collated and each practice phoned to establish the number of nurses working there and to identify the senior nurse as a contact person for mailing the surveys. A named contact nurse was used to help increase the response rate.[26]

The survey and its administration

Each practice was sent the number of packages that the senior nurse indicated were required. Packages consisted of a participant letter explaining the research, the survey tool, a participant sheet for a prize draw and a pre-addressed, stamped envelope. Surveys were numbered by practice. Practice nurses were given two weeks to return their survey. One postal reminder was sent to all practices where fewer than 50% of returns were received.

The survey consisted of 33 questions of which 15 were closed, 11 open, five rating scales and two Likert scales. Before its distribution, the survey was reviewed for content validity by community mental health nurses, mental health

management teams, community and mental health nurse educators, PNs and public health nurses. It was also pre-tested on a convenience sample of four PNs to ensure clarity and ease of administration. The survey included three sections: practice nurse qualifications, education in mental health and educational needs related to mental health (11 items); self-rated confidence and competence in primary mental health nursing generally and of particular mental health disorders, screening and referral processes (14 items); and demographic and general practice characteristics (7 items).

An incentive to win a $100 restaurant voucher was offered to all respondents. To be eligible the nurses needed to attach the detachable prize draw sheet to their returned survey. This sheet was removed by a third party and a draw taken. Analysis of numeric data was undertaken using the Statistical Package for Social Sciences Research (SPSS) version 16, and for open-ended questions using content analysis techniques.[27–29] Determining the representativeness of the sample was undertaken by comparing respondents' characteristics with those of the Primary Health Care and Community Nursing Workforce Survey—2001[14] and the National Primary Medical Care Survey (NatMedCa) 2001/02.[30]

Table 1. Frequency of practice nurse encounters with patients with a mental health need by age

Age Groups	Daily n (%)	Weekly n (%)	Monthly n (%)	Annually n (%)	Never n (%)	Missing n (%)
Child <15 years	3 (6)	4 (8)	7 (14)	16 (31)	12 (23)	9 (18)
Younger adult 15–20 years	4 (8)	8 (16)	19 (37)	19 (20)	4 (8)	6 (12)
Adult 20–64 years	5 (16)	16 (31)	20 (39)	5 (10)	1 (2)	1 (2)
Older adult 65+ years	5 (10)	16 (31)	12 (23)	8 (16)	5 (10)	5 (10)

Table 2. Frequency of practice nurse encounters with patients by diagnosis

Condition	Frequency seen by PNs (mode)
Anxiety	Daily – Weekly
Depression	Daily – Weekly
Alcohol/addictions	Monthly
Anger issues	Monthly
Bipolar disorder	Monthly
Dementia	Monthly
Eating disorders	Monthly
Grief	Monthly
Panic disorders	Monthly
Personality disorders	Monthly
Suicidal ideation	Monthly – Annually

Results

Of the 44 practices that employed practice nurses, three practices declined to participate in the research and five could not be contacted to establish the number of nurses who worked there. The remaining 36 practices employed 143 practice nurses, almost 10% of the New Zealand PN population.[14] The practices surveyed were from urban and rural areas, ranged in size with one or more GPs and employed between one and 18 nurses.

The sample

Of the 143 nurses surveyed, 52 nurses took part; a return rate of 36%—a common response rate for surveys as a whole and this particular group of respondents.[14,30–32] All 52 returns were utilised in the analysis, but as not all respondents completed all questions in the reporting of the findings, the denominator sometimes varies.

The characteristics of the respondents varied only slightly from the 2003[14] and 2005[32] MoH reports on community nurses. All respondents were female, 87% were European and 13% Maori, most were aged between 40 and 59 years, and respondents worked on average 27 hours per week in independent private GP practices. There was an even spread of comprehensive and hospital trained nurses and 46% had a postgraduate qualification.

Practice nurse work in mental health

The PNs regularly cared for all ages of patients who were experiencing a variety of mental health problems (Tables 1 and 2). Adults were seen the most frequently with almost 50% of nurses seeing adult patients weekly followed very closely by

Table 3. Frequency and confidence of mental health interventions undertaken by practice nurses

Intervention	No. performing intervention n (%)	No confidence n (%)	Little confidence n (%)	Confident n (%)	Reasonably confident n (%)	Totally confident n (%)	Not known n (%)	Mean ±SD
Depot injections	35 (67)	3 (6)	1 (2)	12 (23)	11 (21)	20 (39)	5 (10)	3.94 (1.17)
Counselling	31 (61)	12 (23)	27 (52)	8 (15)	4 (8)	0 (0)	1 (2)	2.04 (0.81)
Medication advice	28 (54)	1 (17)	14 (27)	15 (29)	11 (21)	0 (0)	3 (6)	2.54 (1.04)
Problem solving	25 (48)	11 (21)	20 (39)	12 (23)	5 (10)	0 (0)	4 (8)	2.19 (0.90)
Anxiety management	23 (44)	11 (21)	22 (42)	11 (21)	4 (7)	1 (2)	3 (6)	2.19 (0.94)
Grief management	17 (33)	9 (17)	19 (37)	14 (27)	5 (10)	0 (0)	4 (8)	2.34 (0.96)
Education	11 (21)	18 (35)	21 (40)	4 (8)	1 (2)	0 (0)	8 (15)	1.73 (0.73)
Treatment advice	6 (11)	16 (31)	22 (42)	5 (10)	2 (4)	0 (0)	7 (13)	1.84 (0.80)

older adult. Conditions seen on a daily to weekly basis were anxiety and depression. Children with mental health issues were seen least.

Nurses undertook a comprehensive number of interventions, with 82% of respondents indicating they performed more than two types of intervention (Table 2). Their self-assessed confidence in performing these interventions indicates they had little confidence and this did not vary by level of education or practice setting. The only exception to this was giving treatment advice to patients where there was a statistically significant finding. Those with degrees were more confident in giving treatment advice than non-degree respondents (p=0.05). Screening tools were used by 37% of nurses, but only one nurse was totally confident in their use. Confidence in caring generally for mental health patients was average (mean 2.8 ± SD 0.90, range 1–4). However, one-fifth (21%) reported they had no confidence and no respondents stated they were totally confident.

Practice nurses liaised with a wide range of mental health services on behalf of their patients (Table 4) and 78% of nurses knew how to access specialist services, but only 24% knew of a process to follow when accessing services. Many nurses made comments about the process and there appears to be no standardisation of this process. Written responses centred on what the nurse considered was the right thing to do:

> "Sometimes our work is intuitive—gut feeling tells you something is not right."

Table 4. Liaison between practice nurses and mental health services

Team referred to	No.
Crisis	38
Community mental health	20
Child and adolescent services	10
Inpatient/hospital services	6
Counsellor/psychologist	4
Psychiatrist	3
Maori mental health service	3
Link nurse/mental health liaison service	2
Other service	9
Nil/no service	2

One nurse added:

> "I think people know me well and come in to discuss with me what they can't discuss with family and friends and sometimes initially with the GP."

Another stated:

> "If I feel it's serious I will discuss with the patients that I may need to speak with their GP."

And a third commented on communication between services stating:

> "Interdisciplinary services communication can let people with mental health issues down."

Only 82% of nurses would inform the GP if concerned about a patient. One nurse stated she would listen to the patient and described how she

would collaborate with the doctor before making an appointment. In contrast, another nurse would just leave "a note for the GP".

Education needs

The mental health topics nurses prioritised as wanting education sessions on and the subjects nurses were least knowledgeable about are listed in Table 5. The most common issue with the highest priority for education was suicidal issues, with 28 (54%) of respondents listing this and 14 (50%) of these respondents listed this as their highest priority. Schizophrenia with 21% was the number one condition most PNs felt they had the least knowledge about with a third of respondents expressing this. Suicide and bipolar disorder were also indicated frequently. The responses indicate the PNs have limited knowledge of comorbid conditions around mental health, with 44% mentioning coexisting physical diseases with mental illness, where coexisting mental health issues were asked for.

Barriers to providing education were similar to the MoH survey of 2003[14] and included finance, staffing and time. Comments here included having to attend study outside work hours, no locum to cover when on leave and difficulty in accessing study from rural locations. Access to education was also of concern, with 55% of respondents reporting they had no access to any education. Finance was only mentioned by one nurse who stated:

> "Who pays for it? Have attended outside of work hours. Outside the DHB you are outside the loop of continuing education information."

This nurse further commented that she thought with the new PHO structure this should be addressed. Practice nurses indicated that they would prefer a targeted short course (58%) in mental health, preferably delivered by the community mental health team (71%).

Table 5. Practice nurses' educational preferences and self-expressed knowledge gaps in mental health conditions

Condition	Education preference n (%)	Knowledge gap n (%)
All conditions	13 (25)	8 (16)
Schizophrenia	11 (21)	17 (33)
Suicide/suicidal ideation	28 (54)	14 (28)
Postnatal depression	18 (35)	–
Depression	17 (33)	–
Cognitive behavioural therapy	15 (29)	–
Bipolar disorder	15 (29)	12 (23)
Family issues/therapy	13 (25)	–
Personality disorders	–	9 (17)
Adolescent/child issues	7 (13)	–
Addiction	5 (10)	–
Eating disorders	–	4 (8)

Discussion

It is clear from the results of this study that PNs are encountering patients across the age span with a mental illness almost every day. It is apparent from Table 4 that depression was the most common illness seen, with two-thirds of nurses seeing this condition at least weekly. Given the importance and prevalence of depression in the community,[33–34] the recognition of depression as a learning need within the nursing literature[35–36] and the significant proportion of nurses in this study who reported insufficient knowledge, this finding should not be ignored. Practice nurses often see patients on their own; it is therefore important that all PNs are confident in recognising this condition and that they are regularly updated on changes in the management of depression. Given that the PNs report seeing patients with varying mental health conditions frequently and that it is known that one in four patients will have a mental illness and at least half of these patients will have their illness undiagnosed and untreated,[6] it is important that PNs have education in how to screen and assess for a range of mental health conditions.

The World Health Organization[37] states that screening for mental health should be part of a nurse's role and the MoH published report by Kent et al.[30] states that health care screening is a common task for practice nurses. Early intervention for patients with a subacute mental illness greatly improves outcomes for patients and often relies on adequate screening and assessment.[38] It is important that PNs can recognise and respond to the presence of such illness at an early stage of ill-

ness. This requires assessment skills, access to the relevant screening and diagnostic tools and competence and confidence in their use.[22] The findings of a low use (37%) of tools and low confidence in their use by PNs, highlights an urgent educational need. The New Zealand Guidelines Group's recently-released assessment frameworks[39] which are easy to use and designed for use by primary health nurses should aid in addressing this issue.

Knowledge about comorbidity in primary health is also important as 50% of patients with a mental illness will have some comorbidity, but in 35% of these patients their coexisting disease is undiagnosed.[18] In this study, the majority of PNs acknowledged working with patients with comorbid mental illness, but written answers were confusing both for coexisting mental illness and physical illness.

Management of mental health issues

Although the PNs performed a wide variety of interventions (Table 3), the majority had limited confidence in their skills and knowledge. The finding that the most common intervention performed was the administration of depot injections is similar to Gray et al.'s[40] British study where 61% of PNs administered long-term antipsychotic medication in the form of depot. The PNs were generally confident in giving this treatment. Their use of interventions such as counselling, medication advice, problem-solving and anxiety management are similar to the findings of two UK-based studies.[11–12] The areas where confidence at performing interventions was lowest is where extra educational input is required. These are important areas as these interventions are commonly performed. Confidence in caring for patients with a mental health issue in general scored low, mean confidence in performing specific interventions for patients with a mental illness also scored low, and this was not influenced by whether nurses had completed postgraduate education. International research states PNs can be influential in improving care for patients with a mental health issue when taught interventions.[41–42] These influences are in assessment, general mental health education and giving treatment advice and medication adherence. These are interventions some nurses in this current research use, therefore an increase in nurses' confidence through targeted education could contribute to improved patient outcomes. This education needs to be at both in-service and postgraduate levels. Specific postgraduate education in mental health is not only needed to increase the skills and consequently improve confidence and competence for these nurses, but also to assist with the development of this work.

Referrals are an area where PNs, GPs, mental health nurse educators, psychiatric liaison nurses and community mental health staff at a local level need processes and guidelines for use by PNs and the primary health care team generally. Such guidelines will assist PNs with their decision-making process and potentially influence early intervention and patient outcomes. Standardisation such as this could ensure speedier access to mental health services when the patient is in need.

Education

Barriers to receiving education for this group of nurses have not changed from previous studies.[14,43] Where training additional to primary qualifications has been given to PNs, it has improved outcomes. Katon et al.[41] reported on a study where PNs were trained in brief interventions including clinical assessment, patient education, monitoring adherence to treatments, follow-up and referrals for patients suffering from depression, and found no difference in outcomes for patients allocated to nurse intervention or GP intervention groups. Therefore, with the right education and skills, PNs can become proficient at helping these patients. The specific mental health issues individual PNs would like additional education on are varied. With the nurses in this study reporting their lack of experience in mental health, and identifying that undergraduate education was of little help in gaining confidence in mental health skills, this education has to start with assessment through to management and be built upon.

Prioritising these needs should be a combination of the patients most often seen, the PNs perceived learning needs and areas where confidence in performing interventions was low. Condi-

tions such as anxiety, grief, alcohol and drug issues which nurses see often, and schizophrenia, bipolar disorders, and suicide which nurses highlighted as important are likely priority areas. As nurses' confidence in mental health is generally very low, undergraduate training experience limited and postgraduate primary mental health for PNs is not yet available, then this training should start at the basics of mental health and be built on to cover the types and conditions the nurses care for.

Limitations

The low return occurred despite using a number of strategies to increase the number of returns. This response rate, although typical for this type of research and this group of nurses, does mean that the results are not generalisable to all PNs in New Zealand. However, the respondents were similar with the MoH surveys on age and gender, but differed ethnically from the MoH 2005 survey, with this study having 13% Maori compared to the 5% in the MoH survey. The final survey tool inadvertently left out schizophrenia as a condition that the PNs could see people with—while this was picked up in the description of 'other' by many respondents, this was not done routinely, so the extent of engagement by PNs with this group is not clear.

Conclusion

This study demonstrates that PNs are involved daily with patients with broad-ranging mental health concerns and provide a wide range of mental health interventions, but with limited confidence in their skill level. The respondents liaised with a wide range of services, but with no standardised referrals process in place, nurses used professional judgement when referring patients. The PNs listed their perceived learning needs which centred on general mental health conditions. Other learning needs included education on comorbid disease and mental health and screening. Given the expanded role of the nurse in primary health care, it is important that education in primary mental health for nurses is prioritised. Enhancing nurses' skills and knowledge should help improve mental health outcomes.

References

1. King A. The primary health care strategy. Wellington: Ministry of Health; 2001.
2. Ministry of Health. Primary Health Organisations. Service development toolkit for mental health services in primary health care. Wellington: Ministry of Health; 2004.
3. Ministry of Health. Improving mental health: the second mental health and addiction plan 2005–2015. Consultation document. Wellington: Ministry of Health; 2004.
4. Ministry of Health. The New Zealand mental health survey. Wellington: Ministry of Health; 2006.
5. World Health Organization and World Organization of Family Doctors. Integrating primary mental health into primary care. A global perspective. In. Geneva: WHO Library Cataloguing in Publication Data; 2008.
6. MaGPIe Research Group. The nature and prevalence of psychological problems in New Zealand primary healthcare: A report on mental health and general practice investigations (MaGPIe). N Z Med J. 2003;116.
7. Ministry of Health. A portrait of health: key results from the 2006/7 New Zealand health survey. Wellington: Ministry of Health; 2008.
8. Corney R. Developing mental health services in the community: current evidence of the role of general practice. J R Soc Med. 1994;87:408–10.
9. MaGPIe Research Group. General practitioners perceptions of barriers to their provision of mental health care: A report on mental health and general practice investigation. N Z Med J 2005;18.
10. Rodenberg H, Bos V, O'Malley C, McGeorge P, Love T, Dowell A. General practice care of enduring mental health problems: an evaluation of the Wellington mental health liaison service. N Z Med J. 2004;117.
11. Lee S, Knight D. District nurses' involvement in mental health: an exploratory survey. Br J Community Nurs. 2006;11(4):138–42.
12. Secker J, Pidd F, Parham A. Mental health training needs of primary health care nurses. J Clin Nurs. 1999;8:643–52.
13. Millar E, Garland C, Ross F, Kendrick T, Burns T. Practice nurses and the care of patients receiving depot neuroleptic treatment: views on training, confidence and use of structured assessment. J Adv Nurs. 1999;29(6):1454–61.
14. Ministry of Health. Primary health care and community nursing workforce survey—2001. Wellington: Ministry of Health; 2003.
15. Bittner A, Egger HL, Erkanli A, Costello J, Foley DL, Angold A. What do childhood disorders predict? J Child Psychol Psychiatry. 2007;48(12):1174–83.
16. Rey JM, Sawyer MG, Raphael B, Patton GC, Lynskey M. Mental health of teenagers who use cannabis. Results of an Australian survey. Br J Psychiatry. 2002;180:216–21.
17. Patel V, Flisher AJ, Hetrick S, McGorry P. Adolescent Health 3: Mental health of young people: a global public-health challenge. Lancet. 2007;369:1302–13.
18. Andrews A, Issakidis C, Carter G. Shortfall in mental health service utilisation. Br J Psychiatry. 2001;179:417–25.
19. Parker AG, Hetrick SE, Purcell R, Gillies D. Consultation liaison in primary practice for mental health problems (Protocol). Cochrane Database of Systematic Reviews 2008 2009:Issue 2. Art. No.: CD007193
20. Rucci P, Gherardi S, Tansella M, et al. Subthreshold psychiatric disorders in primary care: prevalence and associated characteristics. J Affect Disord. 2003;76:171–81.
21. Holsinger T, Deveau J, Boutani M, Williams JWJ. Review: some screening tests for dementia in older persons are accurate and practical for use in primary care. JAMA 2007;297:2391–404.
22. Hsu MC, Moyle W, Creedy D, Venturato L. An investigation of aged care mental health knowledge of Queensland aged care nurses. Int J Ment Health Nurs. 2005;14(1):16–23.

23. Ansseau M, Dierick M, Buntinkx F, et al. High prevalence of mental disorders in primary care. J Affect Disord. 2004;78(1):49–55.
24. Dean CE, Thuras PD. Mortality and tardive dyskinesia: a long term study using the US National Death Index. Br J Psychiatry. 2009;194(4):360–64.
25. Mergl R, Seidscheck I, Allgaier A-K, Möller H-J, Hegerl U, Henkel V. Depressive, anxiety and somatoform disorders in primary care: prevalence and recognition. Depress Anxiety 2007;24(3):185–95.
26. Barclay S, Todd C, Finlay I, Grande G, Wyatt P. Not another questionnaire! Maximizing the response rate, predicting non-response and assessing non-response bias in postal questionnaire studies of GPs. Fam Pract. 2002;19:105–11.
27. Kelley K, Clark B, Brown V, Sitzia J. Good practice in the conduct and reporting of survey research. Int J Qual Health Care. 2003;15(3):261–6.
28. Priest H, Roberts P, Woods L. An overview of three different approaches to the interpretation of qualitative data. Part 1: Theoretical issues. Nurse Res. 2002;10(1):30–42.
29. Rourke L, Anderson T, Garrison DR, Archer W. Methodological issues in the content analysis of computer conference transcripts. Int J Artif Intell Educ. 2001;12:8–22.
30. Kent B, Horsburgh M, Lay-Yee R, Davis P, Pearson J. Nurses and their work in primary health care: the National Primary Medical Care Survey (NatMedCa): 2001/02 Report 9. Wellington Ministry of Health; 2005.
31. Badger F, Werrett J. Room for improvement? Response rates and recruitment in nursing research in the past decade. J Adv Nurs. 2005;51(5):502–10.
32. Finlayson M, Sheridan N, Cumming J. Evaluation of the implementation and intermediate outcomes of the Primary Health Care Strategy second report. Nursing developments in primary health care. Wellington: Health Services Research Centre, Victoria University of Wellington; 2009.
33. Andrews A, Sanderson K, Corry J, Lapsley H. Using epidemiological data to model efficiency in reducing the burden of depression. J Ment Health Policy Econ. 2000;3(4):175–86.
34. Goodyear-Smith F, Arroll B, Coupe N, Buetow S. Ethnic differences in mental health and lifestyle issues from multi-item general practice screening. N Z Med J. 2005;118.
35. Renwick R. Improving outcomes for people experiencing depression: the road ahead for New Zealand primary mental healthcare nursing. Research Report. Wellington: Victoria University of Wellington; 2007.
36. Russell G, Potter L. Mental health issues in primary care. J Clin Nurs. 2002;11:118-25.
37. World Health Organization. WHOQOL-BREF: Introduction, administration, scoring, and generic version of assessment. Geneva: World Health Organization; 1996. p18.
38. McMenamin JP. Targeted health checks by nurses in general practice: are they feasible? N Z Fam Physician. 2005;32:382–8.
39. New Zealand Guidelines Group. Identification of common disorders and management of depression in primary care. Wellington: Ministry of Health; 2008.
40. Gray A, Parr A, Plummer S, et al. A national survey of practice nurses involvement in mental health interventions. J Adv Nurs. 1999;30:901–6.
41. Katon W, Von Korff M, Lin E, Simon G. Rethinking practitioner roles in chronic illness: the specialist, primary care physician and the practice nurse. Gen Hosp Psychiatry. 2001;2:138–44.
42. Sokhela NE. The integration of comprehensive psychiatric/mental health care into the primary health system: Diagnosis and treatment. J Adv Nurs. 1999;30:229–337.
43. Baird A. What being a practice nurse really means: Part 4. Clinical skills and future learning. Prac Nurs. 2003;26:15–9.

COMPETING INTERESTS
None declared.