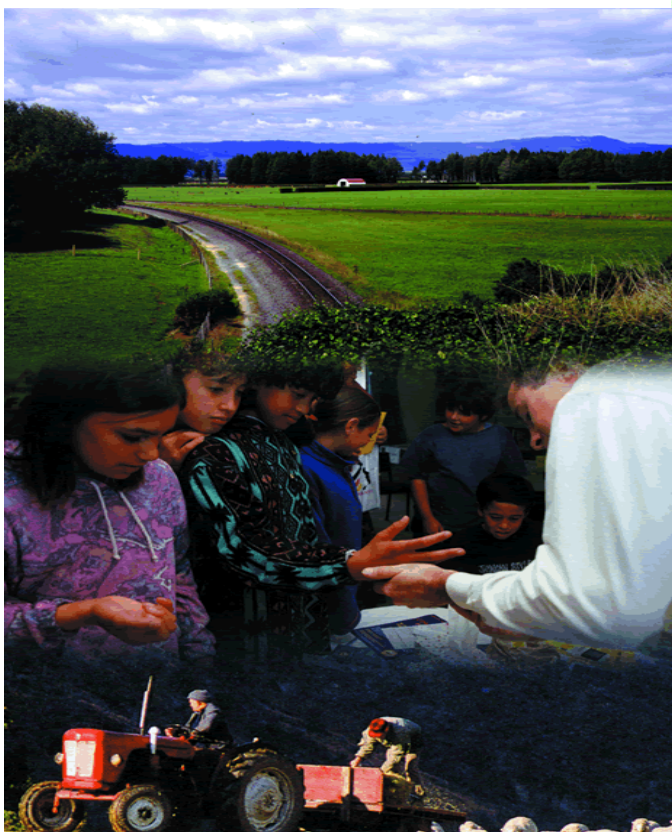




The 2005 Rural Health Workforce Survey



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October 2005

Published by the Ministry of Health

ISBN: 0-478-30084-0

Suggested reference:

Goodyear-Smith F, Janes R, New Zealand Institute of Rural Health. The 2005 rural health workforce survey, October 2006, Ministry of Health, pp 158.

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Acknowledgements

This project was funded by the Ministry of Health through the New Zealand Institute of Rural Health with academic involvement from the University of Auckland.

Thanks to all those involved in this project, and in particular the rural practitioners (general practitioners, primary health care nurses, pharmacists, midwives and managers of general practices and pharmacies) who took the time from their busy lives to complete our questionnaires.

Particular thanks to Ms Chris Millar (Professional Nurse Advisor of the New Zealand Nursing Organisation) and Mr David Mitchell (Contract Manager of the Pharmacy Guild), for their input during the design phase of the project, to Ms Maree Wells (Office Manager, New Zealand Institute of Rural Health) for data collection and entry, and to Mr Robert North (Elite Business Systems) for his IT assistance.

We also wish to acknowledge the support and input of our Māori adviser, Dr Paratene Ngata (Māori rural general practitioner, Trustee of the New Zealand Institute of Rural Health, member of the Māori Faculty, Te Akoranga a Maui of the RNZCGP and Trustee of Hauora.Com) – kia ora, Pat.

Disclaimer

Any views expressed in this paper are personal to the authors and are not necessarily the views of the New Zealand Ministry of Health. The New Zealand Ministry of Health accepts no responsibility or liability in respect of the contents of this paper.

The authors would like it noted that the determination of sample, design of the questionnaires and data collection for the lead maternity carer (LMC) and core midwives was the responsibility of the New Zealand College of Midwives (NZCOM). The authors' role with respect to the data pertaining to the midwives related to analysis of anonymous collated data provided by the NZCOM.

Abbreviations

A & M	Accident and Medical
ACC	Accident Compensation Association
CME	Continuing medical education
DHB	District Health Board
FTE	Full time equivalent
GIS	Geographic Information System
GP	General practitioner
LMC	Lead maternity carer
MMPO	Midwifery and Maternity Provider Organisations
MNIS	Maternity and Newborn Information System
MOH	Ministry of Health
MOSS	Medical Officer of Special Scale
NGO	Non-government organisation
NMDS	National Minimum Dataset
NP	Nurse practitioner
NZ	New Zealand
NZCOM	New Zealand College of Midwives
NZIRH	New Zealand Institute of Rural Health
NZMA	New Zealand Medical Association
NZNO	New Zealand Nursing Organisation
NZRGPN	New Zealand Rural General Practice Network Inc
PHCN	Primary health care nurse
PHO	Primary Health Organisation
PI	Principal investigator
PHCN	Primary health care nurse
PRIME	Primary Response In Medical Emergencies
PRS	Pharmaceutical Review Service
RNS	Rural nurse specialist
RNZCGP	Royal New Zealand College of General Practitioners
RRS	Rural Ranking Scale
SRA	Shared Roster Area
TLA	Territorial Local Authority

Executive summary

Introduction

Both in New Zealand and internationally, there are potential concerns about retention and recruitment of the rural health workforce. While rural general practitioners have been the most studied, anecdotal evidence suggests other rural health professionals also may be facing workforce shortages.

Aim

To re-establish the annual workforce survey of general practitioners (last conducted in 2002) and extend it to include other professionals practising in rural primary health care. To use the data from the annual workforce survey to highlight trends which may assist future DHB and PHO planning, provide a basis for MOH policy and funding decisions, and to assess for improvements in workforce issues targeted by government funding.

Method

Workforce questionnaires were developed using existing knowledge on issues identified from the literature, in conjunction with input and feedback from researchers, consultants, Māori, and the appropriate professional bodies. Surveys, prepared by the research team for rural general practice managers, rural general practitioners, rural primary health care nurses, rural pharmacy managers, and rural pharmacists, were sent out in November 2005. Surveys for rural midwives were prepared by the NZ College of Midwives and sent out in May 2006. Surveys contained both quantitative and qualitative questions.

Results

Rural general practices

There was a 95% response rate for rural general practices, of which 73% were GP-owned. They ranged from practices with one GP (41%) and one PHCN (32%) to one practice with 12 GPs and nine nurses. After-hours cover was provided by 88% of practices. Availability of other primary health care services, either situated locally or as a visiting service, showed great diversity. Of the 100 practices which gave examples of changes made since the primary health

strategy was implemented, 53 reported improvements, 16 minimal or no change, and 31 reported deteriorated conditions. Positive changes included the ability to implement new initiatives (eg. diabetic checks, CarePlus, health promotion), offer cheaper visits and increase use of nurse-led clinics. For a few there was more time off because they no longer provided 24 hour cover (eg. after-hours service now provided by the local hospital). Where conditions had worsened, the main issue was significantly increased paperwork and compliance costs. GP locums had been employed by 93% of practices, 37% had received Reasonable Roster Funding and 65% Rural Workforce Retention Funding in the previous 12 months. Practices reported a number of innovative recruitment and retention initiatives using this funding.

Rural general practitioners (GPs)

Surveys were returned by 358 rural GPs (71% male). Seventy-three percent were aged over 40, with an even higher majority of males over 40 (78%), and no female GPs over age 60, indicating a predominantly aging male workforce. Sixty-five percent identified as NZ European and 3% as Māori. Only 43% were NZ-trained doctors. GP vocational registration was reported by 260, and 159 (44%) identified as PRIME providers. Fifty-seven percent were sole or partner owners of their practice. Overall 61% worked eight or more half-time sessions per week, with far more male GPs (76%) than female GPs (37%) working full-time. Seventy-nine percent did after-hours call, with huge diversity in their rostered frequency. Fourteen percent of the GPs were planning to leave rural practice within the next two years and a further 20% within five years. Of the 28 GPs aged over 60 years (all male), 68% were still working full-time, and only 64% were planning to retire within five years. On the other hand, 29% of those aged 50 or less were planning to leave rural general practice within five years, potentially representing a different cohort from the 'old school' rural GPs who continue to work past retirement age.

Rural primary health care nurses (PHCN)

Surveys were returned by 445 PHCNs (65% response rate) with 97% female and 72% aged over 40 years. Eighty-four percent identified as NZ European and 8% as Māori. The majority were NZ-trained (85%), and 117 (26%) were

PRIME providers. Twenty-eight percent participated in after-hours on-call, ranging from 'on call 24/7' to the occasional evening or weekend session only. Nurse-led clinics were run by 45% of the PHCNs. Thirty-six percent had been practising five years or less, while 14% were in their first year of rural nursing practice. Ten percent of the PHCNs were planning to leave rural practice nursing within the next two years and a further 15% within five years. There was a diverse range of responses about the way their practice had changed since the implementation of the primary health strategy. Many reported little or no change, however a major negative issue was increased workload, especially paperwork. Positive changes included increased autonomy with nurse-led clinics, a wider scope of practice, an associated increase in a team approach, increased opportunities for education and upskilling and improved support from, or involvement with, their IPA, PHO or DHB. Many reported improved and more accessible patient services although others reported changes for the worse.

Rural pharmacies

Responses were received from 160 pharmacies approached by the Pharmacy Guild (90% response rate) but 13 were subsequently excluded because they were deemed urban, leaving 147 rural pharmacies. Thirty-three percent had solo practitioners. Thirty-five percent provided a seven-day after hours service and 16% shared rosters with other pharmacies. Locums had been employed by 74% of the pharmacies in the past 12 months.

Rural pharmacists

Surveys were returned by 266 rural pharmacists approached by the Pharmacy Guild (96% response rate) but 18 were from urban pharmacies and excluded, leaving 248 pharmacists (52% male). Their age distribution was relatively evenly dispersed compared to rural GPs and PHCNs. Eighty-eight percent identified as NZ European ethnicity and 3% as Māori. The majority were NZ-trained (92%). Fifty-five percent were sole or partner owners of their pharmacy, with males significantly more likely to be owners than females (69% compared with 39% (χ^2 21.11, 1 df, $p < 0.0001$)). Seventy-one percent worked full-time with 33% participating in a seven-day after-hours service. Seventy-nine percent reported adequate peer support, 75% adequate access to continuing education

and 72% adequate holiday cover. These conditions were not adequate for the minority, with lack of peer support attributed to isolation, while others maintained contact by telephone and e-mail. For some long travelling distances meant that attending face-to-face educational sessions was prohibitive. For a few, lack of locum cover was an issue. Eighteen percent of the pharmacists were planning to leave rural NZ practice within the next two years and a further 29% within five years. While many of those were nearing or at retirement age, there was also a large cohort of younger pharmacists aged between 25 and 30 years old planning to leave NZ rural practice.

Rural midwives

Surveys were returned by 132 LMC (community-based) and 45 core (hospital-based DHB-employed) midwives, who defined themselves as rural practitioners. Response rate to posted surveys was 29%. All respondents were female. The majority were aged between 36 and 55 years (68% of LMC and 62% of core midwives). Fifty-eight percent of LMC and 56% of core midwives identified as NZ European, 5% of LMC and one core midwife as Māori, and one LMC as Pacific Island. Sixty-four percent of LMC and 51% of core midwives were NZ-trained. While analysis of the available midwifery data is included in this report, any comparison with the other rural primary health care practitioners needs to be treated with caution, given differences of definition of 'rural' and 'primary health care' and other data limitations with the midwife sample.

Discussion

The key findings of The 2005 Rural Workforce Survey were:

1. The Rural Ranking Scale currently provides GPs with an agreed definition of 'rural', which is lacking with the other health professionals.
2. A number of rural general practices close to cities have reduced their on-call workload by having the nearby urban centre provide after hours coverage.
3. These reductions in on-call workloads may have an impact on GPs' Rural Ranking Scale scores and rural bonus payments.

4. Rural practice managers expressed a range of positive and negative views on the impact of the implementation of the Primary Health Care Strategy. The strongest theme to emerge, expressed by the majority of the practices, was concerns about increased paperwork and compliance costs.
5. Compared to the 2002 workforce survey, the ratio of rural primary health care nurses to rural GPs has increased. This could be due to increasing numbers of nurses taking on expanded roles in primary care, to a reducing rural GP workforce, or to more part-time nurses in 2005.
6. General practices reported that a wide range of strategies had been employed to improve working conditions in rural general practice using the two rural funding streams (Reasonable Roster Funding and Rural Workforce Recruitment Funding).
7. Only 65% of rural general practices reported receiving Rural Workforce Retention Funding in the last year.
8. *Training:* the majority of rural pharmacists (92%), PHCNs (85%), LMC midwives (64%) and core midwives (51%) were NZ-trained, while the majority of rural GPs (57%) were overseas-trained.
9. *Age Distribution:*
  - 73% of rural GPs, 72% of PHCNs, 66% of pharmacists, 76% of LMC midwives and 60% of core midwives were older than 40 years.
  - GPs, nurses and midwives had a bell-shaped age distribution, in contrast to the rather flat age distribution of pharmacists.
10. *Percentage of health professionals planning to leave rural practice within two years and within five years:* GPs 14% and 20% (total 34%), PHCNs 10% and 15% (total 25%); pharmacists 18% and 29% (total 47%), LMC midwives 27% and 33% (total 60%) and core midwives 32% and 25% (57%), respectively.

The implications of this study raises questions about robust methods to define rurality which will allow comparison between different professional groups, where the boundaries are drawn between primary and secondary care under the new PHO environment, and which professional groups should be included as part of the rural primary health care workforce.

The changing nature of the rural workforce, especially the trend towards part-time salaried rural GPs needs further exploration, as does the nature of changes that are occurring in the PHO environment.

With all the professional groups surveyed, and with GPs in particular, the survey raises concerns about a potentially depleting workforce occurring concurrently with increasing health care needs as the population ages. The numbers needed to replace the primary health care professionals who are planning to leave rural NZ practice in the next five years is concerning, and ongoing research is required in the areas of both recruitment and retention of the rural workforce.

Introduction

The sustainability of rural healthcare internationally is being challenged by a shortage of rural health practitioners. General practitioners (GPs) have been the most studied, with difficulties in both retaining and recruiting doctors to rural primary care.¹ A number of interventions are being explored to enhance retention of the rural workforce.² The ongoing need to attract more trainee doctors into rural general practice is well documented internationally.³

In 2001 the Primary Health Care Strategy recognised that *'misdistribution of workforce is a particular issue for rural areas'* and *'the difficulties of attracting and retaining basic health services in rural communities have not lessened in recent years'*.⁴ It was noted at that time that recent initiatives to encourage rural general practice had made little impact on the problems.

Various strategies are being employed both in New Zealand (NZ) and internationally to deal with this workforce crisis. Research into recruitment and retention of the rural health workforce has been particularly active in Australia and Canada, two western countries with large land masses containing small isolated rural or remote communities.

A number of approaches have been tested in how to attract new medical graduates into rural areas. A strong relationship between rural background and a student's subsequent intention to work in a rural area has been demonstrated.⁵ Approaches that have been shown to help address the problem include recruiting students from rural areas into medical schools,⁶ rural-orientated medical curricula,⁷ undergraduate learning experiences in community orientated primary care especially in the rural environment,⁸ and exposure to positive rural practitioner role models.⁹ In Canada a study has shown that trainee doctors doing rural internships were more likely to consider practice in a rural area.¹⁰ An Australian study found medical students were more likely to enter rural general practice if they had a long-term rotation in one rural centre where they got to feel part of the community and a contributing member of the healthcare team.¹¹ The attitude and values of academic staff can positively or

negatively influences career choice towards or away from rural practice.¹² A recent NZ study found that the poor status afforded GPs by hospital colleagues acts as a deterrent for many students to consider any form of general practice as a career.¹³

A NZ survey of trainee GPs in 2000 - 2001 found that nearly two-thirds were more likely to go into rural practice if an incentive scheme were offered, with incentives most favoured being reduction in on-call work, guaranteed time out of the practice and consideration of options for partners and children.¹⁴

However the first priority for sustaining a rural workforce is retention of existing practitioners.¹⁵ Having a stable rural workforce is less expensive than ongoing recruitment, allows the development of cohesive primary health care teams, ensures the continuity of family and community care, and permits the accreditation of staff as rural teachers and positive role models for medical students on attachments.

NZ retention initiatives include the Primary Response In Medical Emergencies (PRIME) scheme, rural bonus payments, a government-subsidised locum service (NZLocums®), Rural Workforce Retention Funding, and Reasonable Rostering Funding.

The PRIME scheme was first developed in 1995 to provide both a coordinated response and consistent, appropriate management of trauma and medical emergencies in rural locations. It was piloted in the Southern Regional Health Authority in 1998 and extended nationally in 1999.¹⁶ PRIME providers must first complete a PRIME training course which is approved and funded by the Accident Compensation Corporation (ACC) and delivered by the Order of St John. Providers must also undertake refresher courses every two years. PRIME service providers are provided with a PRIME medical kit and a means of communication, such as pager, cellular phone or ambulance radio. The PRIME scheme requires the service provider to respond within a local roster system that provides 24 hour a day, 365 days a year cover. The key objectives of PRIME are primary assessment, essential resuscitation, and the rapid and safe

delivery of patients to the appropriate place of definitive care. PRIME providers are rural GPs and rural primary health care nurses (PHCNs). They receive a monthly retainer as a contribution towards call-out costs. While trauma call-outs are covered by ACC claims on a fee-for-service basis, non-accident callouts are unpaid, unless the PRIME provider bills the patient.

In 1999 the rural bonus was redistributed among NZ rural GPs according to the newly developed Rural Ranking Scale (RRS).¹⁷ GPs scoring 35 points or over on this RRS were deemed to be 'rural' for purposes of receiving the 'rural bonus' payment, with rural GPs with a higher score receiving a higher payment. The first census of NZ rural GPs was conducted in 1999 using the new RRS definition of a 'rural GP', and it identified 469 rural GPs.¹⁸ A qualitative study of these GPs identified the positive aspects of rural general practice as forming strong relationships with both patients and the community, and the ability to practice the full spectrum of general practice. Negative issues included 'heavy workloads, frequent on-call, inability to get time off, and feeling undervalued and underpaid by funders'.¹⁹ At that time, suggested retention solutions included better pay, more salaried positions with guaranteed working conditions and better rural continuing medical education (CME). Recruitment solutions suggested by rural GPs included reducing barriers for overseas doctors to enter NZ, establishing a rural GP career pathway and increasing the number of rural registrars.

The New Zealand Rural General Practice Network Inc (NZRGPN)²⁰ membership includes rural GPs along with rural PHCNs and rural nurse specialists (RNSs). The NZRGPN manages NZLocums®, the government-subsidised scheme established in 2001 to provide locum recruitment assistance to rural GPs.²¹

In 2001 the NZ MOH Primary Health Care Strategy²² adopted a population health focus based on the New Zealand Health Strategy²³ and the New Zealand Disability Strategy²² to improve the health of all New Zealanders in the primary health care setting. The six key directions of the Primary Health Care Strategy are:

1. a greater emphasis on population health, health promotion and preventative care,
2. community involvement,
3. involving a range of professionals and encouraging multidisciplinary approaches to decision making,
4. improving accessibility, affordability and appropriateness of services,
5. improving co-ordination and continuity of care,
6. providing and funding services according to the population's needs as opposed to fee for services when people are unwell.

In implementing the Primary Health Care Strategy, the MOH acknowledged that rural NZ faces extra challenges in the provision of primary health care services, and that special consideration needed to be given to rural problems.²⁴ In 2002 the MOH provided \$32 million over three years, available from the primary health care funding package, to support the retention and recruitment of the rural primary health care workforce.²⁵ The funding consisted of Rural Workforce Retention Funding – a flexible resource for supporting and retaining the primary health care team, and Reasonable Rosters Funding – a targeted resource aimed at supporting those GPs experiencing onerous on call arrangements (IE. 1 in 1, or 1 in 2 on-call rosters). These funding streams were extended in October 2004 by \$10.9 million (starting in the 2005/06 financial year) to help rural areas retain GPs, nurses and other health care professionals.

Once PHOs were established, DHBs were required to pass on the workforce retention funding to the PHOs. Since July 2004, Rural Workforce Retention Funding has mostly been paid to PHOs through their DHBs. However not all PHOs have taken on this responsibility, and some have allowed their DHB to continue paying directly to practices. For those PHOs managing this funding, it allows them to address urgent rural primary health care workforce retention and recruitment needs through a range of strategies.²⁵ These include time off duty, a supportive professional working environment, access to continuing professional development and peer support, financial incentives and the ability to enter and leave rural practice with minimal restrictions.²⁶

'Rural community' was defined for workforce retention funding purposes as a community serviced by a GP who scored 35 or more on the RRS, or a doctor or nurse to whom the DHB has assigned a 'notional' RRS. For some remote rural localities served by rural nurses with GP backup (e.g. Stewart Island), a 'notional' Rural Ranking Scale score can be applied by the DHB to the nurse(s). Similarly, for rural doctors who have not been allocated a RRS, the DHB can allocate a 'notional' score for Rural Workforce Retention Funding purposes based on the same criteria.²⁷

Despite these strategies, a 2004 analysis of the NZ GP workforce indicated that most Territorial Local Authorities (TLA) had sustained losses of GPs over the previous four to six years and in particular a net loss of rural GP full-time equivalents (FTEs).²⁸ The more remote areas and those with higher Rural Ranking Scale scores had experienced the greatest losses. A study using a geographical information system (GIS) found that 9.9% of non-urban populations resided more than 30 minutes from their nearest GP, with the most remote areas worst effected. There was also a strong relationship between poor access and levels of deprivation and ethnicity.²⁹

The Centre for Rural Health (also known as the National Centre for Rural Health) was established in late 1994 in Christchurch. It was funded initially by the Southern Regional Health Authority, then the Health Funding Authority and finally by the MOH for a series of projects to support rural health services and community involvement. The Centre was under the directorship of Martin London and Jean Ross from, respectively, rural GP and rural nurse backgrounds. Following an initial assessment of fluctuations in the rural GP workforce from 1995 to 1999,¹⁸ The Centre for Rural Health published annual Rural Workforce Survey reports for 2000,¹⁸ 2001³⁰ and 2002.³¹ The Centre closed at the end of 2002 and no further annual workforce surveys have been conducted until now.

Rural workforce problems are also experienced in other health professions, including nursing, pharmacy and midwifery. A NZ survey of rural GPs, pharmacists, physicians and surgeons found common problems of work

overload and compromised family and social life, with the pharmacists demonstrating more work stress and less job satisfaction than the GPs.³² The problem is confounded in general practice by an aging workforce,^{18, 30, 31} which may or may not be an issue in other rural professional groups.

In 2005 the MOH recognised *“the need to continue the annual rural workforce survey and to extend this to other professions practising in rural primary health care. This is because the provision of accurate data is an important part of managing rural workforce issues, particularly in areas where government funding has been targeted to relieve workforce issues.”*²⁵

Aims

1. To repeat the annual Rural Workforce Survey last conducted in 2002 and extend its scope to other professionals practicing in rural primary health care, including pharmacists and midwives.
2. To highlight trends in the rural workforce to assist future DHB and PHO planning, provide a basis for MOH policy and funding decisions, and to assess for improvements in workforce issues targeted by government funding.

Specific objectives

1. To conduct 'a point in time' survey of the rural primary healthcare workforce (general practitioners, primary health care nurses, community pharmacists and midwives) at the end of 2005, which can be utilised by all health professional groups.
2. To assess changes to practices and the working patterns of rural primary health care practitioners relating to the development of PHOs.
3. To identify examples of innovative initiatives that have assisted in retention and recruitment of the rural primary health care workforce.

Methodology

The project was conducted by the New Zealand Institute of Rural Health with the primary academic input provided by Dr Felicity Goodyear-Smith, Senior Lecturer in Department of General Practice and Primary Health Care, School of Population Health, The University of Auckland.

Setting

Rural general practices, community pharmacies and midwives nationwide.

Participants

There were six groups of participants:

1. Rural practice managers (providing data on rural general practices)
2. Rural general practitioners
3. Rural primary health care nurses
4. Rural pharmacy managers (providing data on rural pharmacies)
5. Rural pharmacists
6. Rural midwives

Sampling

Rural general practices were defined as those containing GPs who scored ≥ 35 on the Rural Ranking Scale (see Appendix C - Rural Ranking Scale, page 144). Rural GPs were likewise those who scored ≥ 35 on the RRS.

Rural primary health care nurses (PHCNs) were defined as those working at rural practices as defined above and those employed by iwi, trusts and nurse practices. Rural nurses working as public health and district nurses, employed by DHBs were excluded.

Rural pharmacies were defined as those located in the same town or locality as general practices with GPs scoring ≥ 35 on the Rural Ranking Scale. Rural community pharmacists were those pharmacists working in these rural community pharmacies. While some pharmacists also worked at the local rural hospital, their principal employment was as a community pharmacist.

There is no resourced infrastructure for rural maternity and midwifery services. The midwifery professional body (NZCOM) was identified for the purposes of this study as the most reliable source for locating and contacting rural midwives. The lack of infrastructure/networking/support led to difficulties in defining and locating rural midwives.

Consultation was undertaken with Dr Chris Hendry, Workforce Project Midwife of the New Zealand College of Midwives who was provided with a draft questionnaire for midwives. In September 2005 she reported that because the demographic and workforce data required in the rural survey had already been collected by the Midwifery and Maternity Provider Organisations (MMPO) the anonymised data for this rural workforce study could be provided rather than have their midwives resurveyed.

It was suggested that a possible definition of a rural midwife might be based on having a certain percentage (such as greater than 50%) of their caseload rural or rural remote. At that time the College of Midwives' decision was to use the location of midwives' domicile as a measure of rurality. In February 2006 Chris Hendry of the NZCOM determined that 31% of LMC midwives had a caseload of 50% or more women living in the rural or remote rural localities and only 12% did not have any women living in a rural locality. The NZCOM were also sent a list of all the rural general practices (with their localities) by the NZRIH.

Subsequently in March 2006, following further consideration of the data required, the New Zealand College of Midwives (NZCOM) realised that the data were not already available and that they would need to survey their midwives.

Midwives either have a caseload as a lead maternity carer (LMC), are core midwives (employed in a hospital) or both. There are almost 2000 midwives in NZ in total, of whom 925 are LMCs.³³ For GPs, rural PHCNs and rural community pharmacists the definition of being part of the primary health care workforce included their principal employment being in the community rather than being employed by the DHB. However the definition of a rural midwife working as part of the primary health care workforce determined by the NZCOM included both the independent and the DHB-employed midwives (a few of whom fell into both categories).

Because of the mobile nature of community based midwifery LMC services, defining a 'rural midwife' was problematic. LMC midwives often do not work from their own office or clinic but rather visit patients at their own homes. A midwife's practice may not be confined to a particular geographic area. This means that the client population of many midwives may include clients in rural localities even if the midwives reside in suburban or urban districts. Alternatively, midwives living in a region designated rural may conduct some or many of their deliveries in a base hospital.

Section 88 divides rural deliveries into 'semi-rural', 'rural' or 'remote'. A review of the volume of 'rural cases' by 750 midwives by the NZCOM through the MMPO database indicated that over 90% of these LMCs did at least one rural case per year. The NZCOM rejected the suggestion by the authors of this report that rural locality of birthing women be the basis of defining a 'rural midwife' (for example, a LMC is rural if >50%, or some other percentage, of her birthing women came from rural localities). As a result of this complexity and '*honouring the intent of focusing on the rural health workforce*' (personal communication Alison Eddy, NZCOM), the NZCOM decided to use the location of the midwife's domicile as the measure of rurality. The criteria used by the NZCOM to determine rurality of domicile are not known by the authors of this report. Midwives residing rurally who self-identified as 'rural midwives', were asked to respond to the survey. The NZCOM also attempted to survey urban-residing midwives who practised rurally.

This lack of a clear definition for rural midwives, plus the difference of who is considered part of the primary health care workforce, means that it is problematic to compare the data collected for this group with rural GPs, PHCNs and pharmacists.

Questionnaire development

Questionnaires were developed using existing knowledge on issues identified from the literature in conjunction with input and feedback from researchers and consultants. Questions from previous Centre for Rural Health annual Rural Workforce Survey reports for 2000, 2001 and 2002 were included where possible to allow for comparisons over time. The questionnaires and participant information sheets (PIS) were prepared by the PI, Dr Felicity Goodyear-Smith, with assistance from Dr Ron Janes (rural general practitioner, Wairoa Medical Centre, Wairoa and a member of the NZ Rural General Practice Network); Mr Andrew Tucker (Tucker Consulting Ltd, Dunedin); Dr Martin London (rural general practitioner, author of the NZ Annual Rural Workforce surveys 2000, 2001 and 2002); and Ms Robin Steed (CEO of the NZIRH, Cambridge).

Input into the rural PHCN questionnaires was provided by Chris Millar in her capacity as the Professional Nurse Advisor of the New Zealand Nursing Organisation.

Input on the questionnaires for pharmacies and pharmacists was provided by David Mitchell, Contract Manager of the Pharmacy Guild of New Zealand.

Final versions of the PIS and questionnaires (see Appendices A page 114 and B page 123) were developed via teleconference, email, and a multi-disciplinary meeting which included a representative from the Ministry of Health.

The questionnaires were available as hardcopy, pdf files, and in the form of an access database.

A rural midwife questionnaire was drafted by Dr Felicity Goodyear-Smith in September 2005 along with the other questionnaires but was not further developed. In April 2006 Alison Eddy (Professional Projects, the NZ College of Midwives) drafted questionnaires for the core and LMC surveys which included some of the questions from the original questionnaire.

Consultation and ethics

Consultation was undertaken with Dr Paratene Ngata in his capacity as a Māori rural general practitioner, a Trustee of the New Zealand Institute of Rural Health, a member of the Māori Faculty, Te Akoranga a Maui of the Royal New Zealand College of General Practitioners, and in particular a Trustee of Hauora.Com, a Maori-led organisation supported by Maori health professional associations, Maori health providers and Maori health workers. The mission of Hauora.Com is to build and develop a unified, effective and Maori-led health workforce. He inspected the participant information sheets and the questionnaires to be sent to rural practices and various health practitioners and endorsed their use with Māori health providers. Dr Ngata commented that *“Māori are over-represented in rural areas with poor access to primary health care, especially those more than 30 minutes from health services. The outcome of this research therefore will directly benefit Māori by assisting the provision of an adequate rural workforce to our people in the future. The results of this study will be disseminated to Hauora.com and to the various health professional groups under our umbrella. It will help inform policy to strengthen the rural health workforce for Māori people as we struggle to recruit, retain and continually upskill our Kaimahi to provide quality healthcare and services.”*

Dr Papaarangi Reid in her capacity as Tumuaki, Faculty of Medical and Health Science, the University of Auckland, assessed the project and wrote a letter of support for the project. She noted that *“Rural general practice is facing a workforce crisis. This has particular impact on the rural Māori population who by most measures face more acute socioeconomic challenges and health issues than non-Māori, and for whom the lack and inaccessibility of rural health care is a compounding factor. This project therefore has the potential to directly benefit*

Māori health by informing policy to retain and recruit an adequate rural workforce for our people in the future.” Dr Reid has requested a presentation of the findings of this research at a Tumuaki Forum for Maori researchers and health workers.

Letters of support were provided by representatives from the NZ Rural General Practice Network, the New Zealand Nursing Organisation, the Pharmacy Guild of New Zealand and the New Zealand College of Midwives, as well as from Drs Ngata and Reid.

Ethics approval was obtained from the University of Auckland Human Participants Ethics Committee on 9/11/05 for a period of three years, from 9/11/05 until 8 Nov 2008 (Reference 2005/382).

Ethical approval included participant information sheets and surveys for rural practices, general practitioners, nurses, pharmacies and pharmacists. Because the College of Midwives undertook to collect their own data, ethical approval was not sought by the research team for midwifery questionnaires.

Participant recruitment and data collection

The aim of the rural workforce survey was to capture a ‘snapshot’ of the rural primary health care workforce at the end of 2005. Rural general practices were identified by the NZIRH and sent practice surveys in November 2005. These requested individual details of the GPs and PHCNs working in the practices. Upon return of the practice surveys, the practitioners were then sent individual questionnaires. Practices and practitioners were contacted by a combination of postal, fax, email and telephone approaches.

A list of all GPs classified as rural (RRS ≥ 35) was also provided by the DHBs. This allowed for GPs whose practices had not participated in the survey to be sent surveys directly. Also some practices who did not wish to complete the practice survey were sent GP and PHCN surveys for their staff to complete and return to the researchers.

The Pharmacy Guild provided a list of pharmacies that they considered to be rural. In November 2005 the NZIRH sent surveys to these pharmacies which included sections on both the rural pharmacy and also individual data from the rural pharmacists.

In May 2006 the NZCOM sent surveys to 420 LMC midwife members whom they had identified as having a rural domicile. It is possible that some of these midwives, although living in a rural area, actually practiced in exclusively urban settings. In order to ensure that the surveys were readily available, the NZCOM provided survey forms to LMCs via e-mail networks, their website and other channels of communication in an attempt to capture midwives living in urban areas but practising rurally upon occasion. The NZCOM identified 56 rural facilities employing core midwives. Each of these facilities was sent several questionnaires designed for core midwives.

Quantitative data were numerically coded and entered into an Access database. Data for the general practices, general practitioners, rural practice nurses, rural pharmacies and rural pharmacists were provided to the primary investigator, Felicity Goodyear-Smith from the NZIRH in the form of Access databases and Excel spreadsheets. Data for the midwives was provided by the NZCOM initially as tables in a word document, and later in Access databases (initially one was provided and then subsequently an updated version was sent).

Data analysis

The questionnaires requested both quantitative and qualitative (free text) data. A triangulated multimethod approach was undertaken for data analysis.

Statistical analysis was conducted by importing the data into Excel and into the SPSS statistical package (Version 12).

Free-form data response analysis used a general inductive approach with individual text responses analysed to identify themes. The data were collated into table form and analysed for emerging categories.

Ethnicity coding used the Statistics New Zealand priority recording system, whereby people who responded as both Māori and Pakeha were coded as Māori.²⁹

Results

1 Rural general practices

A database of rural general practices was obtained from DHBs and used as a baseline. This database identified all rural GPs (ie with a Rural Ranking Scale score ≥ 35) receiving a rural bonus. Of the 276 practices listed, 40 were duplicated (entered under both the practice and the lead GP's name). Eleven practices on the database were not eligible (Rural Ranking Scale score < 35), two practices had closed and six practices had amalgamated into three.

A total of 217 rural practices were deemed eligible and sent questionnaires. Five declined to participate and a further six failed to return completed questionnaires despite multiple invitations. Two hundred and six practices participated giving a response rate of 95%.

Of the 206 rural practices surveyed, 151 (73%) were GP-owned; 17 were community-owned; seven owned by a DHB, and seven had other ownership such as a Māori or other Trust, a non-government organisation or a District Council.

Practices were associated with 19 of the 21 DHBs – see Table 1.1. Hutt DHB and Capital & Coast DHB had no rural general practices. See Appendix D for the location of each DHB (page 147). Note that the DHB population is for the entire coverage of that DHB which includes both urban and rural areas.

Table 1.1: Number of rural general practices associated with each DHB

DHB	Number of rural practices	Number of GPs	Number of nurses	DHB population (000s)*
1. Northland	20	43	45	148
2. Waitemata	6	15	17	489
3. Auckland	2	6	2	424
4. Counties Manukau	2	4	6	431
5. Waikato	34	66	58	339
6. Bay of Plenty	11	14	16	195
7. Lakes	3	3	6	102
8. Tairāwhiti	3	4	7	45
9. Taranaki	14	19	24	105
10. Hawke's Bay	11	10	14	150
11. MidCentral	16	25	29	163
12. Whanganui	4	6	5	64
13. Hutt	0	0	0	138
14. Capital & Coast	0	0	0	272
15. Wairarapa	3	4	8	39
16. Nelson Marlborough	10	21	20	133
17. West Coast	7	9	14	31
18. Canterbury	15	30	33	465
19. South Canterbury	9	8	11	54
20. Otago	25	38	45	183
21. Southland	11	20	21	108
TOTAL	206	345	381	

*Source Statistics NZ, September 2004

The practices self-identified as members of a PHO in 189 cases (92% - see Table 1.2), representing 44 of the 75 existing PHOs as of July 2005 (see Appendix E page 149). However it should be acknowledged that the number and nature of PHOs is dynamic, with some being launched and others merging or dissolving during 2005. While 26 practices did not identify that they belonged to a particular PHO, it is unlikely that many, if any, rural practices were not members, given the many rural funding streams managed by PHOs.

Table 1.2: Number of rural general practices belonging to each PHO

PHO	Number of practices	DHB
1. Hauora Hokianga Integrated PHO	3	Northland
2. Kaipara Care Incorporated	1	
3. Manaia Health PHO	6	
4. Tihewa Mauriora Charitable Trust	1	
5. Te Tai Tokerau PHO Ltd	9	
6. Whangaroa Health Services	1	
7. Coast to Coast PHO (North Rodney)	1	Waitemata
8. Harbour PHO	2	
9. Procure Network Auckland Ltd	5	Auckland
10. Tikapa Moana (Waiheke Island)	1	
11. Hauraki PHO	3	Waikato
12. North Waikato PHO	2	
13. Waikato PHO	34	
14. Te Tai ora Māori Coalition	2	
15. Eastern Bay of Plenty PHO Ltd	2	Bay of Plenty
16. Kawerau Interim PHO	1	
17. Te Ao Hou PHO	2	
18. Western Bay PHO	1	
19. Lake Taupo PHO Ltd	2	Lakes
20. Health Rotorua	1	
21. Ngati Porou Hauora Incorporated	1	Tairāwhiti
22. Taranaki Te Hauroa	5	Taranaki
23. Hawkes Bay PHO Ltd	4	Hawkes Bay
24. Wairoa District Charitable Health Trust	4	
25. Horowhenua	7	MidCentral
26. Manawatu Otaki PHO	3	
27. Tararua PHO	4	
28. Whanganui Regional PHO	4	Whanganui
29. Wairarapa Community PHO Trust	4	Wairarapa
30. Nelson Tasman (Nelson Bays Primary Health)	7	Nelson Marlborough

PHO	Number of practices	DHB
31. West Coast	3	West Coast
32. Hurunui Kaikoura	5	Canterbury
33. Partnership Health (Canterbury)	3	
34. Rural Canterbury PHO	4	
35. Aoraki PHO	6	South Canterbury
36. Otago Southern Region PHO	16	Otago
37. Taieri and Strath Taieri PHO	1	
38. Rural Otago	9	
39. Eastern and Northern Southland	2	Southland
40. Rural Southland (Takitimu)	5	
41. Wakatipu	2	
Missing or incorrect data	27	
Total	206	

Thirty-five of the practices did not give the number of GPs there were in the practice. Of the 171 practices which gave this information, 85 (49%) were solo GP practices (Table 1.3). A further 66 practices had two or three GPs and only 20 had more than three GPs working in the practice. There was one large rural practice which employed 12 GPs. The total number of GPs recorded was 343 for 171 practices.

Table 1.3: Number of GPs in the practice

Number of GPs in practice	Number of practices
1	85
2	36
3	30
4	13
5	5
7	1
12	1
(blank)	35
Total	206

Similarly, thirty-three practices did not record the number of nurses in their practices. Again there was a wide range in the number of nurses, from one to nine per practice (Table 1.4). There were a total of 388 nurses recorded working in 173 practices.

Table 1.4: Number of nurses in the general practices

Number of nurses in practice	Number of practices
1	65
2	45
3	40
4	13
5	5
6	1
7	3
9	1
(blank)	33
Total	206

Table 1.5 shows the number of nurses relative to the number of GPs per practice. In about half the solo GP practices there was also only one nurse, but having two or three was not uncommon. While the pattern of GP to nurse is mixed, overall the ratio is more nurses to GPs. There were no reported practices consisting of PHCNs without GPs.

Table 1.5: Numbers of nurses relative to number of GPs per practice

Number GPs in practice	Number of nurses in practice	
0	0	0
1	1	35
1	2	23
1	3	10
1	4	1
1	(blank)	16
2	1	11

Number GPs in practice	Number of nurses in practice	
2	2	8
2	3	7
2	4	3
2	5	1
2	(blank)	6
3	1	5
3	2	5
3	3	11
3	4	5
3	5	1
3	7	2
3	(blank)	1
4	1	1
4	2	3
4	3	4
4	4	2
4	5	2
4	(blank)	1
5	3	2
5	4	1
5	(blank)	2
7	7	1
12	9	1
(blank)	1	13
	2	6
	3	6
	4	1
	5	1
	6	1
	(blank)	7
Total		206

The question requesting *'the number of patients enrolled with the practice'* was answered by 180 of the practices, and 62% of these had enrolled populations of between 1000 to 4000 patients (Table 1.6).

Table 1.6: Numbers of GPs per enrolled patient sizes of practices

Number enrolled patients	Number of practices	1 GP	2 GPs	3 GPs	4 GPs	5 GPs	7 GPs	12 GPs	No reply
<1000	12	10	2	0	0	0	0	0	0
1000-1999	50	28	8	2	0	0	0	0	12
2000-2999	42	21	10	1	2	0	0	0	9
3000-3999	21	8	3	5	2	1	0	0	2
4000-4999	15	3	4	6	0	1	0	0	1
5000-5999	13	3	1	5	4	0	0	0	0
6000-6999	6	0	2	2	2	0	0	0	0
7000-7999	8	1	4	1	1	1	0	0	0
8000-8999	4	0	0	3	1	0	0	0	0
9000-9999	3	1	0	2	0	0	0	0	0
10,000 +	5	0	0	0	0	2	1	1	1
missing data	26								
Total	206								

It can be seen that in general as the enrolled population increases so does the number of GPs. However there are five instances where there is a single GP for >5000 patients (Table 1.7). In the 2002 survey³⁰ Taukau recorded five GPs (4.2 FTEs) for an estimated population of 7383, which appears to have dropped to one GP for 9500 enrolled patients in 2005. Similarly for the two West Coast practices in 2002 the reported number of GPs for Westport was six (estimated patient population 7155) and for Hokitika was four (estimated population 6147). While estimated populations are similar to enrolled patient numbers in 2005, the number of GPs in both practices has dropped to one. These West coast practices have traditionally struggled to recruit and retain sufficient GPs. They have modified their practices to use nurse-led practices. In Hokitika nurses also do on-call working from standing orders of the GP.

Table 1.7: Practices with one GP and >5000 enrolled patients

Region	DHB	Number enrolled patients	Number GPs	Number nurses
Tuakau	Counties Manakau	9500	1	3
Westport	West Coast	7100	1	3
Hokitika	West Coast	5436	1	2
Fielding	MidCentral	5067	1	1
Levin	MidCentral	5065	1	3

There was a huge variation in the number of casual consultations over the previous 12 months, with nearly half the practices (125) reporting seasonal fluctuation (Table 1.8). Primary reasons for fluctuations were the practice's location within a tourist destination (with either summer or winter influxes) or the arrival of seasonal workers (such as shearers or fruit pickers). Of the 107 practices which reported their number of casual consultations, over half (52%) had less than 1000. At the other extreme, there were eight practices with more than 4000 casualls per year, with one practice reporting over 18,000 in one year. Twenty-three practices utilised additional practice nurses and 15 employed additional GPs during periods of increased casual patients numbers.

Table 1.8: Number of casual consultations in study practices

Number of casual consultations	Number of practices
<1000	56
1000-1999	23
2000-2999	15
3000-3999	5
4000-18,999	8
0 or missing data	99
Total	206

Forty-eight of the practices operated from more than one clinic or address. A number had branch or outreach clinics in small settlements. Others provided services such as youth clinics; clinics at local schools or at a marae.

Thirty-four practices (13%) had experienced a turn-over of GP staff within the past 12 months, with four practices having two GPs leave and three practices losing three GPs. There was a substantially larger turnover of practice nurses, with 56 (21%) losing nurses. Forty-three practices had lost one nurse; 11 practices two nurses, and in two practices there had been a turnover of four nurses within the previous 12 months.

After-hours cover was provided by 182 (88%) of the practices. Thirty-six practices reported that there were practices in their locality that did not share in their roster.

Twenty-nine practices did not tick the box that they were involved in after-hours call, but three of these practices clearly were, because they subsequently gave the number of GPs from their practice in the roster. The 26 practices which did not provide after-hours care were mostly within 45 minutes drive from larger centres which now service their after hours cover - for example, Wairarapa towns are now serviced from Masterton and north Taranaki towns by New Plymouth.

In 62 practices there was no other cover provided apart from their own GPs and nurses; 64 used an external nurse triage (such as Healthline or Procure); 25 used nurse triage from a rural hospital; 33 used locum GPs and 5 used locum nurses.

No precise definition of 'rural hospital' was provided, but this is commonly accepted to mean a hospital without on-site specialists and where patients are admitted and cared for by generalist doctors.³⁴ Thirty-five practices reported cover by independent contractors including local hospitals, A & M centres and St John ambulance. Nearly half (113) of the practices had a rural hospital situated locally, providing the following services (Table 1.9):

Table 1.9: Services provided by the rural hospitals in the locality of 113 practices

Service	Number
Outpatients	75
Emergency	59
Inpatient	95
Maternity	86

Availability of other primary health care services, either situated locally or as a visiting service, showed great diversity (Table 1.9). Rural practices were most likely to have access to St John ambulance, home help or physiotherapy services. Two thirds of the practices had access to local or visiting laboratory services, but only one third to X-ray facilities.

Table 1.10: Services available to rural general practices

Available services	Situated locally		Visiting service	
	n	%	n	%
St John ambulance	155	58	20	8
Home help	150	57	27	10
Physiotherapist	139	52	27	10
Midwife	120	45	52	20
Dentist	124	47	6	2
Counsellor	109	41	50	19
Laboratory	100	38	18	28
Iwi provider for community service	86	33	26	11
X-ray facilities	85	32	10	4
Social worker	80	30	57	22
Drug & alcohol support service	78	29	55	21
Dental therapist	58	22	20	8

Available services	Situated locally		Visiting service	
	n	%	n	%
Optometrist	67	25	46	17
Occupational therapist	46	17	68	25
Dietician	42	16	69	26
Podiatrist	44	17	94	35
Speech therapist	23	9	45	17
Audiologist	22	8	60	23

Ninety practices reported a wide range of other available services, particularly rest-homes, chiropractors, osteopaths, naturopaths, acupuncturists and other alternative therapists, and a variety of nurses (Plunket, district, public health and chronic disease educators). A number of practices indicated unavailable services that they considered desirable, especially x-ray and ultrasound scan facilities, dentistry and maternity. Several practices commented that they desperately needed another GP in the area. Practices varied from reporting that they were well served (*'Doing OK'*) to being deficient in all auxiliary services previously mentioned (*'Need all of the above'*).

Sixty-nine practices responded to the question asking whether the way their practice works with these other practitioners has changed since the implementation of the Primary Health Care Strategy (PHCS). Of these, 25 reported some improvement, such as in communication, integration and team work of primary care providers. Thirty-seven practices were of the opinion that little or nothing had changed and often commented that that they already had good integration of services. Several practices commented that they were unable to achieve a good working relationship with midwifery, but this had predated the formation of PHOs. Seven practices reported deterioration in team work since implementation of the primary health care strategy, citing increased paperwork, *'the competitive nature of funding (access versus interim)'* exacerbating some relationships and downgrading of some services, such as St John paramedics, as being problematic.

One hundred practices (38%) responded to the free text question of examples of how their practice had changed under the PHCS. Fifty-three reported improvements, 16 reported minimal or no change, and for 31 practices conditions had deteriorated. The main themes are reported in Table 1.11.

One of the main themes to emerge in regard to positive change was the ability to implement new initiatives such as diabetic checks, CarePlus and health promotion. Other key themes were the ability to offer cheaper visits and hence improve access for at-need patients, and the increased use of nurse-led clinics. For a few practices there was more time off because they no longer provided 24 hour cover with after-hours service provided by the local hospital.

For the practices where conditions had worsened, the strongest theme to emerge was significantly increased paperwork *'We feel like we are drowning in a sea of administration and paperwork'* and *'compliance costs rocket up to the moon'*. *'More work, more bureaucracy'* was an overwhelming recurring theme. For a number of practices any additional funding was completely absorbed by *'complying with bureaucracy'*. Funding issues was another key theme. For some, the PHO funding added another tier with reduced communication to practices which were still privately owned. One practice manager said that the practice had become a lot more difficult to run and was now *'administration-focused rather than patient focused'*. While capitation and population-based funding had led to reduced charges in some practices, in others the population-based formulae did not meet the needs of people *'in a high deprivation area'*.

Table 1.11: Examples of changes under primary health strategy

Theme Improvements	Quotes
Health promotion initiatives	<i>'Helping us promote healthy life styles'</i> <i>'Healthy lifestyle, smoking cessation & nutrition clinics'</i> <i>'This year we have run a Health Day for over 60s, a "benefit of exercise day" & we are planning a Men's Health evening'</i>

Theme Improvements	Quotes
Implementation of chronic disease management	<i>'New initiatives in place: Careplus, Get Checked, asthma'</i>
Improved access for patients	<i>'Cheaper fees for service - youth, children and over 65s'</i> <i>'Free sexual health contract for under 20 yr olds & under 24 with CSC'</i> <i>'Transport patients to clinics'</i>
Improved services for patients	<i>'Provide meals on wheels'</i> <i>'Pharmacy provides free blister packs to patients coordinated by practice'</i> <i>'Skin cancer excisions under DHB payment'</i>
Improved resources funding	<i>'Have been able to employ a phlebotomist & become fully computerised.'</i>
Greater utilisation of practice nurses	<i>'Providing nurse led clinics. Nurses are more involved with patients assessments, care plans, referrals, recalls.'</i>
Improved funding for staff	<i>'Able to pay on-call practitioners more realistically due to Rural Premium'</i>
Improved staff training	<i>'Increased training resources available for nurses'</i> <i>'More coordinated CME for doctors'</i>
Community liaison & networking	<i>'Closer links with other health providers'</i>
Reduced after-hours call burden	<i>'Now have 3 weekends off in a month as we used to open/cover our own patients after hours & weekends.'</i>
Neutral	
No change	<i>'Business as usual'</i> <i>'Virtually no change'</i>
Deteriorations	
Increased paperwork and administration	<i>'Compliance costs rocket up to the moon'</i> <i>'Paper and IT workloads markedly increased'</i> <i>'Complying with bureaucracy has absorbed extra resources'</i> <i>'We feel like we are drowning in a sea of administration and paperwork'</i>
Worsening services to patients	<i>'Maternity care no longer provided'</i>

Theme Improvements	Quotes
Dissatisfaction with introduction of PHOs	<i>'I am sure PHO system is designed to frustrate and then eventually shut down solo practices'</i> <i>'Funding disjointed under PHO, practices are still privately owned but another tier has been added to structure and there is less communication to practice'</i>
Ongoing aging of workforce	<i>'Doctors have aged and replacement is still critical'</i>
Increased workload	<i>'The need for extra GP hours has become more desperate'</i> <i>'Cost of locums much greater'</i>
Reduced income	<i>'Often difficult to get payment for urgent consultations'</i> <i>'Less remuneration for after hours because of clawbacks - we are virtually doing this for nothing'</i>

Most of the rural practices (92%) had employed a GP locum within the past 12 months (see Table 1.12). The most common source for employing a locum was through personal networks and word of mouth (43%). One third of the practices had used NZLocums through the NZ Rural General Practice Network and a small number had sourced via private national or international agencies or by advertisement.

In contrast, only a few of the rural practices had formally employed locum nurses. Some practices commented that they had their own pool of relief nurses upon whom they could call.

Table 1.12: Sources of GP & nurse locums in past 12 months

Source of locum	Locum GP	Locum nurse
Not had a locum	22	207
Personal network	115	48
National locum scheme (ie. NZocums®)	90	1
Private NZ locum scheme (e.g. Auckland Medical Bureau)	16	4
Overseas locum scheme	13	0

Source of locum	Locum GP	Locum nurse
(e.g. Global Medical; Goldstar)		
Other (e.g. advertising; DHB)	9	5

Reasonable Roster Funding had been received by 76 of the practices (37%) and Rural Workforce Retention Funding by 134 of the practices (65%) in the previous 12 months.

Practices reported a number of innovative recruitment and retention initiatives using this funding, examples of which are reported in Table 1.13.

Table 1.13: Innovative uses of Reasonable Roster & Rural Workforce Retention Funding

Theme	Quotes
Advertising	<i>'An internet advertising campaign which netted us our new doctor who is from the USA'</i> <i>'Advertised via internet and BMJ. Recruited a GP from England.'</i> <i>'Website advertising and distribution of revamped annual report'</i>
Initiatives to attract & retain new staff	<i>'Assisted the GP and family to relocate. Provided housing and vehicle.'</i> <i>'Offering weekend accommodation at tourist hotel for prospective recruits.'</i> <i>'Welcome parties & collegial support for new recruits.'</i> <i>'Retention of one GP by paying off student loan by practice - on a 4 year contract.'</i>
Increased pay	<i>'Increased pay package for GPs to remain competitive'</i> <i>'We increased the nurse's salary and she agreed to stay on'</i> <i>'Staff bonuses and payments'</i>
Improved working conditions	<i>'Support sabbatical periods for GPs'</i> <i>'Installation and running of email and internet access obtained for all GPs on computers in consulting rooms'</i> <i>'Providing meals when on call. Paying for travelling'</i>

Theme	Quotes
	<i>doctors' petrol'</i> <i>'We offer accommodation costs to our locums, a vehicle for their use, provide the essentials to set them up in a flat such as furniture, bedding, towels, pots, pans, fridge, etc.'</i>
Team-building	<i>'Fund team building meetings and evening for the whole practice team and staff'</i>
Able to employ more staff	<i>'Employed 3 permanent assistants. Increased number of casual shifted staff to improve workload implications in winter.'</i> <i>'Hired additional nurses to look after chronic disease sufferers to reduce burden of disease and acute episodes - reduced pressure on practice team'</i>
Employment of auxiliary staff	<i>'Employed a business consultant to do recruitment'</i> <i>'Employing a local person to help patients lose weight, get fitter or stop smoking'</i>
Reduced on-call burden	<i>'Used funding for holiday and after hours relief'</i> <i>'Used Healthline for after hours'</i> <i>'Employment of rural nurse specialist to provide out of hours cover'</i>
Education	<i>'Paid study leave for RN completing post grad study'</i> <i>'More training for our nurses so they can alleviate work pressure from doctors by being able to provide services to patients that the doctors have done in past'</i> <i>'All staff/practitioners are encouraged to attend all CME, CNE education'</i>
Improved services	<i>'Workforce retention monies have allowed outlying clinics to be maintained (otherwise would be unsustainable)'</i> <i>'Endeavouring to set up a clinic at the local marae etc with all possible help as required'</i>

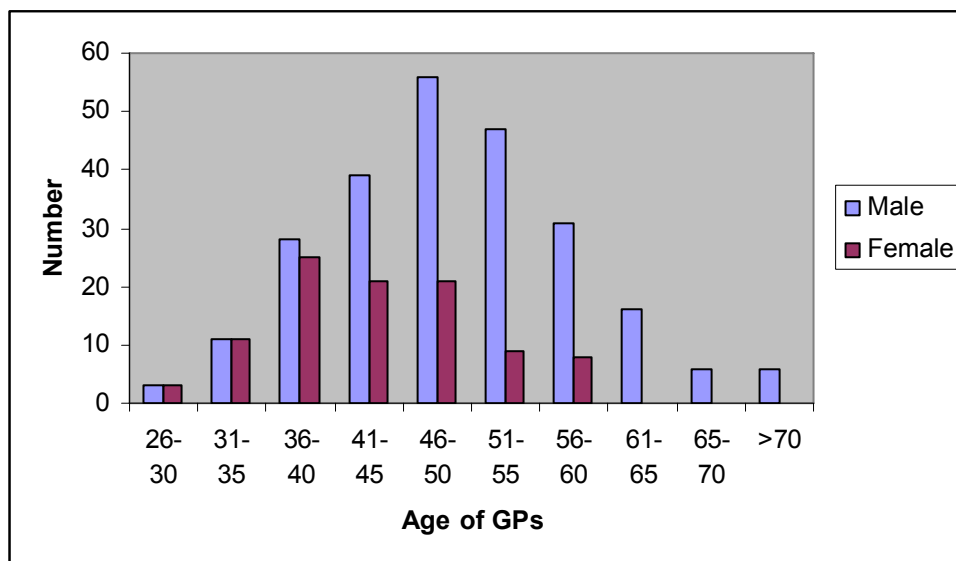
On the other hand, some practices were still struggling with locum issues (*'Finding locums is a major problem'*; *'Having to pay very expensive locums. Hourly rate not proportional to practice income'*; *'After hours on call and weekend on call make it very difficult to recruit locums'*) and difficulty in replacing GPs (*'Unable to attract replacement for retiring GP aged 79 years'*).

2 Rural general practitioners

The total number of GPs recorded from 171 practices was 343. However 35 practices did not record the number of GPs in their practices. Individual surveys were returned by a total of 358 rural GPs. Of the 358 responders, there were 253 male (70%), 101 female (29%) and four (1%) gender not specified. Most of these GPs were in the 206 practices that had returned surveys but there were additional GPs who responded where their practices had not. All rural GPs identified by the NZIRH's database were contacted near the end of the survey period and sent surveys to complete if they had not already done so. This resulted in eight GPs returning individual surveys from five practices which did not return practice questionnaires, and a further eight GPs returning individual surveys from practices that had not been previously identified.

Nineteen GPs (12 male and seven female) did not record their age range. As can be seen in Figure 2.1, the males were older on average than the females. Between age 26 and 40 years there were virtually equal numbers of males and females, whereas rural GPs over the age of 40 were predominantly male, with no female GP over the age of 60. Males made up 71% of the total rural GP workforce.

Figure 2.1: Age & gender of 344 rural GPs for whom age was reported



All GPs (100%) reported their ethnicity (Table 2.1). Of these 99 (27%) reported ethnicity 'other' than that listed in the NZ Census. These included 40 British (English, Scottish, Welsh or Irish), 22 European African (mostly South African), 14 from non-English-speaking European countries (Germany, Holland, Norway, Serbia), nine Sri Lankan, eight Canadian, three from Asia (Burma, Indonesia, Philippines) and two from the Middle East ('Arab' and Lebanese).

Table 2.1: Ethnicity of rural GPs

Ethnicity	Number	%
NZ European	235	65
Māori	12	3
Pacific Island	2	0.5
Chinese	2	0.5
Indian	8	2
Other	97	27
Total	358	100

While 65% identified as NZ European, only 42% had actually undergone their medical training in NZ (Table 2.2). Twenty-nine percent had trained in Britain or Ireland, and a further 14% in South Africa.

Table 2.2: Country of medical training of rural GPs

Country	Number	%
NZ	153	43
Britain & Ireland	103	29
Australia	5	1
South Africa	50	14
Canada & USA	11	3
India, Bangladesh, Sri Lanka	12	3
Europe (Norway, Germany, Yugoslavia)	10	3
Other (Fiji, Egypt, Philippines, Burma)	4	1
Blank	10	3
Total	358	100

Two hundred and sixty reported vocational registration as GPs with the Medical Council of NZ and 159 identified as providers of PRIME (Primary Response In Medical Emergencies).

The majority of the 358 GPs (57%) were either sole or partner owners of their practice. However 68 (19%) identified as long-term locums and 50 were on salaries (see Table 2.3).

Table 2.3: Employment arrangement of rural GPs

	Number	%
Sole owner	52	14
Partner/owner	155	43
Associate	20	5
Permanently salaried	50	14
Long term locum	68	19
Missing data	19	5
Total	358	100

Seventy-four (21%) of the rural GPs did not do after-hours oncall. Of the 290 who did do call, there was huge diversity in their rostered frequency (Table 2.4).

Table 2.4: Numbers of GPs providing after hours oncall services, both for general practice and rural hospitals, according to oncall frequency (roster)

Roster	After-hours practice on-call		After-hours rural hospital	
	Mon to Thu	Fri to Sun	Mon to Thu	Fri to Sun
1 in 1	17	6	5	4
1 in 2	22	13	6	4
1 in 3	29	32	11	9
1 in 4	51	66	21	24
1 in 5	40	34	9	8
1 in 6	53	64	24	26
1 in 7	12	11	2	2
1 in 8	11	20	3	3

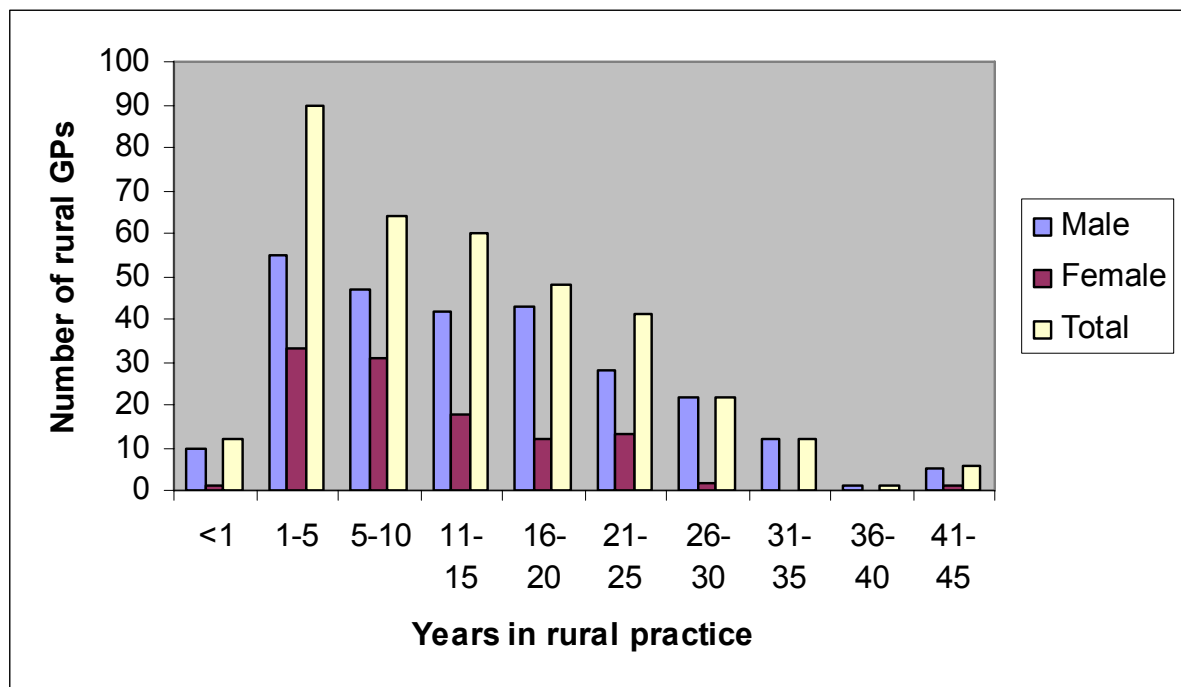
Roster	After-hours practice on-call		After-hours rural hospital	
	Mon to Thu	Fri to Sun	Mon to Thu	Fri to Sun
1 in 9	4	4	0	0
>1 in 9	43	36	6	4
TOTAL	282	286	87	84

Similarly, of the 85 GPs who provided rural hospital in-patient care, there was a wide variety of roles. Medical care in some rural hospitals was solely provided by rural GPs. In a number of others it was mainly provided by Medical Officers of Special Scale (MOSSs) but some GPs could admit, manage and discharge their own patients. Some rural hospitals were only staffed by full time MOSSs who did no general practice. Beds within rural hospitals were variously described. As well as acute care beds, some had beds for maternity and post-natal services, interval management of acute exacerbations of chronic disease, long-stay geriatric and rest-home patients, and palliative care. Some rural GPs only cared for in-hospital patients when on-call, or were occasionally called in to provide services at the rural hospital.

One hundred and thirteen GPs (31%) reported that they had other places of work in addition to their general practice (and excluding rural hospital work). A number of these were satellite or outlying clinics, rest-homes or hospice. Some GPs worked in specific locations – for example local industrial sites such as freezing works, marae, high schools, the race course or ski field, or on board visiting ships. As well as their core rural general practice, many practised in speciality areas including anaesthesia, police medical officer, sexual health, family planning, abortion certifying consultancy, occupational health, musculoskeletal medicine, appearance medicine, counselling, vasectomy or travel medicine. Several held part-time academic positions involving activities such as teaching, research or editing a medical journal, and several were advisors on professional or governmental bodies.

The number of years worked in rural general practice in NZ are shown in Figure 2.2. There was missing data for 2 GPs. It can be seen that the rural general practice workforce has remained predominantly male over time although the proportion of females has notably increased among the more recent recruits.

Figure 2.2: Years of rural general practice in NZ by gender of GP



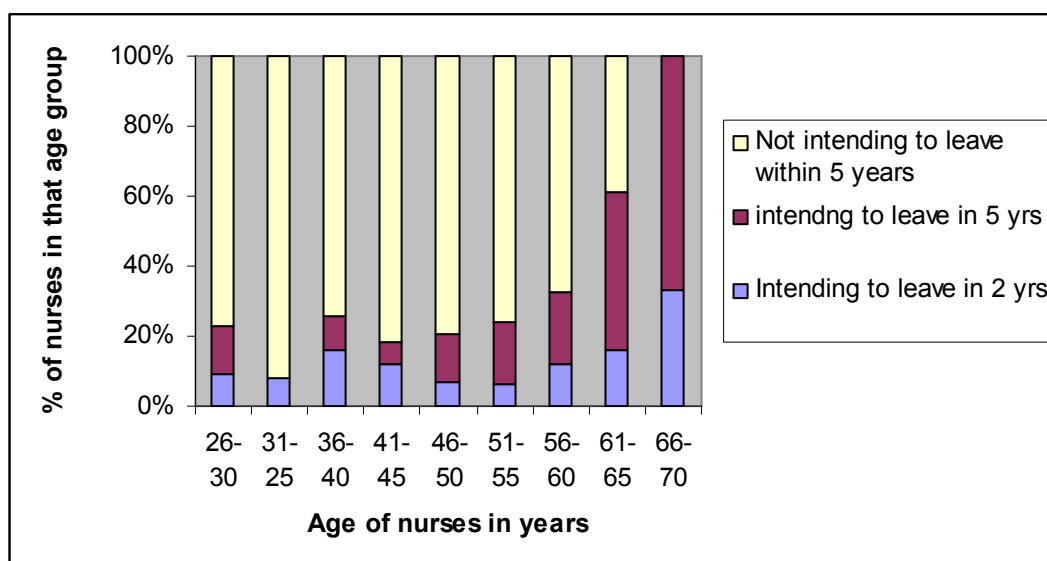
Fifty-two (11 females and 41 males) were planning to leave rural GP within the next two years, and half of these (26) had been practising as rural GPs in NZ for more than 10 years. Of these 52 GPs, 18 were NZ-trained and 34 were overseas-trained. A further 72 (11 females and 61 males) were planning to leave within 5 years, and of these 52 had been in NZ rural practice for more than 10 years. Of these 72, 29 were NZ-trained and 43 overseas-trained. This potential loss of an experienced workforce is further confirmed by examining the number of GPs planning to leave within two and five years by age (Figure 2.5).

Table 2.5: Numbers of rural GPs planning to leave rural general practice by age

Age	Intending to leave in 2 yrs	Intending to leave in 5 yrs	Not leaving in 5 years
26-30	2	0	4
31-25	2	0	20
36-40	7	7	39
41-45	4	11	45
46-50	13	11	55
51-55	9	15	33
56-60	6	13	20
61-65	1	9	6
66-70	2	2	8
>70	3	1	2
Missing data	2	3	3
TOTAL	51	72	235

Figure 2.3 presents the data of Table 2.2 as percentages.

Figure 2.3: Percentages of rural GPs planning to leave or stay in practice by age



This demonstrates that different age groups of GPs in rural practice have different career intentions. At the younger end, a significant percentage of GPs ≤ 35 years old are planning to leave practice within two years. At the other end of the continuum are many 'old school' rural GPs who continue to work even past the usual retirement age of 65. Ten members of this oldest cohort of GPs (aged 60 years and older) were still not planning to leave rural general practice within five years. All 28 of these GPs aged over 60 years were male. Of these, 6 were planning to retire within two years, and another 12 within 5 years (see Table 2.6). Two-thirds of these GPs (67%) were still working full-time (12 aged 60-65, five aged 66-70 and two over-seventy year olds).

Table 2.6: Numbers of GPs aged 60 years and older planning to retire within five years

	Leaving in 2 years	Leaving in 5 years
Males 60-65	1/16	9/16
Males 66-70	2/6	2/6
Males >70	3/6	1/6
Total	6/28	12/28

Unlike their older long serving colleagues, many rural GPs aged 26 to 55 were planning to exit rural general practice within 5 years.

While the majority of the GPs (61%) worked eight or more half-time sessions per work, there were a number who worked in a part-time capacity, with 78 (21%) working half-time (five sessions per week) or less (Table 2.7). The male GPs were far more likely than the female GPs to work full-time: 76% of the males compared with 37% of the females worked eight or more sessions per week. Working >8 sessions per week is considered as 1 FTE.

Table 2.7: Number of FTEs worked by GPs

FTE	Female GPs	Male GPs	Unknown gender	Total GPs	% total GPs
0.1	4	8	1	13	4
0.2	7	7	0	14	4
0.3	3	3	0	6	2
0.4	10	6	0	16	5
0.5	15	11	1	27	7
0.6	18	12	1	31	8
0.7	5	10	0	15	4
0.8	13	37	0	50	14
1.0 (>8)	23	147	0	170	47
Missing data	3	12	1	16	5
Total	101	251	4	358	100

In line with their age, Table 2.8 demonstrates that the workforce will be losing a number of experienced male GPs (in practice over 15 years) in the next two to five years.

Table 2.8: Numbers of female and male GPs intending to leave NZ rural practice in 2 or 5 years according to number of years in practice.

Number of years in practice	Female GPs	Intend to leave NZ rural practice in 2 years	Intend to leave NZ rural practice in 5 years
0-5	35	1	2
6-10	24	6	2
11-15	17	1	1
16-20	10	2	1
21-25	13	1	5
26-30	1	0	0
31-35	0	0	0
36-40	0	0	0
41-45	0	0	0
missing	1	0	0
F Total	101	11	11

Number of years in practice	Female GPs	Intend to leave NZ rural practice in 2 years	Intend to leave NZ rural practice in 5 years
0-5	68	16	7
6-10	38	3	7
11-15	42	5	15
16-20	37	5	12
21-25	28	4	5
26-30	20	1	7
31-35	10	2	5
36-40	5	1	2
41-45	2	2	0
missing	3	1	1
M Total	253	40	61

To develop a clearer picture of the potential NZ rural GP workforce loss over the next two and five years, the FTEs of GPs intending to leave was listed by gender, and the total potential loss of FTEs was calculated (see Table 2.9). Overall, a total of 123 GPs (34%) working 97.9 FTEs are planning to leave within the next five years. These are made up of 22 of the 101 female GPs (22%) representing 15.8 FTEs, and 101 of the 253 male GPs (40%) representing 82.1 FTEs.

Female GPs in our study worked an average of 0.61 FTEs whereas males worked an average of 0.84 FTEs. This means about 14 female GPs are required to replace 10 male GPs. The workforce is potentially losing 101 male GPs over the next five years. Furthermore, ten of those who are not intending to leave within the next five years are over 60 years of age.

If the feminisation of the rural GP workforce continues, and their work pattern with respect to number of FTEs worked remains constant, then the number of GPs entering rural practice will need to exceed the number departing. For example, 141 female GPs (working 0.61 FTEs) would be needed to replace the 101 departing male GPs (working 0.84 FTEs).

Table 2.9: Number of GP FTEs leaving in 2 or 5 years by gender

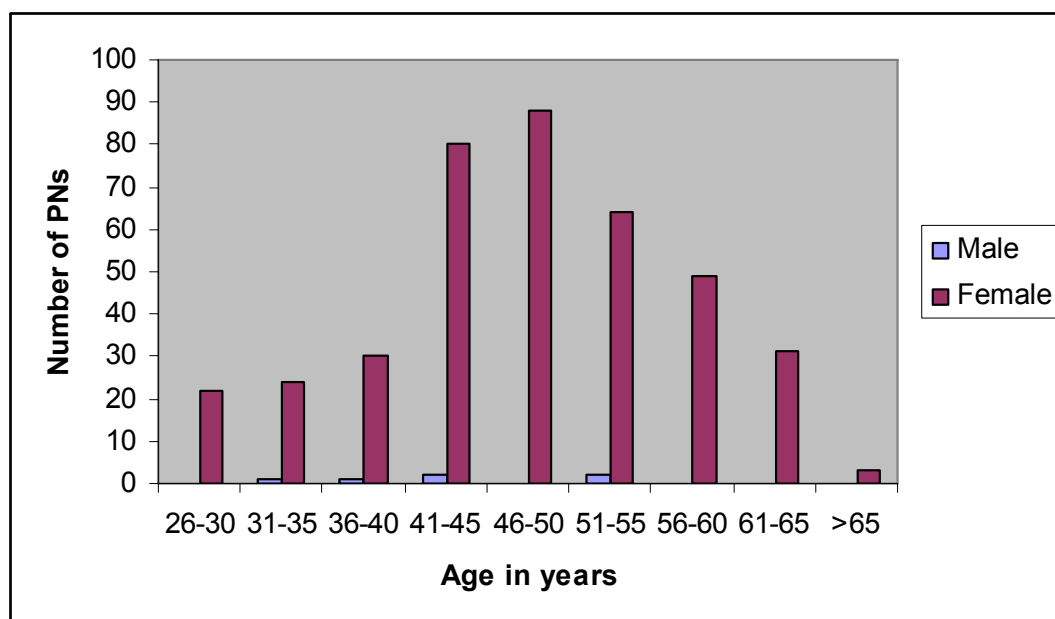
FTEs worked	Number GPs	Total FTEs 2005	Leaving in 2 years	Leaving in 5 years	Not leaving in 5 years	Total FTEs remaining in 5 years
FEMALE						
0.1	4	0.4	0	0	4	0.4
0.2	7	1.4	0	0	7	1.4
0.3	3	0.9	1	0	2	0.6
0.4	10	4.0	1	1	8	3.2
0.5	15	7.5	0	3	12	6.0
0.6	18	10.8	3	4	11	6.6
0.7	5	3.5	2	0	3	2.1
0.8	13	10.4	1	1	11	8.8
1.0	23	23	2	2	17	17.0
Missing	3		1	0	4	
TOTAL FEMALE	101	61.9	11	11	79	46.1
MALE						
0.1	8	0.8	1	2	5	0.5
0.2	7	1.4	2	2	3	0.6
0.3	3	0.9	3	0	0	0
0.4	6	2.0	1	3	2	0.8
0.5	11	5.5	1	4	6	3.0
0.6	12	7.2	2	2	8	4.8
0.7	10	7.0	1	1	8	4.2
0.8	37	29.6	4	10	23	18.4
1.0	149	149.0	24	36	89	89.0
Missing	10		1	1	8	
TOTAL MALE	253	203.4	40	61	152	121.3
TOTAL ALL GPs	356	265.3	51	72	231	167.4

3 Rural primary health care nurses

Individual surveys were returned by 445 of the 682 rural primary health care nurses (PHCNs) to whom they were sent (65% response rate). These nurses represented 194 of the 206 rural practices identified. Most PHCNs (431; 97%) were female. There were eight male nurses and six respondents did not specify their gender.

Forty-eight PHCNs did not record their age range. The majority of practice nurses (72%) were aged over 40 years.

Figure 3.1: Age and gender of 397 rural PHCNs for whom age was reported



Ethnicity of the PHCNs is reported in Table 3.1. Of the 30 (7%) who reported ethnicity 'other' than that listed in the NZ Census, 15 were British (English, Scottish, Welsh or Irish), eight from non-English-speaking European countries such as the Netherlands and Germany, four Australian, two from south east Asia and one American.

Table 3.1: Ethnicity of the rural PHCNs

Ethnicity	Number	%
NZ European	375	84
Māori	36	8
Pacific Island	3	0.7
Chinese	0	0
Indian	1	0.3
Other	30	7
Total	445	100

Of the 422 who reported their country of training, 377 (85%) were NZ-trained. Twenty-six were trained in Britain or Ireland, eight in Australia, two in South Africa, three in North America, four in non-English speaking European countries (Germany and the Netherlands), and two in the Philippines.

Four hundred and fifteen identified as registered nurses and eight as enrolled nurses. None identified as a nurse practitioner. One hundred and seventeen were PRIME providers. Post-graduate qualifications were reported by 217 PHCNs. Three had masters and 51 bachelor degrees. Thirty-four held post-graduate diplomas in a number of sub-specialties (such as primary rural health care and child and family) and a further 34 had post-graduate certificates of various types. Eight of the rural practice nurses identified themselves as also midwives, and seven as Plunket nurses. A wide range of other training was also listed by 320 of the rural nurses, including independent vaccinator, smear-taker, wound care, asthma and diabetes, and many held one or more papers towards a certificate or diploma.

The PHCNs identified a number of different settings in which they worked (see Table 3.2). 'Other' settings included rural hospitals, ambulance transfers and at the roadside.

Table 3.2: Settings worked in by PHCNs

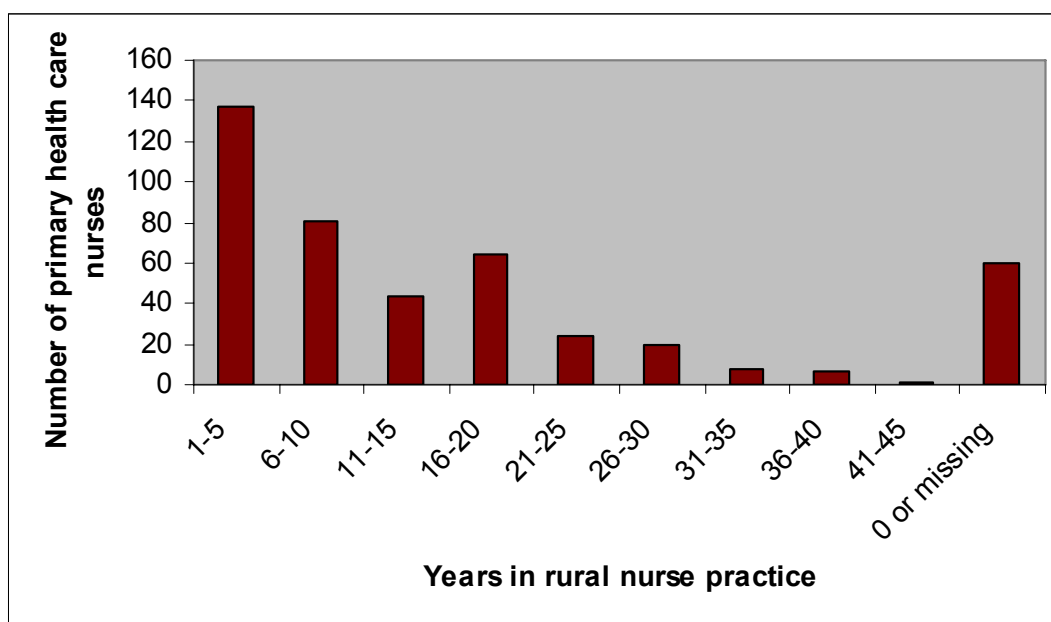
Setting	Number
Clinic	368
Marae	14
Community	93
School	26
Industry	10
Home	29
Other	53

One hundred and twenty-five (28%) PHCNs participated in an after-hours on-call roster. The nature of this was diverse, from '*on call 24/7*' to the occasional weekend or evening call only. Several were on-call along with the practice GP (sometimes as a husband and wife team). One hundred and seventeen (26%) were PRIME providers, suggesting that almost all nurses that were participating in an after-hours oncall roster did so as part of PRIME.

Nurse-led clinics were run by 199 (45%) of the PHCNs.

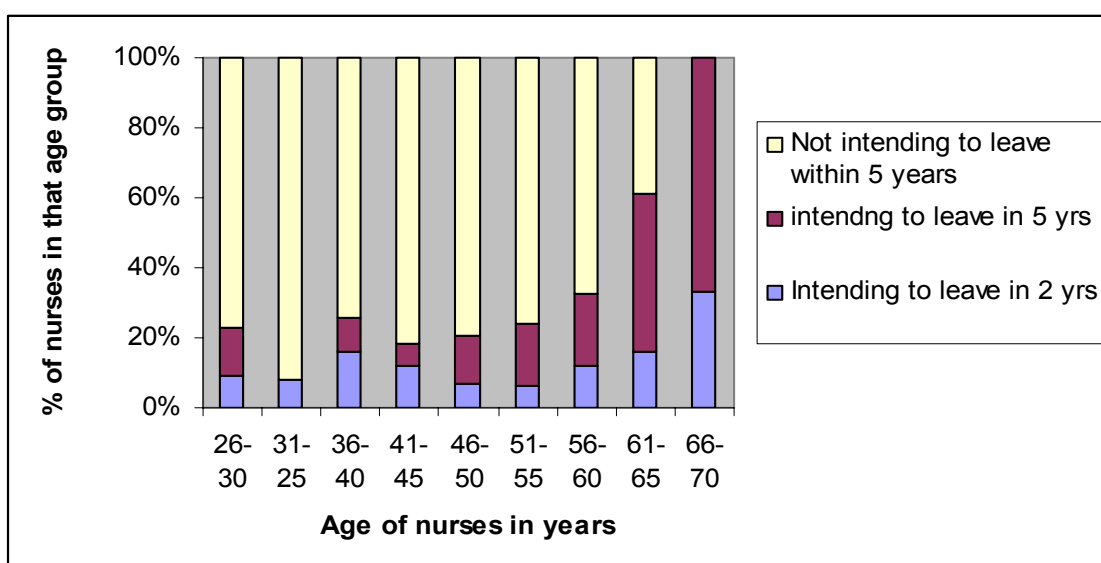
The number of years in rural nursing practice in NZ is shown in Figure 3.2. There was missing data for 60 PHCNs. Of those who responded, 137 (36%) had been practising five years or less, and 53 (14%) were in their first year of rural nursing practice. Thirty-seven percent had been in rural practice form 15 years or more.

Figure 3.2: Years of rural practice nursing in NZ



Ten percent of the PHCNs (44) reported that they were planning to leave rural practice nursing within the next two years, and 15% (67) within five years (Figure 3.3). The majority of the PHCNs are aged over 40 years, and 255 are intending to leave rural NZ nursing practice within the next five years.

Figure 3.3: Percentages of rural nurses planning to leave NZ rural practice by age



The rural PNCHs were asked in what ways their practice had changed since the implementation of the primary health strategy. There was a large volume of free-text responses to this question which were collated and key themes identified (Table 3.3). The range of responses were diverse. Many reported little or no change, some because they were relatively new in the job.

A strong theme to emerge was increased workload, especially paperwork.

On the other hand, many commented positively on increased autonomy with nurse-led clinics and a wider scope of practice. Some reported an associated increase in a team approach. A number also reported increased opportunities for education and upskilling. A few reported improved support from, or involvement with, their IPA, PHO or DHB.

Many reported that patient services had been improved or expanded and become more accessible although for a few, some things had changed for the worse.

Table 3.3: Changes in PHCN practice since implementation of the Primary Health Care Strategy

Theme	Quotes
Little or no change	<i>'At this stage I cant say anything is different'</i> <i>'As I'm only new to this area it has made very little difference for me'</i>
Increased workload / more bureaucracy	<i>'Busier. More paperwork and accountability - less time with patients'</i> <i>'Less patient centred. More bureaucratic centred'</i> <i>'We have become inundated with never ending paper / tickbox requirements from various bureaucratic nursing and government departments. Thank goodness I am 64'</i>
Increased autonomy / wider scope of practice	<i>'Greater nurse role in prevention education plus we now give a wider range of nursing services - suturing, plastering, diabetes, Care plus clinics, A & E assessment'</i>

Theme	Quotes
Team-building	<i>'My role is valued here as an important team member - not previously the case'</i>
Education	<i>'Funding is now available to help meet most of the expenses for continuing education and training'</i>
Improved support from, or involvement with, IPA, PHO or DHB	<i>'Improved communication with DHB and better focus on primary health generally'</i>
Improved services	<i>'Providing more accessible and affordable health care for patients - cheap access for under 18 years, free sexual health contract for under 20s'</i> <i>'Better able to meet the needs of our community'</i>
Worsening services	<i>'Our GP is giving up delivering babies';</i> <i>'Have just lost our 0-5 years well child service, which I feel goes against the Primary Health Care Strategy'</i>

4 Rural pharmacies

From a total of 178 rural pharmacies were suggested as rural by the Pharmacy Guild and approached, 160 participated giving a response rate of 90%.

However 12 of these pharmacies were in urban areas (five in Ashburton, three in Oamaru, two in Gisborne and three in Whakatane). These practices were considered rural by the Pharmacy Guild because they serviced relatively large rural hinterlands. However, because GPs in these towns score <35 points on the Rural Ranking Scale, it was decided to exclude these pharmacies. This left a total of 147 rural pharmacies.

In line with the rural general practices, pharmacies were associated with 19 of the 21 DHBs (see Table 4.1). Hutt DHB and Capital & Coast DHB, which are predominantly urban-based, were unrepresented. See Appendix D for the location of each DHB (page 147).

Table 4.1: Number of rural pharmacies associated with each DHB

DHB	Rural pharmacies	DHB population (000s)*
1. Northland	17	148
2. Waitemata	5	489
3. Auckland	2	424
4. Counties Manukau	1	431
5. Waikato	27	339
6. Bay of Plenty	7	195
7. Lakes	1	102
8. Tairāwhiti	1	45
9. Taranaki	8	105
10. Hawke's Bay	4	150
11. MidCentral	8	163
12. Whanganui	4	64
13. Hutt	0	138
14. Capital & Coast	0	272
15. Wairarapa	7	39
16. Nelson Marlborough	2	133
17. West Coast	4	31
18. Canterbury	10	465
19. South Canterbury	4	54
20. Otago	12	183
21. Southland	12	108
Missing data	11	
TOTAL	147	

*Source Statistics NZ, September 2004

The number of pharmacists working in the rural pharmacies is reported in Table 4.2. One third were solo practitioners.

Table 4.2: Number of pharmacists working at rural pharmacies

Number of pharmacists	Number	%
1	50	33
2	49	32
3	35	23
>3	12	9
Missing data	4	3
Total	150	99

There was a huge range in the estimated population size served by the pharmacies (see Table 4.3). While 60% served a population of up to 10,000, three pharmacies (2%) estimated their population coverage at over 20,000 (Tokoroa 25,000; Masterton 40,000 and Whangamata 50,000). Given the magnitude of some of these numbers, it seems probable that each pharmacy within a rural locality considers that it serves the entire population. In consequence the material provided in Table 4.3 pharmacy practices should be considered questionable.

A total of eight pharmacies with an estimate of 20,000 or greater population coverage were located in Greymouth, Kaitia, Tokoroa, Masterton and Whangamata.

Table 4.3: Size of population covered by pharmacy

Population covered by pharmacy	Number of pharmacies	%
<1000	1	0.5
1000-1999	6	4
2000-2999	4	3
3000-3999	18	12
4000-4999	15	10
5000-5999	15	10
6000-6999	4	3

Population covered by pharmacy	Number of pharmacies	%
7000-7999	7	5
8000-8999	13	9
9000-9999	8	5
10,000-10,999	9	6
11,000-11,999	1	0.5
12,000-12,999	5	3
13,000-13,999	0	0
14,000-14,999	1	0.5
15,000-15,999	8	6
16,000-16,999	2	1
17,000-17,999	1	0.5
18,000-18,999	3	2
19,000-19,999	0	0
20,000-20,999	5	4
≥21,000	4	3
Missing data	17	12
Total	147	100

A seven-day after hours service was provided by 52 (35%) of the pharmacies. Sixteen practices shared rosters with other pharmacies. Roster frequency in the 30 pharmacies who provided their own 24 hour cover are shown in Table 4.4, with 15 practices pharmacies providing 24 hour cover, 7 days a week.

Table 4.4: Roster frequency of pharmacies providing their own 24 hour cover

Roster Frequency	Number
1 in 1	15
1 in 2	9
1 in 3	3
1 in 4	1
1 in 5	2
Total	30

Of the 52 practices providing weekend on-call arrangements, availability was generally by telephone. A number were also open for some hours on Saturdays and sometimes Sundays. This may either have been available 24 hours by the phone or intermittently throughout the on-call period in some cases. Table 4.5 records the type of call reported by the pharmacies. While some appear to be called out regularly, for others this is a very infrequent event. Some will be on call when home, but if they are out they are not available.

Table 4.5: Types of on-call provided by pharmacies

Type of call	Quotes
On-call to public / phone number available	1. <i>Always available</i> 2. <i>Ring cell phone</i> 3. <i>Only pharmacy in town so are always on call</i> 4. <i>After hours number on the door, and the Medical Surgery has contact details</i> 5. <i>Phone number on door</i> 6. <i>Cell phone referral means we will have a pharmacist always available for call out</i> 7. <i>Tel number on display at pharmacy - available for call outs if necessary</i> 8. <i>Cellphone - with duty doctor and painted on shop wall</i> 9. <i>I'm called on cell phone if needed</i> 10. <i>On call for anything short of trivia. Open Sat in summer season.</i> 11. <i>On call pharmacist phone number on door.</i> 12. <i>On call weekend</i> 13. <i>One pharmacy open 7 days</i> 14. <i>8.30 - 9.00 pm 7 days + call out</i> 15. <i>Open 7 days</i> 16. <i>After hrs & weekend telephone number on both front & rear doors for call outs</i> 17. <i>On call all hours</i> 18. <i>Answer phone at pharmacy giving mobile phone details</i> 19. <i>After hours phone number on pharmacy premises</i> 20. <i>Call me at home</i> 21. <i>Emergency service provided by 7 days pharmacy</i> 22. <i>Call outs</i>

Type of call	Quotes
Available to doctors / emergency services / local hospital	1. <i>A pharmacist is available via telephone to the on call GPS. I'm frequently called out to provide a dispensing service</i> 2. <i>Doctor on duty will phone if my service is required</i> 3. <i>Available to emergency services and duty doctors if necessary</i> 4. <i>Drs can call us in an emergency when there is no pre-packaged meds or something unusual is needed</i> 5. <i>Drs ring owners to come in or specific opening hrs for local Dr on call</i> 6. <i>GPs can contact me at home if necessary</i> 7. <i>Local GP/Hospital/Chalet have pharmacist home number for emergency call out</i> 8. <i>Two pharmacies in town, both open Sat, alternate Sun working a half day</i> 9. <i>Doctors have my number and also emergency prescribe common items to reduce call out</i> 10. <i>Pharmacist duty for weekend can be contacted by on duty Dr for emergency scripts</i> 11. <i>We open 9.30 - 12.30 on Sat & rostered pharmacist is avail to be contact by Dr/Hospital.</i> 12. <i>Medical centre phones home re medication they do not have or hold via MP80</i> 13. <i>On call at hospital</i> 14. <i>On call provided to local hospital</i>
On call if available	1. <i>I am available if the Doctor call me but I do not commit to being available all the time. It is a casual arrangement between me and GP</i> 2. <i>Voice mail service ad hoc when required</i> 3. <i>After hours number advertised and on pharmacy answer phone. Services only available if pharmacist is at home available</i> 4. <i>If at home - am on call</i> 5. <i>Open Sat morning - after that Dr contact me if I am available at home</i> 6. <i>Saturday mornings also live on premises will do 24 hour call if at home</i>
On call but infrequent call out	1. <i>We do provide an after hours phone number which people use, and will infrequently have to go to pharmacy A/H</i> 2. <i>Home phone if after hours service required but no call-out has been required for over a year</i>

Type of call	Quotes
On call at times	1. <i>Patients able to phone pharmacy at designated time</i> 2. <i>Every 2nd weekend.</i> 3. <i>Every alternate weekend with other pharmacy. Open 10-12.30pm and 7-7.30pm on Sat and on call after that.</i> 4. <i>For terminally ill patients</i> 5. <i>Sat on call 5 pm - 9.30 am. Sun on call 2.30 pm - 8 am.</i> 6. <i>By arrangement</i> 7. <i>Negotiating with DHB about this at moment over stats and on-call arrangement. Want retainer and on-call call out fee and mileage min of 2 hrs payment at time.</i>

Thirty-eight of the pharmacies (26%) had not employed a locum in the past 12 months. Of those who had, most (98/109, 90%) had sourced these locums through a personal network. Eight had used a locum agency and a further seven had accessed through other sources such as newspaper advertisement. One reported that the locum had '*walked in off the street*'.

Over the past 12 months 41 of the pharmacies had hosted student electives and 28 pharmacy interns. The Otago School of Pharmacy is working to ensure all their students do a one week externship in a rural pharmacy as part of the course (personal communication, Prof Tucker, Otago School of Pharmacy).

There was a rural hospital in the locality of 68 (46%) of the pharmacies, with 18 of these employing a hospital pharmacist. Thirty-seven of the rural pharmacies provided a service to the hospital.

Unit-dose packing (where cells typically contain all the medicines a patient has to take at the given time) was provided by most (87%) of the pharmacies, and more than half provided methadone and services to rest-homes (see Table 4.6).

Table 4.6: Additional services provided by rural pharmacies

Service	Number	%
Methadone	101	69
Rest-home	82	56
PRS	25	17
Blister-packing	128	87

Twenty-five pharmacies provided a Pharmaceutical Review Service (PRS). This is a subsidised service in which the pharmacist reviews a patient's medication regime to identify possible problems with adverse events, medicine interactions, patient compliance and patient understanding and then develops solutions to the problems uncovered. Following discussion with the patient's doctor, agreed improvements are then implemented by either the pharmacist or GP.

Some of the rural pharmacies also reported providing a number of additional services, such as needle exchange, delivering weekly medication management trays to patients at home, dispensing for institutions (for example, . prisons, IHC homes), home delivery, healthcare aids such as Grasby pumps and diabetic meters, eye sight testing and ear piercing.

5 Rural pharmacists

Individual surveys were returned by 266 of the 277 rural pharmacists suggested as rural by the Pharmacy Guild (96% response rate). Eighteen were excluded as they worked in the urban areas where their pharmacies had been excluded (see above), leaving 248 rural pharmacists. There were 125 male, 113 female and 10 gender not specified. The pharmacists came from 131 of the 166 rural pharmacies identified. However, because not all rural pharmacies responded, details for all rural pharmacists were unavailable and an overall denominator is unknown.

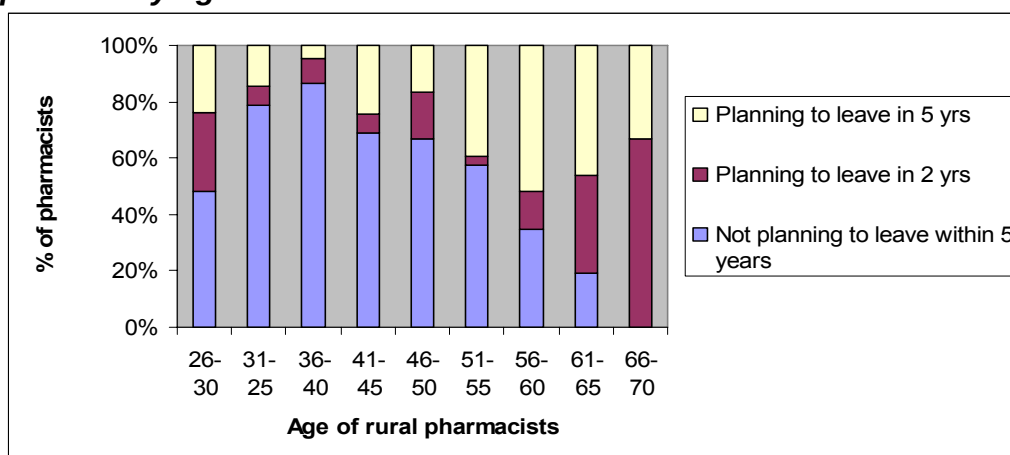
The age of the pharmacists was relatively evenly dispersed (see Table 5.1) as compared to the rural GPs and rural PHCNs. Seventy-nine percent of the males and 50% of the females were aged over 40 years.

Table 5.1: Age of pharmacists

Age in years	Number	%
26-30	25	10
31-35	28	12
36-40	22	10
41-45	29	9
46-50	36	15
51-55	33	13
56-60	29	12
61-65	26	11
66-70	12	5
Missing data	8	3
TOTAL	248	100

Eighteen percent of the pharmacists (44) were planning to leave NZ rural pharmacy practice within the next two years, and a further 29% (72) within the next five years. In Figure 5.1 it can be seen that while many of those planning to leave were nearing or at retirement age, there was also a large percentage of the youngest pharmacists (aged between 25 and 30 years) who were planning to leave NZ rural practice.

Figure 5.1: Percentage of rural pharmacists planning to leave rural practice by age



The vast majority were of NZ European ethnicity (see Table 5.2). The eight who specified another ethnicity were five British and three South African.

Table 5.2: Ethnicity of pharmacists

	Number	%
NZ European	219	88
Māori	7	3
PI	0	0
Chinese	5	2
Indian	5	2
Other	8	3
Missing data	4	2
TOTAL	248	100

The pharmacists were almost exclusively NZ trained. Of the 199 who recorded their country of training, 183 (92%) reported that they trained in NZ (see Table 5.3).

Table 5.3: Country of training of pharmacists

	Number	%
New Zealand	183	74
Australia	1	0.5
South Africa	6	2.5
UK	9	4
Missing data	49	19
TOTAL	248	100

The pharmacists held a range of qualifications, with 29% having a Bachelor of Pharmacy and 60% a Diploma of Pharmacy (Table 5.4). Other qualifications listed included one PhD in Pharmacology and two Masters in Clinical Pharmacy.

Table 5.4: Qualifications of pharmacists

	Number	%
BPharm	68	28
DipPharm	150	61
Other	40	16

The number of years that these pharmacists had worked in rural NZ was spread over a wide range (Table 5.5) consistent with their range of ages. Forty-three percent had worked in rural practice for 15 years or more.

Table 5.5: Years pharmacist has practised in rural NZ

	Number	%
0-1	34	14
1-5	54	22
6-10	36	14
11-15	19	8
16-20	21	9
21-25	25	10
26-30	26	11
31-35	15	5
>35	16	6
Missing data	2	1
TOTAL	248	100

Just over half of the pharmacists (55%) were either sole or partner owners of the pharmacy in which they worked (Table 5.6). Male pharmacists were significantly more likely to be sole or joint owners in the pharmacy than females (86/125 compared with 47/119; χ^2 21.11, 1 df, $p < 0.0001$).

Table 5.6: Pharmacists' employment within the practice

	Male		Female		Total	
	n	%	n	%	N	%
Sole Owner	51	41	20	17	75	30
Partner/owner	35	28	27	23	62	25
Permanent employed	30	24	64	54	92	37
Long Term Locum	6	5	5	4	12	5
Missing data	3	2	3	2	7	3
Total	125	100	119	100	248	100

Over two thirds (71%) of the pharmacists worked full-time in the pharmacy (eight or more sessions per week) – see Table 5.7. Male pharmacists were more likely to work full-time (83%) than female (57%).

Table 5.7: Number of sessions worked in the pharmacy per week

Number sessions	Number	%
1	6	2
2	10	4
3	7	2.5
4	14	6
5	9	4
6	16	6
7	7	2.5
8	22	9
9	16	7
10	54	22
>10	74	30
Missing data	13	5
TOTAL	248	100

Eighty-two of the pharmacists (33%) participated in a seven-day after-hours service, and 69 reported they worked on a roster with the frequencies given in Table 5.8. Thirty pharmacists were providing sole cover (1 in 1 roster).

Table 5.8: Roster frequency of on-call pharmacists

	Number
1 in 1	30
1 in 2	16
1 in 3	14
1 in 4	2
1 in 5	7
TOTAL	69

The majority of the pharmacists responded that they had adequate peer support (195, 79%), adequate access to continuing education (187, 75%) and adequate holiday cover (178, 72%). For the minority these conditions were not adequate. Lack of peer support was often attributed to isolation (*'Isolation from when working as paid employee prohibits any close liaison; 'My own fault. I feel reluctant to seek support from neighbouring town's pharmacist. I feel alienated'*) although many commented that they were able to maintain contact by telephone and email. For some long travelling distances meant that attending face-to-face educational sessions was prohibitive. Others reported that the NZ College of Pharmacists' modules and teleconferences were helpful although expensive. While many were able to get holiday breaks, either by covering each other or employing locums, for a few there was lack of locum cover (*'Good locums hard to come by'*).

6 Rural midwives

Individual surveys were returned by 132 LMC (community-based) and 45 core (hospital-based) midwives. Unlike the other health professionals surveyed, midwives were allowed to define themselves as rural practitioners. In May 2006, surveys were sent to 420 midwives whom the NZCOM determined lived in rural locations. Midwives could also access survey forms from a website, hence the overall response rate is not able to be calculated. However, out of the returned surveys, ten appeared to be printed from the website or photocopied, as opposed to the original form mailed directly to the midwives. The forms mailed directly to the LMC midwives also included a freepost return envelope with 122 returns received. The response rate to the posted surveys was hence 122/420 (29%). However it is possible that not all rurally-domiciled midwives practice rurally, which may have contributed to this low response rate.

All rural midwife respondents were female.

While the midwives ranged in age from under 25 years to over 65 (Table 6.1), the majority were between 36 and 55 years (68% of LMC and 62% of core midwives). Seventy-six percent of LMCs and 60% of core midwives were aged over 40 years.

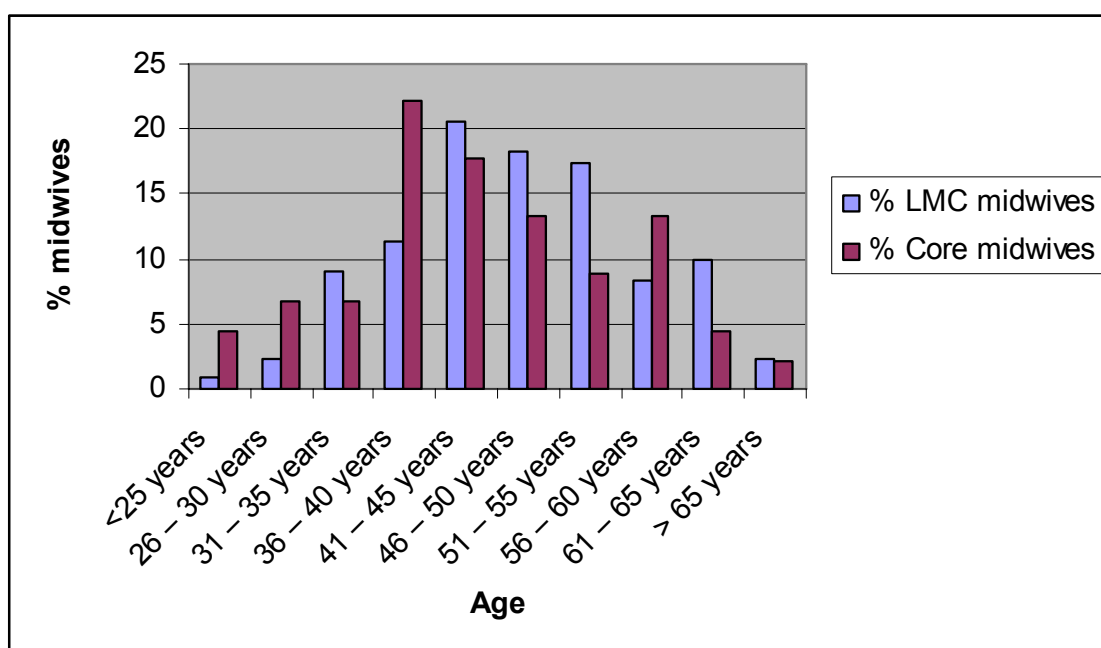
Table 6.1: Age of midwives

Age	LMC midwives	Core midwives
<25 years	1	2
26 – 30 years	3	3
31 – 35 years	12	3
36 – 40 years	15	10
41 – 45 years	27	8
46 – 50 years	24	6
51 – 55 years	23	4

Age	LMC midwives	Core midwives
56 – 60 years	11	6
61 – 65 years	13	2
> 65 years	3	1
Total	132	45

The relative percentage of LMC and core midwives is shown in Figure 6.1.

Figure 6.1: Percentage of LMC and core midwives by age



Just over half the midwives gave their ethnicity as NZ European, and almost all those who responded 'other' were of European descent. There were seven Māori and one Pacific Island midwives in the survey (Table 6.2).

Table 6.2: Ethnicity of midwives

Ethnicity	LMC midwives		Core midwives	
	n	%	n	%
NZ European	77	58	25	56
Māori	6	5	1	2
Pacific Island	1	1	0	0
Chinese	1	1	0	0
Indian	0	0	0	0
Other	46	34	17	38
Not stated	1	1	2	4
Total	132	100	45	100

The number of years the midwives had been registered is shown in Table 6.3.

Table 6.3: Years since registration for LMC and core midwives

Years since registration	LMC midwives		Core midwives	
	n	%	n	%
1-4 years	25	19	3	7
5 – 9 years	22	16	2	4
10 – 14 years	14	11	11	25
15 – 19 years	13	10	6	13
20 – 24 years	14	11	6	13
> 24 years	42	32	16	36
Unknown	2	1	1	2
Total	132	100	45	100

Two-thirds (64%) of the LMC and half (51%) of the core midwives were NZ-trained. (Table 6.4).

Table 6.4: Country of original midwifery registration for LMC and core midwives

Country of registration	LMC midwives		Core midwives	
	n	%	n	%
New Zealand	85	64	23	51
Australia	10	8	6	14
UK	35	26	14	31
US	0	0	1	2
South Africa	1	1	1	2
Other	1	1	0	0
Total	132	100	45	100

Sixty-six percent (87) of the LMC and 76% (34) of the core midwives also held nursing qualifications, and five LMC and eight core midwives were also Plunket nurses (Table 6.5).

Table 6.5: Other qualifications of LMC and core midwives

Other qualifications	LMC midwives	Core midwives
	n	n
Nursing qualification	87	34
Plunket nurse	5	8
Post-graduate	3	3
Teaching	3	0
Lactation Consultant	0	1
Journalism	2	1
Scanning	1	0
Naturopath	0	1

As expected, most of the LMCs (90%) were self-employed, and most of the core midwives employed by a DHB (94%). A small percent of each were also employed by trusts (Table 6.6).

Table 6.6: Employment of LMC and core midwives

Employer	LMC midwives		Core midwives	
	n	%	n	%
Self	119	90	0	0
DHB	3	2	42	94
Trust	6	5	2	4
Other / not stated	4	3	1	2
Total	132	100	45	100

Twenty-six of the LMCs also worked core hospital shifts or cover, claiming a wide range of hours worked from three to 128 hours per month. The hours worked as an LMC ranged from ten to 730 per month. Forty-six LMCs (35%) claimed to work an average of 730 hours per month which equates to 24 hours a day with no hour off in a month. This indicates that they are working a one in one on-call roster with no cover but does not reveal the actual number of hours they work.

According to Alison Eddy of the NZCOM, *‘most midwives would identify being ‘on call’ as work time, because of the lifestyle restrictions placed on needing to be available to attend women in their home or in hospital as requested’*. Twenty-one LMCs said that they had not had a day off in the last month, and nine that they had not had one day of leave in the past two years. It is unclear why 35% of the surveyed LMCs work a one in one on-call roster. This may either be their choice of practice or they may have limited or no opportunities to share on-call.

On the other hand, core midwives worked shifts ranging from seven to 12 hours, with the majority (71%) working eight hour shifts. Eleven (25%) worked part-time (ten or less shifts per month) with 19 (42%) working 16 to 20 shifts per month. Eleven core midwives also worked on-call, ranging from one day to 30 days per month.

Midwives were asked their rural locality. This response was then coded into the relevant DHB in the data entry process by the NZCOM (Table 6.7). The actual rural locations of the midwives is hence not available for this report.

Table 6.7: DHB location where midwives worked

DHB of rural locality (region or district)	LMC midwives	Core midwives
Northland	13	1
Auckland	4	0
Waitemata	6	0
Great Barrier Island	1	0
Counties Manakau	3	4
Waikato	14	3
Bay of Plenty	17	1
Lakes / Rotorua	3	0
Taupo	2	2
Mid Central	12	6
Hawkes Bay	4	2
Whanganui	2	0
Taranaki	4	0
South Taranaki	1	0
Tairāwhiti	2	0
Capital & Coast	3	1
Nelson Marlborough	3	0
Nelson Marlborough & West Coast	1	0
West Coast	3	1
Canterbury	15	18
Otago	9	0
Otago, Southland	2	0
Southland	6	5
Not stated	2	1
TOTAL	132	45

The LMC caseload ranged from less than 10 to over 100 women per year (Table 6.8), but the majority (59%) conducted between 30 and 70 births per year. One LMC reported a caseload of 134 women for whom she had provided antenatal care, labour and birth, or postnatal services in the past year. This midwife indicated that this number included care of women who had miscarriages and that she had provided labour care for a total of 86 women in the past year.

The reported caseload of the core midwives was considerably lighter, with most looking after less than 30 women per year. There was one exception of a core midwife attending to the antenatal care and delivery of 100 women in one year. Just over one third of core midwives reported also taking a caseload of women. The majority who provided these LMC services reported caseloads of less than twenty women in a year.

Table 6.8: Caseload of LMC & core midwives

caseload – number of women	Antenatal		Labour & birth		Postnatal	
	LMC	Core	LMC	Core	LMC	Core
0	5	25	3	28	4	23
1-10	7	9	11	8	11	8
11-20	9	2	9	2	19	4
21-30	5	0	6	1	8	2
31-40	11	1	17	2	16	1
41-50	26	2	20	0	21	2
51-60	16	0	21	0	22	1
61-70	27	0	21	0	9	0
71-80	13	0	15	0	16	1
81-90	6	2	2	0	3	0
91-100	3	1	3	1	0	0
>100	2	0	2	0	1	0
blank	2	3	2	3	2	3
Total	132	45	132	45	132	45

Over half of both the LMC and the core midwives had been practising less than 10 years in a rural setting (Table 6.9). Twenty-seven percent of LMCs and 18% of core midwives had been in rural practice for fifteen years or more.

Table 6.9: Years practising in a rural setting

Years since registration	LMC midwives		Core midwives	
	n	%	n	%
1-4 years	41	32	17	38
5 – 9 years	30	23	13	29
10 – 14 years	24	18	7	15
15 – 19 years	16	12	3	7
20 – 24 years	9	7	4	9
> 24 years	11	8	0	0
Unknown	1	0	1	2
Total	132	100	45	100

Forty-five (34%) LMCs worked from home, 47 (36%) from clinic rooms and 38 (29%) from a combination of both. Most of the core midwives (38, 84%) worked at a primary maternity facility, but one worked at an obstetric base hospital and a further four at both settings.

A minority of both the LMC and core midwives worked on their own (Table 6.10). These midwives may be likely to have informal practice relationships with other midwives in their locality rather than formal practice partnerships. LMCs were more likely to work with two or three other midwives whereas the core midwives were more likely to be working in a team of between four and nine midwives in their facility. Eight of the LMCs had a formal relationship with a PHO.

Table 6.10: Number of other midwives working in their practice or facility

Other midwives in practice/facility	LMC midwives		Core midwives	
	n	%	n	%
No others	23	17	7	16
1 - 3	76	58	6	13
4 - 6	20	15	10	22
7 - 9	4	3	18	40
10 - 13	5	4	1	2
14 - 17	3	2	3	7
>18	1	1	0	0
Total	132	100	45	100

Midwife locums had been used by 58 (44%) of the LMC in the past two years and 8 (17%) of the core midwives in the past one year. However 94 (71%) of LMC and 14 (31%) of the core midwives would use a locum if one was available. There is no specific funding to assist midwives with getting locums.

The LMC midwives reported facilitating 561 births at home, 1735 in a primary facility and 3306 in an obstetric base hospital in the past 12 months. This means that over half of the births (59%) were conducted at base hospitals. In 2003 16% of births occurred in primary facilities; 40% in secondary facilities (able to provide caesarean sections) and 44% in tertiary facilities (able to provide neonatal intensive care).³⁵ Therefore in 2003, 84% of births nationally occurred in base (secondary or tertiary) hospitals.

The LMC midwives were asked the '*range of transfer time to obstetric services*' from least minutes to most minutes for women in their locality and for themselves as LMC (Table 6.11). The minimum range for women's transfer was from one to 200 minutes, with a median of 30 minutes. For 52% of those who answered the question, the minimum transfer time was 30 minutes or less. The maximum range for women's transfer was 29 to 1440 minutes, with a median

maximum transfer time of an hour and half and for 61% of those who answered this question, the maximum transfer time was 1 ½ hours or less.

The range of times for the LMCs to reach obstetric services was very similar to that estimated for their patients (Table 6.11). However it is not clear whether ‘obstetric services’ meant a primary facility or the base hospital. Furthermore some midwives indicated that transfer time varied considerably according to the means of transportation – by road or helicopter. Chris Hendry of the NZCOM stated that *‘The time from the base hospital is the most reliable information on rurality’* (email communication, 5 June 2006). However, given the ambiguity of the question, plus the large number of missing responses, these data cannot be considered to be a reliable measure of degree of rurality for the LMC respondents.

Table 6.11: Minimum & maximum travel times for women & for LMCs to obstetric services

	Women		LMCs	
	Least minutes	Most minutes	Least minutes	Most minutes
N	119	115	111	105
Missing	11	15	19	25
Median	30	90	35	75
Minimum	1	29	2	10
Maximum	200	1440	180	1440
Range	199	1411	178	1430

Core midwives were asked to give the average transfer time in minutes for women in their primary facility to the base hospital (Table 6.12). For 78% of core midwives the average transfer time for women to base hospital was one hour or less. However again these data need to be interpreted with caution, as it was unclear whether the patient was travelling by road or by air, and whether transfer time included just travel time, or also the time required to arrange a transfer.

Table 6.12: Average transfer time for core midwife patients to base hospital

Average travel time for women	Core patients to base hospital
Up to 30 min	7
30 min to 1 hr	26
1 to 1½ hrs	5
1½ to 2 hrs	1
> 2 hrs	3
Blank	3
Total	45

Whereas the other professional groups (GPs, PHCNs and community pharmacists) were asked about their intention to leave NZ rural primary health care in the next two and five years, the midwives were asked whether they intended to leave rural practice in the next two or five years. A quarter of the LMC and a third of the core midwives were intending to leave rural midwifery within the next two years (Table 6.13), and an additional third of LMCs and quarter of core midwives were intending to leave within five years.

Table 6.13: Intention to leave rural midwifery within next two or five years

Intending to leave rural midwifery	LMC midwives		Core midwives	
	n	%	n	%
In the next 2 yrs	35	27	14	32
In the next 5 yrs	42	33	11	25

The midwives were asked to describe the ways in which rural midwifery practice had changed in the past five years, what factors had influenced change and what actions were most likely to make midwifery more sustainable in rural localities. These data were not seen by the writers of this report. However the NZCOM provided themes that they derived from their analysis of the responses to the question regarding what would make midwifery more sustainable in rural localities (Table 6.14). The method of qualitative analysis used to deduct these themes is not reported.

Table 6.14 Midwives' opinions of factors to improve the sustainability of rural midwifery practice

Theme	Quotes
Locum coverage	<i>"Acknowledge the effect availability of rural midwives has on our physical and emotional health – we need to be compensated for it by having a locum service available"</i>
Greater support from obstetric referral services	<i>"I often feel isolated (apart from my midwifery colleagues) as a rural midwife due to the lack of acknowledgement of the difficulties of practice so far from secondary services"</i> <i>"A push to reduce bed days in secondary units places increased pressure on rural midwives for home visiting"</i>
Better collaboration between rural health providers	<i>"More collaboration between GPs and midwives with clear understanding of roles"</i> <i>"More liaison between rural emergency services and midwifery services"</i>
Increase resource for rural midwives	<i>"Pay a rural allowance then workload/income comparable with city – this would mean more midwives are viable in our area and make time off cover and attending study much easier"</i> <i>"Expected to travel long distances to meet Section 88 criteria – sometimes not possible due to weather conditions, dangerous in fog – overhead costs have decreased sustainability"</i> <i>"In one day I visited 5 postnatal women travelling 420 kms. Each needed the required 5 home visits which totalled 2100kms."</i>
Maintain and promote rural maternity facilities	<i>"Rural maternity facilities provide a focal point for midwifery care in the community"</i> <i>"Promote use of rural primary units as best option"</i> <i>"Better utilisation of the midwifery knowledge and skill of core midwives would increase birth rates locally and mean less travelling for women to base hospitals"</i>
Incentives to attract midwives to rural areas	<i>"Attracting midwives to area with incentive package"</i> <i>"Rural midwifery is a very rewarding profession but its harder to maintain that balance between personal wellbeing, family life and work because of the larger geographical areas of care"</i> <i>"Need to nurture new practitioners/ mentorship development/ acknowledge experienced rural midwives"</i>

7 Comparison of characteristics across types of practitioners

Some questions were common across most or all types of practitioners. Comparative results are presented in Table 7.1.

Rural PHCNs and midwives were overwhelmingly female; GPs were 75% male and pharmacists were roughly equal with respect to gender. Between two thirds and three quarters of all the professionals surveyed were aged over 40 years. However female GPs on average were considerably younger than male. Their age and intention to leave pattern indicated that the proportion of female GPs will increase. The proportion of male GPs who worked full-time (76%) was considerably greater than that for female GPs (37%).

There is ethnic diversity of practitioners, especially GPs and midwives, but Māori were grossly under-represented in all professional groups relative to their proportion of the population. Pacific people are much less likely to live rurally (less than one in 50) than NZ European or Māori (one in six),³⁶ and have almost no representation in the rural workforce.

While rural PHCNs and pharmacists were predominantly NZ-trained, 57% of the GPs were overseas-trained doctors.

A much greater percentage of GPs, pharmacists and nurses than midwives had been in rural practice 15 years or more, however midwives were the group with the greatest percentage intending to leave rural practice within the next two or five years, followed by pharmacists and then GPs. PHCNs were the least likely of the professional groups to be planning to leave.

Only 57% of the rural GPs were self-employed and 21% did not work on-call.

Table 7.1: Comparison of characteristics of different rural practitioners

%	GP	PHCN	Pharmacist	LMC midwife [‡]	Core midwife [‡]
Male	71	3	52	0	0
Female	29	97	48	100	100
Age > 40 years	73	72	66	76	60
Age > 40 years male	78	50	79	0	0
Age > 40 years female	57	73	50	76	60
NZ European	65	84	88	58	56
Māori	3	8	3	5	2
Pacific Island	0.5	0.7	0	1	0
NZ-trained	43	85	92	64	51
≥15 years in rural practice	40	37	43	27	18
Sole or part owner / self-employed	57	0	55	90	0
Total work full time*	61	31	71	NK	NK
Males work full time*	76	NK	83	NK	NK
Females work full time*	37	NK	57	NK	NK
Work on-call	79	28	33	100	36
1 in 1 on-call	6	0.7	12	35	2
Planning to leave NZ rural practice in 2 years	14	10	18	27 ^δ	32 ^δ
Planning to leave NZ rural practice in 5 years	20	15	29	33	25 ^δ
Planning to leave NZ rural practice: Total	34	25	47	60	57

* ≥8 sessions per week

NK: not known

[‡] Differences in definition of rurality and primary health care, and other data limitations means that any comparison of midwives with other professionals should be treated with caution.

^δ Asked whether they were intending to leave rural practice not specifically NZ rural practice.

Discussion

Rural workforce surveys of NZ GPs have been done previously,³⁷⁻³⁹ however this is the first NZ wide survey to include a range of rural primary health care providers: GPs, nurses, pharmacists and midwives. The NZRGPN developed the Rural Ranking Scale (RRS) to define a 'rural' GP (≥ 35 points on the RRS). It has been used by the Ministry of Health since 1999 to enable a redistribution of rural bonus payments, so that more isolated rural GPs receive higher payments. This agreed definition of a 'rural GP' has enabled and stimulated research into the NZ rural GP workforce in the past seven years,^{16, 29} but it highlights the fact that there are not specific definitions of 'rural nurses', rural pharmacists' nor 'rural midwives'.

Rurality in general practice reflects geographic separation from secondary care services. Because of this geographic isolation, rural GPs have to take on additional roles and have additional skills to urban GPs. It is unclear whether rurality will be defined similarly for other healthcare providers. It is for that reason that each professional group needs to examine the issues of rurality for themselves, and produce their own definition of a rural nurse, rural pharmacist and rural midwife. This work remains to be done. In the absence of these definitions, some researchers have used the 'rural GP' definition to define rural localities, and then defined nurses and pharmacists as 'rural' if they worked in the same localities.⁴⁰ This is the approach we have used in this survey, except for the midwives who defined for themselves whether they were a 'rural midwife'. Also see 'How do we define rurality?'(page 102).

Rural general practices

While the majority of rural practices still provide after-hours cover, there was an observable trend in those practices close to larger towns (eg. 30-45 minutes driving time) towards having some or all after hours on-call provided from a nearby larger town or the regional urban centre (for example, Masterton servicing the towns in the Wairarapa, Palmerston North servicing its DHB region). This evolution of after-hours care indicates that some rural practices

close to urban centres will be able to reduce their on-call burden, while more isolated rural practices will have to investigate other solutions. This parallels the historical situation where urban GPs have had more choices and options than rural GPs for arranging alternatives to they themselves providing on-call for their patients. As on-call is cited as one of, if not the main, reasons for problems retaining and recruiting rural GPs,⁴¹ it will be interesting to see if offloading on-call to urban centres will stabilise the workforce in these rural localities.

Participating in a rural on-call roster is a prerequisite for eligibility for the Rural Ranking Scale (RRS), which with a score of 35 points or more provides for a range of 'rural' funding for both the GP and their PHO. Many practices have made significant alterations to their on-call workloads. Changes have included applying extra rural funding to engage more staff, sharing on-call rosters more widely with neighbouring practices, and withdrawing from on-call provision by referring after hours patients to nearby urban towns (eg. emergency departments in nearby base hospitals). As providing on-call contributes a significant part of the RRS score, in theory, these practices will have experienced marked reductions to their RRS points. Some GPs may have had to be given discretionary RRS points by their DHBs in order for them to retain their rural status and their eligibility to rural incentive payments.

It is unclear whether those rural GPs who have managed to off load some or all of their on-call to urban centres have indeed had their RRS scores reduced. It is possible that some may even have ceased to qualify for the rural funding which was meant to compensate them for the on-call burden. In drawing comparisons between the current and previous rural workforce surveys, these changes in Rural Ranking Scale scores may need to be noted. The NZ Rural General Practice Network and the Ministry of Health are aware of these dynamic changes and a review of the criteria and values of the RRS is currently underway.

The greater ratio of practice nurses to GPs in many practices may indicate that that nurses are taking on additional roles traditionally performed by GPs (for example chronic disease management). In other cases the solo GP may be

employing several part-time nurses to cover the hours usually worked by a fulltime nurse. Additionally, in some rural localities where GP recruitment has been especially problematic, it is obvious that practices are coping with GP shortages with the greater use of nurses in the team (for example, Westport with 7100 enrolled patients, one GP and three nurses).

The 2002 survey attempted to relate the numbers of rural practitioners to the population they served. Estimating the 'population to GP' ratio was achieved by reference to the national census, by adding up the populations of the census area units contained within a Shared Roster Area (SRA). This was a crude approximation. The current survey has the significant advantage of using the practices' enrolled populations. The practices therefore have not been grouped according to SRAs but within PHOs, and those PHOs within their DHBs. It is the DHBs and PHOs who carry the responsibility to ensure sustainable services to their populations and this compartmentalisation of survey results, it is hoped, will allow regional assessments and comparisons of workforce sufficiency.

The implementation of the Primary Health Care Strategy (PHCS) and the formation of PHOs appears to have been of considerably varied benefit to rural general practices. For some it has led to improved funding with the ability to reduce fees and to implement new initiatives for preventive medicine and chronic disease management. Other practices reported that any additional funding was completely absorbed by the significantly increased paperwork and compliance costs. While still other practices reported little impact or change resulting from the implementation of the PHCS. During this time, some practices have stopped providing 24 hour cover which has significantly reduced their oncall burden.

Reasonable Roster Funding and Rural Workforce Retention Funding had been accessed in the previous 12 months by 37% and 65% of the practices, respectively. This funding was used for a wide range of strategies to improve working conditions and hence promote retention. These included salary increases, reduced on-call hours, improved resources such as computers and internet access, more time off for holiday and study, or even providing meals for

doctors on call. Staff recruitment strategies included promoting the practice overseas (eg. web-based advertising with photographs of what the area had to offer), assisting with transfer and set-up costs, providing accommodation and transport, and welcoming them into the community. Another rural initiative funded by the Government, the rural locum support scheme (NZLocums®), was used by a third of the practices to source locums.

While these rural funding opportunities were generally considered advantageous, the move to PHOs, with capitation and the many associated changes, was much less likely to be viewed favourably. Concerns about increased paperwork and compliance issues were almost universal. While certain advantages of the implementation of the PHOs (for example, increased use of nurse-led clinics, health promotional activities, chronic disease management systems) were acknowledged, for some practices these gains were over-shadowed by the associated administrative burdens.

Roughly a third of the rural practices (35%) stated they did not receive any Rural Workforce Retention Funding in the last year. All rural practices would have received this funding directly from DHBs before the establishment of PHOs, suggesting that some PHOs may be retaining all of this funding for other workforce retention projects and not passing any of it on directly to their rural practices. Overall, the administration of rural funding streams to general practices appear to vary significantly across the country.

GPs doing onerous on-call (1 in 1, or 1 in 2) needed to apply for Reasonable Roster Funding during 2000 to 2002. The available money was then allocated, and further applications, for example from new entrants into rural practice or those whose on-call roster has worsened, were not accepted. Some of this rural support funding was allocated to national initiatives for recruitment of primary health care workers, to encourage them to work in rural areas both on a short term and long term basis.

Rural GPs submit their Rural Ranking Scale scores to their DHBs who make the final determination on points – reducing some scores and increasing others by

allocating discretionary points. There is a dispute mechanism available to rural GPs who feel their points have been reduced unfairly. The Rural Bonus scheme is administered by the DHBs but there may be inconsistency in how it is paid – in some cases practices receive the money directly from the MOH (HealthPac) and others via their PHO.

Rural general practitioners

The age distribution of rural GPs was bell-shaped (Figure 2.1) with the largest percentage of GPs in the 46-50 year bracket. This was also true of just the male GPs, whereas for female GPs the largest percentage was in the 36-40 year bracket, with no female GPs over the age of 60. Seventy-eight percent of male GPs were aged over 40 years, compared with only 57% of female GPs. Male GPs were also more likely to work full time (76%) compared to female GPs (37%). The increasing feminisation of the medical workforce,⁴²⁻⁴⁵ combined with women choosing to work fewer sessions per week, means greater numbers of rural doctors will be needed to replace those full time male GPs leaving the workforce. In fact, 124 GPs, or 34% of the total rural GP workforce, the majority aged 41-60, reported they were planning to leave within five years. Similar to previous reports,³⁷⁻³⁹ less than 50% of rural GPs were trained in New Zealand. With minimal rural exposure and training for most medical students in NZ, and few new NZ medical graduates choosing rural general practice, NZ will continue to depend on overseas trained doctors for its rural workforce.

The age distribution of the rural GPs reflects the NZ post-war baby boom (1946 to 1965) with its peak in 1961. As NZ baby boomers start to retire (the leading edge are now 60 years of age), this cohort will have rapidly increasing health care needs, at the same time as the rural workforce will be losing its baby boomer doctors to retirement.

The increased intention of younger GPs (31 to 50 years old) to leave rural NZ general practice compared with older GPs (aged >50) was also demonstrated by a recent RNZCGP membership survey which similarly found that more

younger GPs nationwide intend to change their work arrangements than do older GPs.⁴⁶

Australian research shows that selecting rural origin students for medical school, and providing all medical students with significant exposure to rural education and rural living, increases the number of graduates choosing to live and work in a rural area.^{12, 47} NZ has increased student numbers at each medical school by 20 places, and the students chosen for these new positions have a rural origin. However, there has been no additional funding or programme to enable these or other medical students to live and study in rural areas, despite the reported success of the Otago undergraduate rural placement experience.⁴⁸

Only 57% of the rural GPs were self-employed, which suggests the growth of salaried or locum doctors in this sector. Furthermore 21% do not work oncall. The pattern is emerging of more rural part-time GPs employed on a sessional basis.

This is consistent with data from the recent National Primary Medical Care survey (NatMedCa) which reported that nationally, the last decade had seen a dramatic increase in the proportion of female GPs (37% of total workforce and 63% of those GPs under 40 years of age), and that females on average work fewer sessions than males.⁴⁹

Rural primary health care nurses

The age distribution of the rural nurses was remarkably similar to that of the rural GPs, with the greatest number of nurses in the 46-50 year bracket. With 25% of the current aging rural nurse workforce planning to leave within the next 5 years, and so few young nurses choosing to work rurally, a shortage of rural nurses will be occurring simultaneously with that of the rural GPs. In contrast to GPs, the nurses were almost exclusively female and the majority (85%) were NZ-trained. Interestingly, 28% of nurses reported providing after hours on-call coverage, almost all as part of the PRIME scheme.

The ratio of nurses to GPs in rural general practice has increased since the 2002 survey. This suggests that GPs may be compensating for a workforce shortage by using more nurses more extensively, (for example, nurse-led clinics) in line with the Primary Health Care Strategy, or that there are more part-time nurses being employed.

Rural community pharmacies

The majority of rural pharmacies operate as either one (33%) or two (32%) pharmacist operations, with <10% having more than 3 pharmacists (who may or may not be part-time). While general practices now have an accurate registered patient population, pharmacies do not, as people do not have to register with one pharmacy. This would explain why some pharmacies gave estimates of the population they served as similar to that of their total local population (eg. 20,000 – 50,000). In fact, in a locality with 3 pharmacies, they each may well serve the entire local population, as people can shop around unrestricted, which contrasts with how general practices now operate.

While 52 (35%) of the rural pharmacies had on-call arrangements, the nature of their call was far less structured or regulated than that of the rural GPs. Twenty-two of the pharmacies provided their phone number to the public or said that they were always on call; 14 were available to local GPs, emergency services or the local hospital; a further two said they were theoretically on call but were virtually never called out; six were available by phone should they be at home; and a further seven would provide occasional on call by arrangement.

Rural pharmacists

Rural pharmacists had a flat age distribution compared to either GPs or nurses, with all 5 year age brackets from 26-65 having between 9 and 15% of the workforce. Pharmacists were also almost exclusively NZ-trained, in contrast to rural GPs. These two significant differences between the GP and pharmacist rural workforces were unexplained and require further enquiry.

Possible explanations could include:

- 1 Better pharmacy workforce planning – this is unlikely because the Ministry of Health and the DHBs have very little involvement in pharmacy workforce planning.
- 2 A less portable pharmacy degree – again unlikely since the pharmacy degree is quite portable.
- 3 Reduced mobility of pharmacy proprietors - 55% of respondents were pharmacy proprietors, who tend to be less mobile, having made a significant investment in their rural practice.
- 4 Female pharmacists with rural partners - female pharmacists may decide to practice rurally because of their partners who farm, own businesses or work permanently in the rural sector. If this is the case, these female pharmacists would be less mobile than similar practitioners in cities or large towns.
- 5 Rural pharmacy practice may be less demanding – the workload, without the after-hours and emergency components of rural general practice, may be more attractive to younger pharmacists.

Despite these two significant differences as compared to GPs, over a quarter of the pharmacy workforce (29%) reported they were planning to leave NZ rural pharmacy practice within the next five years. Currently there is an exodus of pharmacists going to practice overseas (particularly to the UK and Ireland) which is affecting both the rural and urban workforce. A recent Pharmacy Guild survey of members indicated that of pharmacy professional staff (pharmacists and technicians) leaving their present position in a rural pharmacy, 30% were going to practice overseas, 16% were leaving pharmacy practice and 19% were retiring (personal communication, David Mitchell).

Rural midwives

The instructions on who should complete the survey were *‘Any midwife who works in an area which she defines as rural, as either a core or LMC midwife.’*

The Maternity and Newborn Information System (MNIS) contains extracts of hospital data from the National Minimum Dataset (NMDS) and data from payment claims submitted to HealthPAC to provide information on maternity services. In NZ in 2003, MNIS reported that 54,581 mothers gave birth and 55,119 babies were born in hospital.³⁵ Of these live births, 8598 (15.6%) were in primary facilities, 22,256 (40.4%) in secondary and 24,265 (44%) in tertiary facilities.

Of the 54,581 mothers, 16,997 (31%) were classified as having rural domiciles and 8575 (16%) gave birth in a rural primary maternity facility. If it is assumed that the women who use the rural primary units are from that rural region, then approximately 51% of rural women gave birth in their local facility. The remainder gave birth in a base hospital or at home.

For the same period, Statistics NZ reported the registration of 56,134 live babies to 55,212 mothers.³⁵ Table 8 reports the numbers of mothers and live births by these different datasets. As the NZHIS notes, while the MNIS can provide answers to a wide range of queries, the quality of data submitted to NZHIS can affect the robustness of the analyses and clearly MNIS does not capture the total number of live births.³⁵

Table 8.1: Number of mothers and live births in 2003, by data source

Births in 2003	Number
Total mothers (Statistics New Zealand)	55,212
Mothers recorded in NMDS (discharged from hospital)	54,581
Mothers recorded in MNIS (hospital births and home birth claims)	46,110
Total live babies (Statistics New Zealand)	56,134
Live babies recorded in NMDS (hospital births)	55,119
Live babies recorded in MNIS (hospital births and home birth claims)	46,695

Data sources: Statistics New Zealand, NMDS, and MNIS

Subtracting the number of hospital live births (NMDS data) from total number of live births (Statistics NZ data) gives 1015 live births, which gives an indication of the number of home births in 2003.

The survey respondents reported data on birth numbers and place of birth for the 12 months prior to completing the survey (ie. 2005 - 2006 data). They stated that they provided labour care for 1735 women in rural primary maternity facilities. The rate of births occurring in rural primary maternity facilities appears to have remained relatively static.^{35, 50, 51}

The NZCOM reports that there were 930 LMC case-loading midwives with annual practising certificates in 2004.³³ Surveys were returned by 132 LMCs (14% of total LMCs) and 45 core midwives.

LMC midwives can claim rural travel allowances if their cases are defined as semi-rural, rural or rural remote.⁵² The midwives' case numbers in these categories were not collected by the survey and the midwives' region of residence were not available for this report. The mobile nature of LMC midwifery services makes the determination of rurality problematic and means that comparisons between midwives and other participants of this survey (rural GPs, nurses and pharmacists) should be interpreted with considerable caution.

Fifty-nine percent of the 5602 births reported by the rural LMC midwives in the previous 12 months were at base hospitals, and a further 10% were home births, which may have been urban or rural. The locations reported by the LMC midwives included Auckland DHB and Capital and Coast DHB, which are predominantly urban regions. Given the wide range of case-load, numbers of midwives with whom they work, on call time, and minutes from obstetrics services, it would appear likely that this sample of 'rural' LMC midwives ranges from those practicing in remote areas to those who are urban-based with an occasional rural patient.

It appears that many LMC midwives include any time they are on call as 'working hours' hence some reports of working 720 hours per month (ie 24

hours a day, every day of the month). This differs from GPs, rural nurses and pharmacists who will calculate their working hours as FTEs in their practices and distinguish these from additional hours when they are available on call. This distinction precludes comparing the working hours of midwives with other rural practitioners.

The results indicate that over half of the LMC respondents are over 45 years of age, were more likely to be NZ rather than overseas-trained, and 35% worked a one in one on-call roster. Twenty one LMCs (16%) said that they had not had a day off in the last month, and nine said that they had not had one day of leave in the past two years. This heavy workload may explain why 27% of LMC respondents indicated that they intended to leave rural midwifery practice in the next two years and 33% intending to leave within 5 years. Midwives are not eligible to access the Reasonable Roster Funding, which is only available to GPs working in rural localities with only one other, or no other GP. It is not possible to tell from this survey how many midwives are working in similarly isolated rural localities, or simply choose to do 1 in 1 oncall as part of the service they offer their clients. Most said that they would use locum services if they were available and affordable.

Strengths of the study

Response rates of 95% for rural general practices and 88% for rural community pharmacies were achieved. These rates are very satisfactory, given the existing demands of practices to comply with a vast array of data collection requirements, and means that the findings are likely to be representative of NZ rural general practices and pharmacies.

The use of enrolled patient populations gives a more accurate picture of the number patients served per GP and per nurse than the crude approximation used in the 2002 survey which had to rely on an estimation of the 'population to GP' ratio by reference to the national census, and adding up the population of the census area units contained within a Shared Roster Area (SRA).

Response rates for rural GPs and PHCNs were 64% and 65% respectively. This is a very satisfactory result given the two-step recruitment process required: the GPs and PHCNs largely were recruited using contact details provided by the surveyed rural general practices.

A 96% response rate was achieved for rural community pharmacists identified, although the total number of rural pharmacists was not able to be ascertained. However the percentages of total pharmacies and pharmacists obtained means that findings are likely to be generalisable to NZ rural pharmacists.

A combination of quantitative and qualitative data was collected. Thematic analysis of free-text comments by participants added a depth of meaning to interpretation of the findings.

Limitations of the study

This study relied predominantly on survey data, self-reported by practices and practitioners.

An agreed definition of 'rural' does not yet exist for nurses, pharmacists and midwives, as it does for GPs.

The midwifery survey was not conducted by the research team in November 2005, but by the NZ College of Midwives in May 2006.

Key findings

1. The Rural Ranking Scale currently provides GPs with an agreed definition of 'rural', which is lacking with the other health professionals.
2. A number of rural general practices close to cities have reduced their on-call workload by having the nearby urban centre provide after hours coverage.

3. These reductions in on-call workloads may have an impact on GPs' Rural Ranking Scale scores and rural bonus payments.
4. Rural practice managers expressed a range of positive and negative views on the impact of the implementation of the Primary Health Care Strategy. The strongest theme to emerge, expressed by the majority of the practices, was concerns about increased paperwork and compliance costs.
5. Compared to the 2002 workforce survey, the ratio of rural primary health care nurses to rural GPs has increased. This could be due to increasing numbers of nurses taking on expanded roles in primary care, to a reducing rural GP workforce, or to more part-time nurses in 2005.
6. General practices reported that a wide range of strategies had been employed to improve working conditions in rural general practice using the two rural funding streams (Reasonable Roster Funding and Rural Workforce Recruitment Funding).
7. Only 65% of rural general practices reported receiving Rural Workforce Retention Funding in the last year.
8. *Training:* the majority of rural pharmacists (92%), PHCNs (85%) and LMC midwives (64%) were NZ-trained, while the majority of rural GPs (57%) and core midwives (86%) were overseas-trained.
9. *Age Distribution:*
  - a. 73% of rural GPs, 72% of PHCNs, 66% of pharmacists, 76% of LMC midwives and 60% of core midwives were older than 40 years.
  - b. GPs, nurses and midwives had a bell-shaped age distribution, in contrast to the rather flat age distribution of pharmacists.
10. *Percentage of health professionals planning to leave rural practice within two years and within five years:* GPs 14% and 20% (total 34%), PHCNs

10% and 15% (total 25%); pharmacists 18% and 29% (total 47%), LMC midwives 27% and 33% (total 60%) and core midwives 32% and 25% (total 57%), respectively.

Implications

A 'snapshot' survey of the workforce such as this throws up more questions than answers.

How do we define rurality?

In this study the definition of rurality was based on the RRS for GPs which considers the travel time from the GP's practice to the closest major hospital, the amount of on-call duty, the number of regular peripheral clinics run by the GP, the travel time to the nearest GP colleague at their place of work, and the travel time to the most distant boundary of the GP's practice. The initial intention of the 'rural bonus' payment to GPs was to compensate them for the hardships and difficulties of practising in a rural location. More recently, additional funding for rural primary health care has attempted to improve rural communities' access to health services by addressing onerous GP oncall rosters (Reasonable Roster Funding) and retention of rural healthcare providers (Rural Retention Funding).

There is no internationally recognised definition of 'rurality' or a 'rural' area. Rural areas have traditionally been residual areas not included in the urban definition. In the past Statistics New Zealand has defined rural centres as by population size, 'having a population of 300 to 999 in a reasonably compact area that services surrounding rural areas (district territory).'⁵³ 'Other rural' was the urban area classification residual category and included all area units not in urban areas or rural centres. Statistics New Zealand identified that there is a huge difference between a rural community based on rural livelihoods and one where a large proportion of the population works in an urban area (particularly a main urban area), but happens to live in a rural area. The urban area provides a

significant focus for the latter community. These commuter populations have ready access to urban health services. Communities that are rurally focused tend to be further from main urban centres, with poorer access to health services. Statistics New Zealand therefore have developed an index that measures degrees of 'rurality' by using workplace address compared with address of usual residence as a proxy for both distance from, and the need to travel to, an urban area for employment. The four categories are rural areas with high, moderate and low urban influence and the highly rural/remote areas.⁵³

Defining 'rurality' is problematic because it depends on the purpose for which you want to use the definition. Rurality in NZ could be based on any number of factors (geography, mobile phone coverage, transport links, access to essential services, NZ Index of Deprivation⁵⁴), but the key consideration is 'for what will the definition be used'. While Statistics NZ needs a definition for population purposes, the Rural Ranking Scale was designed to define 'rural' as it relates to general practitioners. The Ministry of Health is currently reviewing the RRS. It is unlikely that one definition of 'rural' will be able to be applied to the variety of rural health care workers in NZ, as each needs a definition of rural that will suit their needs. This point is illustrated in this survey by the midwives who need a definition of rural that encompasses the mobile nature of the service they offer. While few rural GPs live in an urban area and work rurally, this may be quite different for midwives. However, there is one definition that would allow for valuable comparisons to be made across the professions and for research into rural health. The opportunity exists to use GIS technology to define NZ rural localities in relation to delivery of healthcare. A considerable amount of work has already been done on this by the Ministry of Health, leading to the release of a draft NZ Rural Health Atlas a few years ago. For unknown reasons, this work was never completed, despite the significant boon it would give to rural health research in NZ.

What is primary health care?

Primary health care is defined by the New Zealand Health Strategy 2000²³ and the Primary Health Care Strategy 2001⁴ as *‘essential health care based on practical, scientifically sound, culturally appropriate and socially acceptable methods. It is universally accessible to people in their communities, involves community participation, is integral to, and a central function of, the country’s health system, and is the first level of contact with the health system.’* It is not hospital care but professional health care in the community.

Prior to the instigation of PHOs, primary health care providers, especially GPs, were either self-employed or employed by trusts or other organisations within the community. The District Health Boards provided secondary health services through their hospitals and community outreach clinics. The Primary Health Care Strategy 2001⁴ has had a significant impact on the delivery of primary health care in NZ. Implementation of this strategy is being achieved through the development of PHOs which focus on population health, wellness, community development, improved access, working across service boundaries, improved and supported self management of disease and health promotion. One of the intentions is the integration of primary and secondary health care services.

For the purpose of this survey, we defined ‘primary’ as principally employed within the community and ‘secondary’ as principally employed directly within the hospital system either by the DHB or privately. The DHB is responsible for ensuring the provision of publicly funded health services for the population of a specific geographic area. One of their aims is to promote the integration of primary and secondary care services and PHOs are funded by the DHBs. Some primary health care workers are directly funded by DHBs, such as rural PHCNs in remote areas and GP liaison officers. With nurses providing chronic disease management for example, the distinction between primary and secondary care is becoming less well defined.

Who are the primary health care workforce?

Primary health care is first level of contact community-based essential care based on practical, scientifically sound, culturally appropriate and socially acceptable methods. Providers of generalist first-level services have predominantly been GPs, PHCNs, community pharmacists and midwives, hence their selection as the subjects of this survey. Within the PHO environment, there is also an increasing role for community health workers, but as yet, ironically, no place for midwives.

There are also first-level services for specific conditions such as dentistry, for particular therapies, such as physiotherapy, optometry, audiology, dietary advice and podiatry, and for investigatory services such as radiology and laboratories. Indirect information of other primary health care services provided by practice managers indicated that the availability of these services, either situated locally or as a visiting service, showed great diversity.

The Primary Health Care Strategy aims for closer co-ordination across all of these services and future surveys of the rural primary health care workforce may need to further explore which services are considered essential and therefore should be universally accessible to people in their communities.

How is rural primary health care changing in the PHO environment?

This survey provides only a snapshot in time. Repeating the survey every one to two years would enable a better understanding of how the rural workforce is changing. Not all the questions in this survey yielded the optimum information and the questionnaires should be further refined and developed in consultation with key stakeholders.

The workforce implications of the trend towards part-time salaried rural GPs needs further exploration. The reduction in oncall work by a fifth of rural GPs suggests that those located close enough to urban centres to give up after-hours work may have very different needs to more remote rural GPs with heavy call rosters.

There are also questions raised that would be better answered by qualitative rather than quantitative methods. For example, one third of rural general practices reported that they did not receive Rural Workforce Retention Funding in the last year. Stakeholder interviews could inform the reasons for this.

How well does intention to leave match with actually leaving?

It would be interesting to know how well the intention to leave NZ rural primary health care translates into actual choices and behaviours – to determine in two and in five years how many of those intending to leave have actually left, and also how many of those not intending to leave have left.

In a study of rural GPs surveyed in Western Australia in 1986, of 45 who had indicated that they intended to leave rural practice, 22 were still practising in 1996, whereas of 46 who intended to stay in rural practice, 11 had actually left in 1996.⁵⁵

It would be valuable to explore the reasons why the various practitioners are intending to leave rural NZ practice – for example, are they intending to continue rural practice overseas, move to urban practice, make career changes or retire. In the Australian study the main reasons for leaving were professional disillusionment or ‘burn out’ and social factors relating to their children’s education or marital relationships.⁵⁵ In a recent RNZCGP survey, factors identified by GPs likely to influence their decision to leave were declining income, lack of work satisfaction, bureaucratic burden, family needs, maternity and the lure of overseas work and travel.⁴⁶ In a recent NZ survey of rural GPs and nurses,⁵⁶ oncall workload was identified as a major factor in deciding to leave rural practice or retire early.

Are we facing a rural primary health care workforce crisis?

With all the professional groups surveyed, and with GPs in particular, the survey raises concerns about a potentially depleting workforce occurring concurrently with the increasing health care needs of an aging population. The significant

numbers of providers that will be needed to replace those primary healthcare professionals planning to leave rural NZ practice in the next five years is concerning, especially with younger health professionals wanting a better work/lifestyle balance than those retiring. Ongoing research is required in the areas of both retention and recruitment of NZ's rural workforce.

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Appendix A: Participant Information Sheets

- 1 Participant Information Sheet for rural general practices
- 2 Participant Information Sheet for general practitioners
- 3 Participant Information Sheet for nurses working in rural practices
- 4 Participant Information Sheet for rural pharmacies & community pharmacists



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Rural Health Workforce Survey 2005

Dear Practice Manager

The Annual Rural Workforce Surveys reported on the levels and changes in the rural general practice workforce until 2002.

The NZ Institute of Rural Health and myself, Dr Felicity Goodyear-Smith from the Department of General Practice and Primary Health Care, University of Auckland, are contracted to repeat this survey and extend its scope to other professionals practising in rural primary health care, including pharmacists and midwives.

The main aim of this survey is to collect data on the rural health workforce to inform policy and retention and recruitment. We very much appreciate your time in making the study possible.

Completing the forms

The NZ Institute of Rural Health will receive the information collected. Please complete and return the enclosed questionnaire either by post using the stamped addressed envelope or by fax to the NZIRH Administration Manager Miss Maree Wells at 07 823 9268. Alternatively, If you would prefer to complete by phone, please call Maree at 07 823 9274.

To make it easier for you, the questionnaire is already partly completed using previous workforce and other information available in the public domain. Please indicate where this has changed or is incorrect and fill in the gaps. Once you have returned your practice questionnaire, a brief survey will be sent to your GPs and practice nurses (other than short-term locums).

Confidentiality

Study data will be stored in a locked cabinet or as encrypted electronic files by the NZIRH for 6 years. As principal investigator I will receive anonymised data for analysis. If information you provide is reported or published, this will be done in a way that does not identify you as its source. However given the small scale of the NZ rural workforce, confidentiality with respect to all participants' identity cannot be guaranteed. Signing your name and sending in the survey is considered a form of consent to participation. In the unlikely event that you wish to withdraw any of the data provided by yourself from the study, you may do so for up to one week after you have returned your questionnaire.

Any questions?

Please contact me (details above). My Head of Department is Prof Bruce Arroll, 09 373 7599 Ext 86978 b.arroll@auckland.ac.nz. For queries regarding ethical concerns please contact the Chair, University of Auckland Human Participants Ethics Committee, University of Auckland, Private Bag, 92019, Auckland, Tel. 09 373-7599, Ext 87830.

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Rural Health Workforce Survey 2005

Dear Rural General Practitioner

The Annual Rural Workforce Surveys reported on the levels and changes in the rural general practice workforce until 2002.

The NZ Institute of Rural Health and myself, Dr Felicity Goodyear-Smith from the Department of General Practice and Primary Health Care, University of Auckland, are contracted to repeat this survey and extend its scope to other professionals practising in rural primary health care, including pharmacists and midwives.

The main aim of this survey is to collect data on the rural health workforce to inform policy and retention and recruitment. We very much appreciate your time in making the study possible.

Completing the forms

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Rural Health Workforce Survey 2005

Dear Rural Nurse

The Annual Rural Workforce Surveys reported on the levels and changes in the rural general practice workforce until 2002.

The NZ Institute of Rural Health and myself, Dr Felicity Goodyear-Smith from the Department of General Practice and Primary Health Care, University of Auckland, are contracted to repeat this survey and extend its scope to other professionals practising in rural primary health care, including nurses, pharmacists and midwives.

The main aim of this survey is to collect data on the rural health workforce to inform policy and retention and recruitment. We very much appreciate your time in making the study possible.

Completing the forms

The NZ Institute of Rural Health will receive the information collected. Please complete and return the enclosed questionnaire either by post using the stamped addressed envelope or by fax to the NZIRH Administration Manager Miss Maree Wells at 07 823 9268.

Alternatively, If you would prefer to complete by phone, please call Maree at 07 823 9274. To make it easier for you, the questionnaire is already partly completed using previous workforce and other information available in the public domain.

Please indicate where this has changed or is incorrect and fill in the gaps. Once you have returned your practice questionnaire, a brief survey will be sent to your GPs and practice nurses (other than short-term locums).

Confidentiality

Study data will be stored in a locked cabinet or as encrypted electronic files by the NZIRH for 6 years. As principal investigator I will receive anonymised data for analysis. If information you provide is reported or published, this will be done in a way that does not identify you as its source. However given the small scale of the NZ rural workforce, confidentiality with respect to all participants' identity cannot be guaranteed. Signing your name and sending in the survey is considered a form of consent to participation. In the unlikely event that you wish to withdraw any of the data provided by yourself from the study, you may do so for up to one week after you have returned your questionnaire.

Any questions?

Please contact me (details above). My Head of Department is Prof Bruce Arroll, 09 373 7599 Ext 86978 b.arroll@auckland.ac.nz. For queries regarding ethical concerns please contact the Chair, University of Auckland Human Participants Ethics Committee, University of Auckland, Private Bag, 92019, Auckland, Tel. 09 373-7599, Ext 87830.

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Rural Health Workforce Survey 2005

Dear Rural Community Pharmacist

The annual Rural Workforce Survey reported on the levels and changes in the rural general practice workforce until 2002.

The NZ Institute of Rural Health and myself, Dr Felicity Goodyear-Smith from the Department of General Practice and Primary Health Care, University of Auckland, are contracted to repeat this survey and extend its scope to other professionals practising in rural primary health care, including pharmacists and midwives. One of the aims of this survey is to collect data on our declining rural health workforce to inform policy for retention and recruitment.

Thank you very much for your time and help in making this study possible. We hope the information gathered assists in improved recruitment and retention of our rural primary health care workforce. The Pharmacy Guild has reviewed and approved this survey.

Completing the forms

The NZ Institute of Rural Health will receive the information collected. Please complete and return the enclosed questionnaire either by post using the stamped addressed envelope or by fax to the NZIRH Administration Manager Miss Maree Wells at 07 823 9268. Alternatively, If you would prefer to complete by phone, please call Maree at 07 823 9274.

To make it easier for you, the questionnaire is already partly completed using previous workforce and other information available in the public domain. Please indicate where this has changed or is incorrect and fill in the gaps.

Confidentiality

Study data will be stored in a locked cabinet or as encrypted electronic files by the NZIRH for 6 years. As principal investigator I will receive anonymised data for analysis. If information you provide is reported or published, this will be done in a way that does not identify you as its source. However given the small scale of the NZ rural workforce, confidentiality with respect to all participants' identity cannot be guaranteed. Signing your name and sending in the survey is considered a form of consent to participation. In the unlikely event that you wish to withdraw any of the data provided by yourself from the study, you may do so for up to one week after you have returned your questionnaire.

Any questions?

Please contact me (details above). My Head of Department is Prof Bruce Arroll, 09 373 7599 Ext 86978 b.arroll@auckland.ac.nz. For queries regarding ethical concerns please contact the Chair, University of Auckland Human Participants Ethics Committee, University of Auckland, Private Bag, 92019, Auckland, Tel. 09 373-7599, Ext 87830.

Dr Felicity Goodyear-Smith

Appendix B: Surveys

- 1 Survey for rural general practices
- 2 Survey for general practitioners
- 3 Survey for nurses working in rural practices
- 4 Survey for rural pharmacies & community pharmacists
- 5 NZCOM survey for LMC midwives
- 6 NZCOM survey for core midwives

Rural Health Workforce Survey 2005

Dear Practice Manager, please complete by correcting any inaccuracies and/or adding to blank spaces on this questionnaire. Answer questions if appropriate.

TICK in the relevant box.

In case we need to make further contact to clarify any responses, please fill in the following details about who is completing this form:

Name: _____ Phone: _____ Fax: _____
Mobile: _____ Email: _____

When do you work in the practice?   **Monday**   **Tuesday**   **Wednesday**   **Thursday**   **Friday**

am   ☐   ☐   ☐   ☐   ☐

pm   ☐   ☐   ☐   ☐   ☐

SECTION 1: THIS PRACTICE

Practice Name: _____ Phone: _____
Address: _____ Fax: _____
Email: _____ DHB: _____

Who owns this practice?

☐ GP/s   ☐ Other private   ☐ Community   ☐ DHB   ☐ Other

Is this practice a member of a PHO? ☐Yes

☐No

If yes, which

PHO?

Do any other medical practices operate from this same address?

☐Yes

☐No

If yes, which other practice(s)?

Does your practice operate from other addresses/clinics?

☐Yes

☐No

If yes, please

list:

How many patients are enrolled with your practice?

How many casual consultations did the practice do in the last 12 months from 1 October 2004 to 30 September 2005?

Please refer to attached guide to help extract information from your PMS

Do the number of casual consultations fluctuate over the year?

☐Yes

☐No

s

If yes, please describe:

Do you utilise extra staff in response to these fluctuations? Nurse ☐Yes

s

s

☐No

GP

s

☐Yes

☐No

Please photocopy this sheet if needed

SECTION 2 : PRACTICE WORKFORCE

2a GP workforce at 1 October 2005 - relates to regular staff

Please include those on leave and exclude their locums.

Please check and correct details below (details from 2002 rural workforce survey)

Half-day sessions **include time spend on administration, visits, peripheral clinics; **exclude** out of hours & external work*

GP	Name	Gender M/F	Sessions* /week working in this practice	Position in this practice	How long working in this practice?	
					Yrs	Mths
1	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					
2	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					

3	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					
4	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					
5	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					
6	Family / surname			☐ Permanent ☐ Locum >6 mths ☐ Locum <6 mths		
	Given name					
Total number of GP sessions			7			

7 What do you think is the ideal number of GP sessions per week for your practice now?

GP staff turnover

How many regular GPs have left in the past 12 months?

Please photocopy this sheet if needed

2b Nurse workforce at 1 October 2005 - relates to regular staff

Please include those on leave and exclude their casual replacements

Half-day sessions **include time spend on administration, visits, peripheral clinics; **exclude** out of hours & external work*

	Name	Gender M/F	Sessions* /week working in this practice	Position title	How long working in this practice?	
					Yrs	Mths
1	Family / surname					
	Given name					
2	Family / surname					
	Given name					
3	Family / surname					
	Given name					
4	Family / surname					
	Given name					
5	Family / surname					
	Given name					

6	Family / surname					
	Given name					
7	Family / surname					
	Given name					
Total number of nurse sessions			#			

#What do you think is the ideal number of nurse sessions per week for your practice now?

Nurse staff turnover

How many regular nurses have left in the past 12 months?

SECTION 3: AFTER-HOURS ONCALL ARRANGEMENTS

Is your practice involved in after-hours oncall rosters? _____

☐ Yes ☐ No

If yes,

How many GPs from your practice are rostered? _____

How many GPs from other practices are rostered? _____

How many nurses from your practice are rostered? _____

How many nurses from other practices are rostered? _____

Are there any practices in your locality that do not share in your roster? ☐ Yes ☐ No

Besides your practice GPs and nurses, (whom we will ask individually) who else provides after-hour on call cover for your practice?

☐ No-one ☐ External telephone nurse triage (eg Healthline, Procure)

☐ Rural hospital nurse triage (telephone/in person)

☐ Locum GPs ☐ Locum nurses

☐ Independent _____ contractors

(specify) _____

Do you have a rural hospital situated locally?

☐ Yes ☐ No

If <u>yes</u>, what hospital services are available?	☐Emergency ☐Outpatient ☐Inpatient ☐Maternity

SECTION 4: IMPLEMENTING THE PRIMARY HEALTH CARE STRATEGY

As well as the GPs and nurses in your practice, what access do people in your community have to other health professionals and services?

	Situating locally		Visiting service			Situating locally		Visiting service	
	Yes	No	Yes	No		Yes	No	Yes	No
Midwife	☐	☐	☐	☐	Speech Therapist	☐	☐	☐	☐
Dentist	☐	☐	☐	☐	Counsellor	☐	☐	☐	☐
Dental therapist	☐	☐	☐	☐	X-ray facilities	☐	☐	☐	☐
Optometrist	☐	☐	☐	☐	Laboratory	☐	☐	☐	☐
Audiologist	☐	☐	☐	☐	Home Help	☐	☐	☐	☐
Physiotherapist	☐	☐	☐	☐	Iwi provider for community service	☐	☐	☐	☐
Occupational therapist	☐	☐	☐	☐	St Johns ambulance	☐	☐	☐	☐
Dietician	☐	☐	☐	☐	Drug & alcohol support service	☐	☐	☐	☐
Podiatrist	☐	☐	☐	☐	Social Worker	☐	☐	☐	☐

Are any other health professionals or services
situated locally?

Indicate services not available that you
think are desirable:

Has the way your practice works with these other practitioners changed since
the implementation of the primary health care strategy?

Please give examples of how your practice has changed under the primary health care strategy

SECTION 5 : OTHER FEATURES OF YOUR PRACTICE

GP locums

Where have you sourced GP locums from in the 12 months from 1 October 2004 to 30 September 2005?

☐ Not had a locum ☐ Personal network ☐ National locum Scheme

(NZ Locums)

☐ Private NZ locum Scheme ☐ Overseas locum

schemes ☐ Other (specify) _____

Nurse locums

Where have you sourced nurse locums from in the 12 months from 1 October 2004 to 30 September 2005?

☐ Not had a locum ☐ Personal network ☐ National locum Scheme

(NZ Locums)

☐ Private nursing agency ☐ Overseas locum schemes ☐ Other

(specify) _____

Has your practice received 'Reasonable Roster Funding' in the 12 months from 1 October 2004 to 30 September 2005?	☐ <u>Yes</u>	☐ <u>No</u>

Has your practice received 'Rural Workforce Retention Funding' in the 12 months from 1 October 2004 to 30 September 2005?	☐ <u>Yes</u>	☐ <u>No</u>

Please give examples of innovative recruitment and retention initiatives the practice has undertaken in the 12 months from 1 October 2004 to 30 September 2005:

Were these funded by: 'Reasonable Roster Funding'?   ☐ Yes   ☐ No

                                         'Rural Workforce Retention Funding'?   ☐ Yes   ☐ No

Thank you for completing this questionnaire.
Please return to New Zealand Institute of Rural Health,
9 Anzac Street, Cambridge in the Freepost envelope provided

Please **circle** appropriate answer/s

INFORMATION ABOUT YOU

Name: _____

Gender: M / F

Age:	<u>31-</u>	<u>36-</u>								
	<30	35	40	41-45	46-50	51-55	56-60	61-65	66-70	>70

Ethnicity : Which ethnic group do you belong to?

<u>NZ</u>	<u>Maor</u>	<u>Cook Island</u>	<u>Samoa</u>	<u>Tonga</u>	<u>Niuean</u>	<u>Chines</u>	<u>Indian</u>
<u>European</u>	i	<u>Maori</u>	n	n		e	

Other (such as Dutch, Japanese, Tokelauan) please state

In which country did you obtain your original medical qualification?

Are you vocationally registered as a GP with the NZ Medical Council?

Are you a PRIME practitioner provider? Yes / No

How many years have you been practising in a rural area in NZ?

What is your rural ranking scale score?

What is your role in the practice?

Sole Owner	Partner/Owner	Associate	Permanent Salaried	Long Term Locum

Are you intending to leave NZ rural practice within 2 years? Yes / No

within 5 years? Yes / No

INFORMATION ABOUT THE SERVICES YOU PROVIDE

How many half-day* sessions do you work at this practice in a week?					
*Half day sessions include time spent on administration, visits, peripheral clinics: exclude out of hours and external work (eg prison contract)	1 2 3 4 5 6 7 8 or more				
Do you participate in an after-hours on-call roster (Mon to Thu)?					Yes / No
If yes , what is your weekday roster frequency?	1 in 1	1 in 2	1 in 3	1 in 4	1 in 5
	1 in 6	1 in 7	1 in 8	1 in 9	>1 in 9
Do you participate in after-hours on-call roster weekends (Fri to Sun)?					Yes / No
If yes , what is your weekend roster frequency?	1 in 1	1 in 2	1 in 3	1 in 4	1 in 5
	1 in 6	1 in 7	1 in 8	1 in 9	>1 in 9

Does your locality have a rural hospital?					Yes / No
If yes , please answer the questions below:					
Do you participate in after-hours on-call roster (Mon to Thu) in the rural hospital?					Yes / No
If yes , what is your roster frequency?	1 in 1	1 in 2	1 in 3	1 in 4	1 in 5
	1 in 6	1 in 7	1 in 8	1 in 9	>1 in 9
Do you participate in on-call roster weekends (Fri to Sun) in the rural hospital?					Yes / No
If yes , what is your roster frequency?	1 in 1	1 in 2	1 in 3	1 in 4	1 in 5
	1 in 6	1 in 7	1 in 8	1 in 9	>1 in 9
Do you participate in in-patient management in the rural hospital?					Yes / No
If yes , please specify					

Do you have any other work places:					Yes / No
If yes , please specify					



Rural Nurse

*Please **circle** appropriate answer/s*

Gender: M / F

Age:	<u><25</u>	<u>26-30</u>	<u>31-35</u>	<u>36-40</u>	<u>41-45</u>	<u>46-50</u>	<u>51-55</u>	<u>56-60</u>	<u>61-65</u>	<u>>65</u>

Ethnicity: Which ethnic group do you belong to?

NZ   Maor   Cook Island   Samoa   Tonga   Niuean   Chinese   Indian

European	i	Maori	n	n

Other (such as Dutch, Japanese, Tokelauan) please state

In which country did you obtain your original nursing qualification?

Are you?	Registered nurse	Enrolled nurse	Nurse assistant	Nurse practitioner
1	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4	☐	☐	☐	☐
5	☐	☐	☐	☐
6	☐	☐	☐	☐
7	☐	☐	☐	☐
8	☐	☐	☐	☐
9	☐	☐	☐	☐
10	☐	☐	☐	☐
11	☐	☐	☐	☐
12	☐	☐	☐	☐
13	☐	☐	☐	☐
14	☐	☐	☐	☐
15	☐	☐	☐	☐
16	☐	☐	☐	☐
17	☐	☐	☐	☐
18	☐	☐	☐	☐
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36	☐	☐	☐	☐
37	☐	☐	☐	☐
38	☐	☐	☐	☐
39	☐	☐	☐	☐
40	☐	☐	☐	☐
41	☐	☐	☐	☐
42	☐	☐	☐	☐
43	☐	☐	☐	☐
44	☐	☐	☐	☐
45	☐	☐	☐	☐
46	☐	☐	☐	☐
47	☐	☐	☐	☐
48	☐	☐	☐	☐
49	☐	☐	☐	☐
50	☐	☐	☐	☐

Are you a PRIME practitioner provider? Yes / No

Do you have any graduate / post-graduate qualifications? Yes / No

If yes, specify:

Have you done any other relevant courses? Yes / No

If **yes**, specify:

What settings do you clinic marae communi school industry home
work in? ty

Other Specify

Do you participate in an after-hours on-call roster?

Yes / No

If **yes**, please
specify

Do you run any nurse-lead clinics?

Yes / No

How many years have you been practising in a rural
area in NZ?

Are you intending to leave NZ rural nursing within 2 years? Yes / No
practice: within 5 years? Yes / No

In what ways has your practice changed since the implementation of the
primary health care strategy?

Rural Health Workforce Survey 2005

Rural Community Pharmacist

Please circle appropriate answers

The Pharmacy

Name: _____ Phone: _____ Fax: _____
 Address: _____
 Email: _____ DHB: _____

How many pharmacists work at your pharmacy? 1 2 3 >3

How many half-days in total are worked by pharmacists at this pharmacy
in a week?

What is the population size covered by your pharmacy?

Do you provide a 7-day after-hours service? Yes / No

If **yes**, do you share a roster with other pharmacies? Yes / No

If **yes**, what is your roster frequency? 1 in 1 1 in 2 1 in 3 1 in 4 1 in 5

Do you have specific weekend on-call arrangements? Yes / No

If **yes**, please

specify _____

Where have you sourced locums from in the 12 months from 1 October 2004 to 30 September 2005?

Have not had a locum Through personal network Locum agency Other (specify) _____

In the 12 months from 1 October 2004 to 30 September 2005 have you provided?

Student elective: Yes / No

Internship: Yes / No

Does your locality have a rural hospital?

Yes / No

If yes, do they employ a hospital pharmacist?

Yes / No

do you provide a service to the hospital?

Yes / No

What additional services does this pharmacy provide?

Methadone

Rest-home

PRS

Blister-packing

Other (specify) _____

The Pharmacist

Please photocopy this form for each pharmacist working in your practice to complete

Please include those on leave and exclude their locums.

Name: _____

Gender: M / F

Age: <25   26-30   31-35   36-40   41-45   46-50   51-55   56-60   61-65   >65

Ethnicity: Which ethnic group do you belong to?

<u>NZ</u>	<u>Maor</u>	<u>Cook Island</u>	<u>Samoan</u>	<u>Tongan</u>	<u>Niuean</u>	<u>Chines</u>	<u>Indian</u>
<u>European</u>	i	<u>Maori</u>				e	

Other (such as Dutch, Japanese, Tokelauan) please state

In which country did you obtain your original pharmacy qualification?

What are your B.Pharm Dip. Pharm Other(specify) qualifications?

How many years have you been practising in a rural area in _____
NZ?

Are you?	Sole proprietor	Proprietor/partner	Permanent employed	Long Term Locum
1				
2				
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99				
100				

How many half-days do you work at this pharmacy in a week?

1 2 3 4 5 6 7 8 9 10 11 >11

Do you participate in a 7-day after-hours service? Yes / No

If **yes**, what is your roster frequency?   1 in 1   1 in 2   1 in 3   1 in 4   1 in 5

Are you intending to leave NZ rural pharmacy within 2 years? Yes / No
within 5 years? Yes / No

Do you have adequate access to peer support?   Yes/No

Please comment:

Do you have adequate access to continuing education?   Yes/No

Please comment:

Do you have adequate cover for holidays?   Yes/No

Please comment:

Thank you for completing this questionnaire.

Please return to New Zealand Institute of Rural Health,
9 Anzac Street, Cambridge in the Freepost envelope provided

Appendix C: Rural Ranking Scale

Name.....Date.....

Practice Address .....

.....

- Please ring the number of points you are claiming under each heading.
- Refer to definitions under each section.
- Note that all travelling times refer to one-way journeys by car in normal daytime conditions travelling within speed limits.

1. Travelling Time from the Surgery to Major Hospital (see below for a list of these hospitals)

Major hospital within 30 minutes	0
Major hospital within 30-45 minutes	5
Major hospital within 45-60 minutes	10
Major hospital within 60–90 minutes	15
No major hospital within 90 minutes	20

Distance from Surgery to Major Hospital

(km)_____

2. On Call Duty

1 in 6	10
1 in 5	10
1 in 4	10
1 in 3	20
1 in 2	30
1 in 1	40

- The on call duty is calculated on the number of General Practitioners available to take part in an on call service. This does not include locums.
- In a town where there is more than one on call service the total number of General Practitioners in the town is the number available to take part in an on call service. For

example in a town with two practices, one with three doctors doing a 1 in 3 on call and another practice with two doctors doing a 1 in 2 on call, the total number of General Practitioners available to take part in an on call service is five.

If General Practitioners agree that a local colleague need not do call because of poor health that General Practitioner is considered as not being available to take part in the on call service.

3. On call for Major Trauma

Not on call for Major Trauma	0
On call, but with double-crewed road ambulance with at least one paramedic (at all times) available within 30 minutes	5
On call, with other ambulance arrangements.	15

This item reflects the back-up available for rural General Practitioners in emergencies, and the likelihood that one may need to accompany the Ambulance

4. Travelling Time to Nearest General Practitioner Colleague at Place of Work

0-15 minutes	0
15-60minutes	5
over 60minutes	10

Distance to Nearest General Practitioner Colleague at work

- This includes partners in your own practice and other General Practitioners in your town.*

(km)_____

5. Travel Time to most distant practice boundary

under 30 mins	0
30-60mins	5
over 60 mins	10

You must be the CLOSEST doctor to that boundary, but you may include the area covered when on call

6. Regular (at least once monthly) Peripheral Clinics

No	0
Yes	5

- This item has been included to recognise increased costs of running peripheral clinics away from the base surgery*

TOTAL POINTS _____

7. Discretionary Points

The HFA may at its discretion award additional points to General Practitioners in areas where the recruitment and retention of General Practitioners is difficult. No General Practitioner may have a score of greater than 100 points.

In order to apply to the HFA for discretionary points please tick the box

☐

This will be followed up by the Senior Locality manager for your area

**PLEASE TICK IF YOU OBJECT TO THE INFORMATION YOU HAVE
RECORDED BEING MADE AVAILABLE TO THE RURAL GENERAL
PRACTITIONER NETWORK**

☐

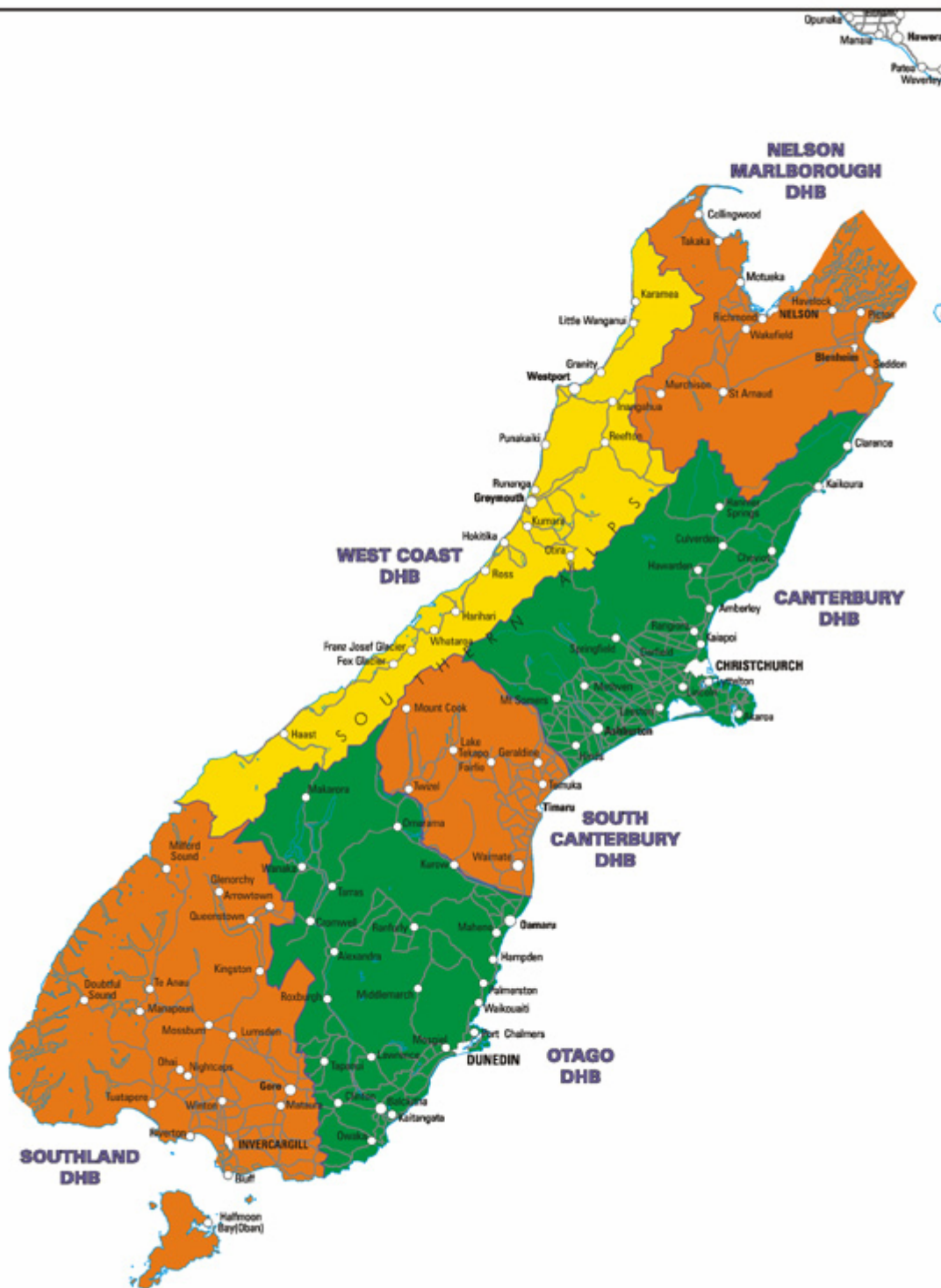
SIGNATURE

DATE:

Location of the 21 NZ DHBs



MINISTRY OF
HEALTH
KUALA LUMPUR, MALAYSIA



JANUARY 2001

Appendix E: Established Primary Health Organisations (PHOs) as at 1 July 2005

DHB	PHO
Northland	1. Hauora Hokianga Integrated 2. Kaipara Care Incorporated 3. Manaia Health 4. Tihewa Mauriora Charitable Trust 5. Whangaroa
Waitemata	6. Coast to Coast (North Rodney) 7. Harbour 8. HealthWest 9. Procare Network Waitemata 10. Te Puna 11. Waiora Healthcare Trust
Auckland	12. Auckland PHO Ltd 13. AuckPAC Health Trust Board 14. Langimalie Health Clinic Tongan Health Society Incorporated 15. Procare Network Auckland Ltd 16. Tamaki HealthCare Charitable Trust 17. Tikapa Moana (Waiheke Island)
Counties Manukau	18. East Health Services 19. Mangere Community Health Trust 20. Peoples Healthcare Trust 21. Procare Network Manukau 22. TaPasefika (TaPasefika Health Trust) 23. Te Kupenga O Hoturoa Charitable Trust 24. Otara (Total Healthcare Otara)
Waikato	25. Hauraki 26. Māori Coalition 27. North Waikato 28. Waikato

Bay of Plenty	29. Eastern Bay of Plenty Ltd 30. Kawerau Interim Nga Mataapuna Oranga 31. Te Ao Hou 32. Western Bay
Lakes	33. Lake Taupo Ltd 34. Health Rotorua (Rotorua General Practice Group)
Tairāwhiti	35. Turanganui PHO Limited
Taranaki	36. Waikato DHB 37. Taranaki Ltd 38. Tihi o Hauora o Taranaki
Hawke's Bay	39. Wairoa 40. Hawkes Bay Ltd 41. Tu Meke Wairoa District Charitable Health Trust
MidCentral	42. Horowhenua 43. Manawatu Otaki 44. Tararua
Whanganui	45. Taumata Hauora Trust 46. Whanganui Regional
Hutt	47. Family Care Mid Valley Access 48. Piki te Ora ki Te Awakairangi 49. Ropata Community 50. Tamaiti Whangai 51. Valley
Capital & Coast	52. Capital 53. Kapiti 54. Karori 55. Porirua Plus 56. South East and City (SECPHO) 57. Tumai mo te Tangata Inc
Wairarapa	58. Wairarapa Community Trust
Nelson Marlborough	59. Kimi Hauora Wairau (Marlborough Trust)

	60. Nelson Bays Primary Health Trust
West Coast	61. West Coast
Canterbury	62. Canterbury Community Health Care Alliance 63. Christchurch 64. Hurunui Kaikoura 65. Partnership Health (Canterbury) 66. Rural Canterbury
South Canterbury	67. Aoraki
Otago	68. Dunedin City 69. Mornington 70. Otago Southern Region 71. Rural Otago 72. Taieri and Strath Taieri
Southland	73. Eastern & Northern Southland (Hokonui) 74. Rural Southland (Takitimu) 75. Waihopai (Invercargill - Te Ara A Kewa) 76. Wakatipu

http://www.moh.govt.nz/moh.nsf/wpg_index/-Primary+Health+Care+Established+PHOs+by+DHB

Page last updated 12 January 2006.