

# The rural medical generalist workforce: The Royal New Zealand College of General Practitioners' 2014 workforce survey results

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## ABSTRACT

**INTRODUCTION:** Previous surveys have revealed a New Zealand rural medical generalist workforce that is mainly male, older and dependent on international medical graduates (IMGs).

**AIMS:** To provide a snapshot of the New Zealand rural medical generalist workforce in 2014 and to make comparisons with the urban medical generalist workforce. To assess future workforce losses and find ways to address them.

**METHODS:** In March/April 2014, a survey of members of The Royal New Zealand College of General Practitioners used the SurveyMonkey tool. A comparative analysis was undertaken of self-identified rural and urban respondents.

**RESULTS:** The response rate was 55.9% (2525/4514). Of the 2203 working respondents, 17.1% self-identified as rural, working in rural general practice or rural hospital medicine. Compared with urban respondents, more rural generalists were male (57.5% rural vs 45.5% urban;  $P < 0.01$ ), aged  $\geq 55$  years (38.2% rural vs 32.6% urban;  $P = 0.04$ ) and involved in teaching (53.0% rural vs 30.0% urban;  $P < 0.01$ ). IMGs were an integral part of the rural generalist workforce (52.8% rural vs 38.7% urban;  $P < 0.01$ ). More rural generalists worked  $\geq 36$  h per week (66.8% rural vs 50.4% urban;  $P < 0.01$ ) and they were more likely to retire within the next 10 years (40.4% rural vs 34.7% urban;  $P = 0.0417$ ).

**DISCUSSION:** The rural medical generalist workforce continues to be mainly male, older and consist of a high proportion of IMGs. Findings confirm the fragility of this workforce and highlight the need for renewed efforts to improve recruitment and retention.

**KEYWORDS:** New Zealand; rural medical workforce; general practice; rural hospital medicine; recruitment and retention

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## Introduction

The recruitment and retention of a well-trained rural medical workforce remains a major problem worldwide.<sup>1</sup> New Zealand is no different, with recent Ministry of Health reports identifying persistent and critical shortages of both general practitioners (GPs) and rural hospital doctors in some rural areas.<sup>2,3</sup>

Previous surveys of the rural medical workforce include the 2001/2002 National Primary Medical Care Survey (NatMedCa),<sup>4</sup> the 2005 Rural Health Workforce Survey,<sup>5</sup> and The Royal New Zealand College of General Practitioners' (RNZCGP) membership surveys in 2007<sup>6</sup> and 2008.<sup>7</sup> NatMedCa found that rural GPs were mainly male, aged 35–44 years, and had higher workloads than their non-rural colleagues.

Subsequent workforce surveys confirmed the high proportion of male doctors and of international medical graduates (IMGs) in rural areas, and a workforce that was continuing to age.

Over the past two decades, a number of rural medical workforce initiatives have been introduced in New Zealand. These include preferential entry to medical schools for rural students, and undergraduate rural immersion programmes and rural rotations.<sup>8–11</sup> Postgraduate rural medical training has included the Postgraduate Generalist Placement Education Programme for house surgeons, rural placements during general practice vocational training and vocational training in rural hospital medicine through the Division of Rural Hospital Medicine (DRHM). The Voluntary Bonding Scheme provides incentive payments to move graduates into communities and specialties that need them most. Other initiatives include rural funding support, reasonable rosters funding, workforce retention funding, and NZLocums, a rural GP recruitment service.<sup>12</sup>

The RNZCGP's 2014 workforce survey<sup>13</sup> marks the first comprehensive survey of the RNZCGP's members since 2008 although, in the interim, Medical Council of New Zealand (MCNZ) surveys have suggested the rural medical workforce is ageing even further and is still reliant on IMGs.<sup>14</sup>

The primary aim of this study was to provide a snapshot of the New Zealand rural medical generalist workforce based on the RNZCGP's 2014 workforce survey, to make comparisons with the urban medical generalist workforce and, where possible, to determine workforce trends by drawing comparisons with previous surveys. The secondary objectives were to analyse working patterns of rural generalists, and to assess future rural workforce losses and find ways to address them.

## Methods

### Questionnaire development

The survey questionnaire was informed by the RNZCGP's previous membership surveys with input from RNZCGP staff. Demographic

### WHAT GAP THIS FILLS

**What is already known:** New Zealand's rural general practice workforce has been mainly male, older, and has included a high proportion of international medical graduates (IMGs). Educational and funding initiatives have aimed to recruit and retain doctors in rural areas.

**What this study adds:** The rural medical generalist workforce is ageing, remains heavily reliant on IMGs, and compared to urban medical generalists, is closer to retirement, and still mainly male. The increasing fragility of the rural medical workforce highlights the urgency of improving recruitment and retention.

information sought included age, gender, ethnicity and country of primary medical qualification. The survey also included issues not addressed by MCNZ workforce surveys, such as retirement intentions, work situation and intentions, involvement in teaching, and self-identified rural/urban status. The questions were entered into SurveyMonkey ([www.surveymonkey.com](http://www.surveymonkey.com)), an online survey tool that allows a survey to be created for use over the internet.

The study was not reviewed by a health and disability ethics committee because it involved minimal risk according to the National Ethics Advisory Committee's guidelines.<sup>15</sup>

### Defining rurality

There is no internationally recognised definition of 'rural'; the key consideration is the purpose for its use.<sup>16,5</sup> Statistics New Zealand's definition of 'rural' (four categories based on degree of urban influence)<sup>17</sup> is unhelpful when discussing health care delivery because it allocates many small towns (eg Twizel and Wairoa), whose residents access rural GPs and rural hospitals, to the 'independent urban' category.<sup>18</sup> MCNZ surveys allocate doctors to regions and approximate the regions' rurality based on population density.<sup>14</sup>

Until 2014, when the Ministry of Health's Rural Ranking Scale (RRS) was replaced by local alliancing arrangements and the 'In/Out rule',<sup>19,12</sup> the RRS was used to determine whether a general practice was 'rural' for the purposes of rural funding support. Some older surveys also used the RRS to identify GPs or practices as rural.<sup>4,5</sup>

As the RRS was considered inadequate and ambiguous,<sup>6</sup> the RNZCGP's 2007 membership survey allowed participants to self-identify as rural. Thus, respondents expressed their own perception of rurality.

The RNZCGP's 2014 workforce survey took a similar approach and asked respondents to self-identify the practice where they worked as either 'urban' ('urban respondents'), 'rural' ('rural respondents'), or 'not clearly rural or urban' irrespective of their eligibility for rural ranking or funding. Participants were asked whether they worked in 'either general practice or rural hospital medicine', but it was not possible to analyse these two groups separately. For the first time, the survey also explored factors considered important to rural respondents in classifying a practice as rural.

### Survey testing

The survey was sent to 82 RNZCGP members, including Fellowship assessors and interested members of the 'GP workforce' professional interest group. Forty-four members completed the survey, and content was improved as a result of feedback.

The target respondents of the survey were the 4514 Fellows, Members and Associates of the RNZCGP or the DRHM on the RNZCGP's database. On 28 March 2014, the survey population was sent an email containing a hyperlink to the online survey and an invitation to participate. Reminders were sent by email and published in the RNZCGP's electronic newsletter, *ePulse*. The survey closed on 30 April 2014.

### Survey analysis

The SurveyMonkey tool collated responses automatically. The results for the rural and urban respondents were downloaded and compiled. A comparative analysis of the two groups was undertaken. Statistical analysis was performed; medians were determined for categorical data, and comparisons were made using Pearson's Chi-square test with Yates' continuity correction.

## Results

Responses were received from 2525 members (55.9% response rate), including members who were not working, or working in other careers, or overseas. The analysed data pertain to the 2215 respondents (87.7% of all respondents) who were working in New Zealand in either general practice or rural hospital medicine at the time.

The profile of the respondents was in keeping with the age profile of the RNZCGP's membership, and consistent with its rural profile based on membership of the Rural General Practitioners' Chapter and/or DRHM (16% of the RNZCGP's members). Females were slightly overrepresented among respondents (51% vs 47%).<sup>13</sup>

### Who are the rural respondents?

Of the 2203 respondents working in New Zealand, 377 (17.1%) considered the practice they worked in was rural, while 1666 (75.6%) respondents considered the practice they worked in was urban. A further 160 (7.3%) respondents considered their practice was 'not clearly urban or rural'. The reasons for this assessment included: 'work in both urban and rural practices'; 'semi-rural'; 'locums'; 'provincial' and 'military'. The 'not clearly urban or rural' group was excluded from further analysis.

The rural generalist workforce had a significantly higher proportion of males than the urban workforce (57.5% (211/367) rural vs 45.5% (749/1646) urban;  $P < 0.01$ ). The median age band for both rural and urban groups was 50–54 years. However, more rural respondents were aged  $\geq 55$  years than urban respondents (38.2% rural vs 32.6% urban;  $P = 0.0396$ ). Furthermore, 21.5% of rural respondents were aged  $\geq 60$  years compared to 16.5% of urban respondents ( $P = 0.0263$ ).

Eighty-six percent (324/377) of rural respondents identified as either New Zealand European or 'Other European' compared with 75.0% (1249/1660) of urban respondents ( $P = 0.0115$ ). Only 3.7% (14/377) of rural respondents identified as Māori and 1.1% (4/377) as Pasifika (compared with 4.0% and 2.4% of urban respondents, respectively).

IMGs comprised 52.8% (199/377) of rural respondents and 38.7% (644/1666) of urban respondents ( $P < 0.01$ ). IMGs who obtained their primary medical qualification in the United Kingdom or South Africa comprised 50% and 17%, respectively, of IMGs in rural practice.

Rural respondents' views on classifying a practice as 'rural' were sought by asking them to specify the importance of four given characteristics (Table 1). Free-text responses were also provided on other factors considered important for classifying a practice as rural (Table 2).

### Work situation and intentions

Of the rural respondents, 56.6% (213/376) worked as employees or contractors mostly in long-term

roles (45.2%; 170/376), rather than as practice owners or partners (35.9%; 135/376). Almost all the rural hospital doctors surveyed would have been employees.

Respondents indicated the range of hours worked per week, which included on-call time actually worked and time spent on patient-related activities (eg paperwork). A higher proportion of rural respondents (66.8%; 252/377) worked full-time (defined as  $\geq 36$  h per week) compared with urban respondents (50.4%; 839/1666) ( $P < 0.01$ ; Fig. 1). However, the median working hours for both groups was in the 36–40 h per week band.

Personal choice (70.6%; 84/119) and family responsibilities for children (45.4%; 54/119) were the most common reasons rural respondents

Table 1. Factors and their importance in classifying a practice as rural

Factor	Very important		Important		Unimportant		Total
	Number	Percentage	Number	Percentage	Number	Percentage	
<b>Isolation (including geographical and professional with limited access to sophisticated medical and diagnostic services)</b>	267	71.2	103	27.5	5	1.3	375
<b>A requirement for increased clinical acumen (to diagnose and manage illness)</b>	200	53.9	149	40.2	22	5.9	371
<b>Extended practice (eg including some secondary-level care)</b>	168	45.2	168	45.2	36	9.7	372
<b>Strong multidisciplinary focus (eg nurses providing on-call cover)</b>	119	32.1%	182	49.1%	70	18.9%	371

Table 2. Other factors considered important in classifying a practice as rural

Factors
<ul style="list-style-type: none"> <li>• A greater commitment to after-hours and on-call including nights, weekends, 24/7 care.</li> <li>• Providing cover for ambulance services, primary response in medical emergencies (PRIME) or other similar commitments.</li> <li>• Caring for rural people (demographic and socioeconomic factors) in a rural context.</li> <li>• Location based (solely).</li> <li>• Working in a large geographical catchment.</li> <li>• Involvement in the rural community.</li> <li>• The attitudes and deprivation of the community mean that people cannot afford to or do not travel to emergency departments/clinics and present as emergencies.</li> <li>• Lifestyle factors such as the standard of schooling and housing, and distance from extended family, entertainment, sporting activities, etc.</li> <li>• Involvement in a short-stay ward covered by 24-h nursing.</li> <li>• Patient resilience.</li> </ul>

chose to work part-time (< 36 h per week). However, many of these respondents would be encouraged or enabled to work more hours if they had flexibility to adjust working hours to meet changing family circumstances (56.2%; 41/73), did not have to take part in after-hours rosters (45.2%; 33/73), were more highly remunerated (34.2%; 25/73), or had support for administrative tasks (30.1%; 22/73).

Respondents who intended to remain working in 5 years' time were asked about their intended future working hours. Of the rural respondents who answered this question, 54.0% (174/322) intended to work a similar number of hours, while

38.2% (123/322) intended to reduce their working hours. Results were similar for urban respondents. The most common reasons for decreasing future working hours were to improve work-life balance (56.7%; 68/120) and to reduce work commitments as they moved towards retirement (51.7%; 62/120).

Most rural respondents (89.8%; 335/373) expected to be aged  $\geq 60$  years at retirement (Fig. 2). More rural than urban respondents intended to retire within 10 years (40.4% (152/376) rural vs 34.7% (573/1652) urban;  $P = 0.0417$ ). The difference between rural and urban respondents in terms of intention to retire within the next 5 years did not reach statistical significance (17.6% (66/376) rural vs 13.9% (230/1652) urban;  $P = 0.0856$ ).

Of the rural respondents aged  $\geq 50$  years, 60.9% (129/212) intended to reduce the number of hours they worked as they approached retirement. Factors that might encourage them to continue practising included the ability to have longer or more frequent holidays (63.6%; 77/121), not having to participate in after-hours care rosters (62.8%; 76/121), and having more flexibility to adjust working hours (59.5%; 72/121).

### Teaching general practice

Rural respondents (53.0%; 187/353) were more likely to be involved in teaching than their urban colleagues (30.0%; 471/1570) ( $P < 0.01$ ) and more than twice as likely to teach undergraduate medical students (47.0% (166/353) rural vs 22.4% (352/1570) urban;  $P < 0.01$ ). Figure 3 shows the nature of medical education provided by rural respondents.

### Discussion

This study reinforces the findings of the 2005 Rural Health Workforce Survey and the RNZCGP's surveys in 2007 and 2008. The rural medical generalist workforce is heavily reliant on IMGs, and compared to its urban counterpart, has a higher proportion of doctors who are older, closer to retirement, and male. In keeping with MCNZ reports, this study suggests the rural generalist workforce is older than it was in 2007,<sup>6</sup> implying inadequate recent recruitment of young

Figure 1. Working hours per week of rural and urban respondents

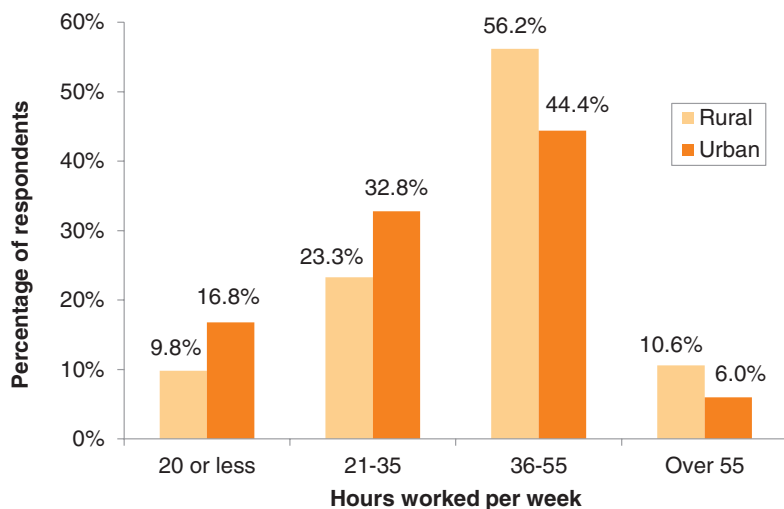
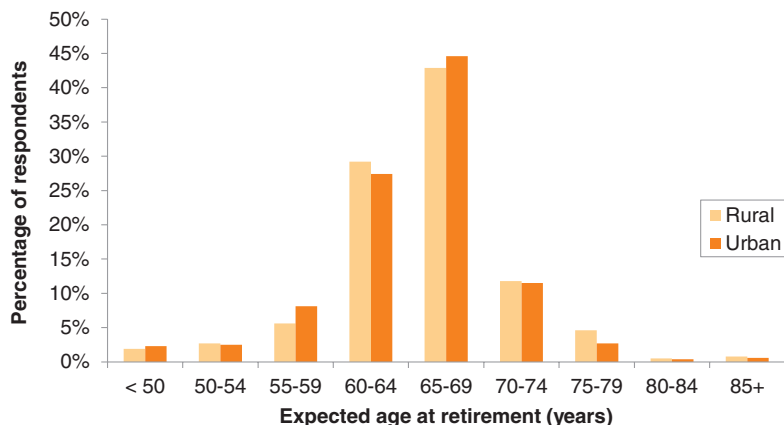


Figure 2. Expected age at retirement of rural and urban respondents





medical graduates to rural areas. The median age band has increased from 46–50 to 50–54 years, and while in 2007, 11.5% of this workforce was > 60 years, in 2014, 21.5% was ≥ 60 years.

In this study, 17.1% of doctors self-identified as working in rural practice. It is unknown what proportion of New Zealand's total population this group of doctors serves and whether this proportion reflects an equitable geographic distribution of the medical workforce. Such an assessment would require a fit-for-purpose definition of 'rural' applicable to both the survey and New Zealand census data.

While 14% of people living in New Zealand are of Māori ethnicity,<sup>20</sup> Māori comprise only ~4% of both the urban and rural generalist workforce. The underrepresentation of Māori doctors remains a concern,<sup>21</sup> particularly given that Māori make up a higher proportion of the population of highly rural and remote areas.<sup>22</sup>

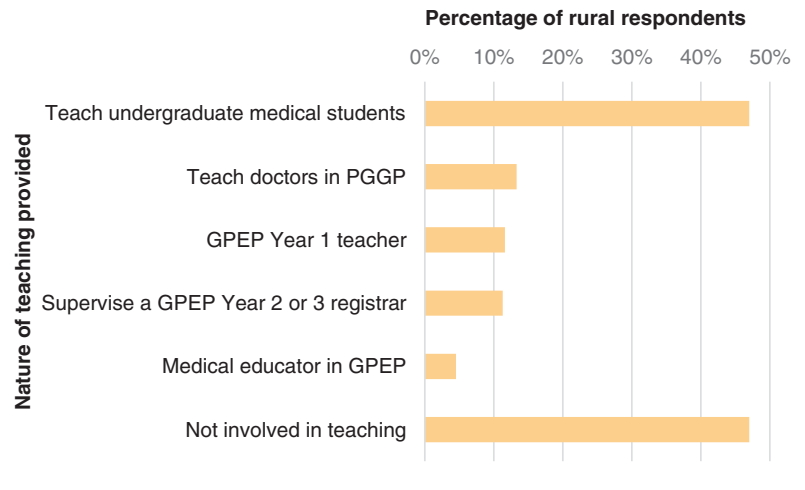
The study also found that more rural generalists worked longer hours than their urban colleagues. Approximately one-third of rural generalists were working part-time, but many would be enabled to work more hours by incentives such as greater flexibility in working hours. For respondents aged > 50 years, factors that would encourage them to remain in practice longer related mostly to work–life balance.

### Strengths and limitations

Demographic similarities between the 2007 and 2014 RNZCGP surveys strengthen the validity of both results. A further strength of the present study is the large sample size. However, the findings may not represent the true picture. Approximately 2000 RNZCGP members did not respond, and some doctors working in rural practice (eg locums registered in a general scope of practice) may not have been survey recipients.

A limitation is the inclusion of rural hospital doctors in the 2014 survey, which will skew some comparisons. For example, the rural hospital workforce is typically salaried,<sup>23</sup> skewing results on employment status. However, other comparisons such as that for age group are still possible

Figure 3. Nature of education provided by rural respondents. Some respondents had more than one teaching role. GPEP = The RNZCGP's General Practice Education Programme; PGGP = The RNZCGP's Postgraduate Generalist Placement Education Programme (which finished on 25 November 2015)



because the median age of Fellows of the DRHM is similar to the rural workforce as a whole.<sup>23</sup>

Differences in survey questions between 2007<sup>6</sup> and 2014 also limit comparisons between years. Future workforce gaps are limited to stated intentions and their inherent inaccuracies.

### Implications for practice, policy and research

There are early signs of an improvement in the rural hospital workforce, albeit from a very low base.<sup>23</sup> However, this study confirms that the rural medical workforce overall is increasingly fragile and signals a looming workforce crisis in rural general practice. Rural areas already have fewer doctors in general practice and doctors overall per head of population than urban areas.<sup>14</sup> Rural generalists also undertake an extended scope of practice to compensate for the distance between the rural community and other specialists. An ageing population, long-term conditions, multimorbidity and the health system's shift towards care closer to home<sup>24,25</sup> are expected to drive demand for primary health care, and this will be more sharply felt in rural areas.

This study underscores the urgency of building a sustainable rural health care workforce that

mirrors the diversity of rural populations. Recent increases in vocational training places for general practice are positive, and there are continued efforts to address the underrepresentation of Māori doctors.<sup>26–28</sup> However, gaps remain in the rural training pathway. Consequently, the RNZCGP is considering how it can further improve rural general practice training, recruitment and retention.<sup>29</sup> Conversely, training places in the DRHM programme are much fewer and oversubscribed. Providing an adequate level of funding for these vocational training programmes and the Voluntary Bonding Scheme is crucial.

Rural generalists make a large contribution to educating and training the future medical workforce. Their contribution should be recognised and supported by educational institutions accordingly to at least the same level as that of their urban and specialist colleagues.

Anticipated future rural generalist workforce losses stress the importance of ensuring adequate support for rural generalists already in practice. However, the chronicity of workforce shortages suggests the solution may well be with new models of health care delivery and expanded roles. The needs of rural populations may be better met by spreading skills across a wider range of health practitioners in rural health teams. Rural integrated family health centres,<sup>30</sup> rural pop-up health clinics, and mobile health buses are examples of innovative models. Moreover, a health care workforce that reflects the demographic profile of patients in rural areas may help to overcome other access barriers (eg for rural women and Māori).

The absence of an agreed definition of ‘rural’ for the purposes of health care data collection and research remains a major barrier to health care delivery and health workforce planning in New Zealand, and requires urgent attention. The paucity of rural health research undertaken in New Zealand compared to similar countries was noted in 2005.<sup>16</sup> Little has changed over the past decade. It is clear that there is an urgent need for more research to address the sustainability of health care services for rural New Zealanders.

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#### COMPETING INTERESTS

The views expressed in this paper are those of the authors and do not necessarily represent those of The Royal New Zealand College of General Practitioners.