The New Zealand Rural Hospital Doctors Workforce Survey 2015
Ross Lawrenson, James Reid, Garry Nixon, Andrew Laurenson

ABSTRACT

AIMS: The aim of the study was to assess medical workforce needs of New Zealand rural hospitals.

METHODS: We undertook a survey of all the managers of rural hospitals in New Zealand. We also analysed the Medical Council data relevant to doctors with a vocational scope of rural hospital medicine, followed by online surveys of rural hospital doctors and registrars in training.

RESULTS: There were 26 rural hospitals identified. 18/26 (69%) directly employed medical staff. Managers identified a shortage of rural hospital doctors, although this was much improved compared to 2009. While most vocationally registered doctors working in rural hospitals were older, male and predominantly international medical graduates, we found that registrars in training were more likely to be female, from a rural background and to have trained in New Zealand. Seventy-five percent of rural trainees are either trained in general practice or are pursuing dual training.

CONCLUSIONS: This study provides useful information for rural hospital managers, clinical leaders and others involved in workforce planning. While there has been a reduction of the workforce shortages of a few years ago, there are still shortages for many hospitals. The new cadre of trainees are more likely to be female and are looking to be rural generalists.

Concerns have been held about the state of New Zealand’s rural hospital medical workforce for a long time.¹,²,³ The seriousness of the situation was confirmed in the first formal workforce survey undertaken in 2009.⁴ At that time, a third of the medical staff positions were found to be vacant or filled by locums, and 75% of the hospital managers described a serious/critical shortage of suitably qualified medical staff. The survey also noted a lack of clinical leadership and poor uptake of processes designed to maintain standards of professional practice, such as credentialing and clinical governance.

After an inaugural meeting in 2005, the Division of Rural Hospital Medicine (DRHM) was formed under the auspices of the Royal New Zealand College of General Practitioners,⁵ and the first trainees were accepted onto the new rural hospital medicine training scheme in 2009. Although a new scope of practice, rural hospital medicine was recognised by the Medical Council of New Zealand (MCNZ). The intention was to build on the close ties with rural general practice by—amongst other things—integrating the maintenance of professional standards (MOPS) programmes and aligning the DRHM and general practice training schemes.⁶

It is still too early to determine the impact these initiatives will have on the workforce in the long term. However, by repeating the survey done in 2009 it was intended changes could be observed and information gathered that would inform future workforce planning and integration with other RNZCGP programmes.

Aims and objectives
The aims of the study were to:
1. assess medical workforce needs of New Zealand rural hospitals; and
2. assess the characteristics and intentions of registrars within the DRHM program.
Methods

We undertook three cross sectional studies.

1. A survey of all the rural hospitals. A rural hospital was defined for this study as one which offered acute care and provided 24-hour medical cover in line with the definition used in our 2009 survey. We also used the same questionnaire. We did add in questions about the use of doctors working in the new vocational scope of rural hospital medicine. All the managers of the identified rural hospitals were contacted and helped complete the questionnaires.

2. We obtained the list of the doctors currently registered with the MCNZ as being vocationally registered in rural hospital medicine. We identified in this group their country of qualification, the university they qualified from, the year of qualification and their gender.

3. We surveyed rural hospital doctors including Fellows, registrars in training and non-vocationally registered doctors. We invited all DRHM current Fellows and registrars to complete an online survey. This survey was developed in conjunction with the RNZCGP Division of Rural Hospital Medicine. The questionnaire developed for registrars included questions specific to their training experience which we are not reporting in this study. The questionnaires were formatted into a Survey Monkey electronic tool and placed on the College website. All Fellows and registrars were invited to complete the questionnaire. Invites were also made on e-pulse, the RNZCGP e-newsletter, and personal contacts from key members of the DRHM. We also developed a shorter questionnaire based on key questions for the DRHM Fellows, aimed at doctors working in rural hospitals, but who were not Fellows of the DRHM. This questionnaire was hosted by the New Zealand Institute of Rural Health. Doctors were invited by word of mouth via the hospital managers and DRHM Fellows to complete this questionnaire.

Results

Survey of rural hospital managers

We surveyed 26 hospitals (two less than in 2009) between January and March 2015: 16/26 (61.5%) were managed by District Health Boards, and the remainder were managed by a range of community organisations, including community trusts, an Iwi organisation, and a Local Authority Trading Organisation; 12/26 (46%) are approved for DRHM training. The mean number of beds was 16 (3–48), excluding maternity beds and residential care beds. The 2015 findings are compared with those of 2009 in Table 1. Seventy-seven percent (14/18) of hospitals that employed medical staff directly said they had a process for checking doctors credentials, and 21/26 (81%) said they had an active process of clinical governance.

Survey of MCNZ records of doctors who are vocationally registered in rural hospital medicine

We identified 92 doctors vocationally registered in rural hospital medicine by MCNZ. 26/92 (28%) were female and 36/92 (39%) received their primary degree in New Zealand. Thirty-three percent (12/36) of New Zealand medical graduates graduated from the University of Auckland, and 24/36 (67%) from Otago. Fifty-eight percent (53/92) were vocationally registered in another scope: 37 (40%) were vocationally registered in general practice; 13 (14%) in Urgent Care; 3 in emergency medicine; and one each in internal medicine and paediatrics. (nb, some were vocationally registered in more than one additional scope). The median year of qualification was 1988.

Survey of Rural Hospital Doctors

DRHM current Fellows

The DRHM identified 110 Fellows on their membership list. There were 3 doctors on MCNZ database no longer reporting their MOPS in the DRHM scope, and 21 Fellows who have not registered their qualification with the MCNZ. Five of these doctors are not registered with the MCNZ—possibly as they are working overseas or taking a break from working. However, there are 16 Fellows who are active, but not vocationally registered according to the MCNZ.
Sixty-two percent (68/110) of DRHM Fellows provided a valid response to the electronic questionnaire: 25/68 (37%) were female (compared to 28% of MCNZ list); 32/68 (47%) received their primary degree in New Zealand (compared to 39% of MCNZ sample); and of the New Zealand graduates, 30% graduated from the University of Auckland, compared to 33% in the MCNZ sample. These comparisons suggest that the sample is slightly biased to New Zealand-qualified doctors, Otago graduates and females. Median age group of Fellows was 45–54 years. Data regarding the number of survey respondents who come from a rural background (defined for the purpose of this survey as living rurally and attending school in a community with a population of less than 30,000 at the time of entry to medical school) shows that the proportion of current DRHM Fellows who come from a rural background is 21/67 (31%).

### Additional scopes

Sixty-five percent (44/68) of respondents held a vocational registration in another scope, compared to 58% on the MCNZ register. Again, the most common scope is general practice (37%), followed by Urgent Care, and emergency medicine. An additional 18% are practising outside their vocational scope under a general scope, either in emergency medicine, general practice, or internal medicine. Fifty-one percent (35/68) have recently been registered to work in another country.

### Employment

Eighty-eight percent (60/68) of Fellows work in rural hospitals: 44% work in a Level 3 rural hospital; 35% in Level 2; and 9% in Level 1. Only 28% work at a single worksite rural hospital, while 72% work at two or more workplaces, with some having three or more worksites. Northland DHB employs the greatest number of Fellows, followed by Canterbury, Southern, Waikato and West Coast DHBs.

### Clinical responsibilities

The majority of Fellows (50/68 (73.0%)) have daily responsibility for adult acute medicine. Fewer than half have daily responsibility for paediatric acute medicine (47.6%), convalescent care (41.3%), long-stay inpatient care (31.7%), or palliative care (44.4%), but all of these areas are covered occasionally or out-of-hours. Fifty-two percent of Fellows indicate that they never have lead maternity carer responsibilities. However, 66.2% are involved as support for midwifery colleagues in an emergency.

### Clinical governance

There was good agreement between the reports from medical staff and the hospital managers, with 80% rural hospital doctors saying that there is active clinical governance in their worksite, and 73% identifying there was clinical leadership—although this may be provided from a base hospital.

### Future

Sixty percent of respondents said it was very easy, or moderately easy, to find employment in rural hospital medicine. Thirteen percent (9/68) are considering obtaining fellowship in general practice. A total of 33/64 Fellows (51.6% of the respondents to this question) have indicated that they are intending to leave rural practice in the next 10 years. Five of these respondents (7.8%) are intending to leave in the next 2 years, 10 in the next 5 years (15.6%), and a further 18 in the next 10 years (28.1%). Of those planning to leave, retirement is given as the reason in 21 cases (32.8% of respondents, or 63.6% of those planning to leave rural practice).

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**Table 1:** A comparison of the findings from the survey of rural hospital managers in 2009 and 2015.

<table>
<thead>
<tr>
<th></th>
<th>2009 survey (28 hospitals)</th>
<th>2015 survey (26 hospitals)</th>
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<tbody>
<tr>
<td>DHB managed facility</td>
<td>19/28 (68%)</td>
<td>16/26 (61%)</td>
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<tr>
<td>Directly employed medical staff</td>
<td>18/28 (64%)</td>
<td>18/26 (69%)</td>
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<tr>
<td>Budgeted FTE Medical staff</td>
<td>85.1</td>
<td>96.8</td>
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<tr>
<td>Locums/unfilled positions</td>
<td>27 (32%)</td>
<td>5.5 (5.7%)</td>
</tr>
<tr>
<td>Serious/critical shortage of suitably qualified medical staff</td>
<td>18/26 (75%)</td>
<td>6/23 (26%)</td>
</tr>
<tr>
<td>Designated medical leader</td>
<td>18/28 (64%)</td>
<td>19/26 (73%)</td>
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DRHM registrars survey results

Response rate for the Registrar survey was 42 out of a College list of 46 active registrars, a 91% response. Median age group of Registrars was 25–34 years (81%). The majority graduated in 2005–2009 period. Data regarding the number of survey respondents who come from a rural background showed almost one in two registrars (45%, 19 out of 42 respondents) came from a rural background, 46% were female, and 71% had primary degree in New Zealand, with the remainder mainly coming from the UK. Sixty-three percent of New Zealand graduates trained at the University of Otago. Sixty-three percent are on a dual training pathway with general practice, and 12% already hold vocational registration in general practice.

Employment

Twenty-six percent (11/42) said they were currently working in a rural hospital, mainly Level 3 hospitals (nb, Grey Hospital is considered a Level 3 hospital for DRHM training but was not considered in the rural hospital survey). Data regarding current registrar employment shows that there are a limited set of runs that registrars are currently engaged in. These are anaesthetics, emergency medicine, general medicine, paediatrics, rural general practice, rural hospital, and urban general practice. Registrars reported some difficulty in finding runs in paediatrics and anaesthetics. No registrars reported having taken a run in O&G or palliative care.

Registrar’s future intentions

Of the registrars that responded to the survey, 33% intend to work in rural hospital practice only, while 61.5% said they intend to work in a combination of rural hospital medicine and general practice. Five percent are intending to work in rural general practice only, and 34% intend to work overseas at the end of their training.

Non-vocationally registered doctors survey results

There were 11 eligible responses from non-vocationally registered doctors who were currently working in a rural hospital. The median age distribution of non-vocationally registered doctors was 33–44, intermediate between the age of registrars and Fellows. Five were female (45%), one was a New Zealand graduate, three were from the UK, and six from Europe.

Discussion

This workforce survey took a dual approach—the first from the perspective of the rural hospital’s management, and the second that of the doctors working within the sector. We used the same definition of a rural hospital as that used in the 2009 survey, and identified 26 centres that provided 24-hour hospital care, had generalist medical cover and did not have more than two vocationally registered specialists. Akaroa and Taihape were both included in 2009, but are no longer providing acute hospital care for their communities.

Our survey of rural hospitals suggests that there is a much-improved workforce situation compared to 2009, with more medical positions, and with the percentage of positions filled by locums or vacant, falling from 32% to 5.7%. Most doctors working in a rural hospital are now vocationally registered or are in training. Thirty percent of the hospital managers indicated that there is an adequate supply of rural hospital doctors, although a quarter indicated there is still a serious or critical shortage. The World Health Organization identifies the importance of educational, financial, professional, personal and regulatory initiatives to improve access to health workers for rural communities. The DRHM training program provides vocational training and a career path for trainees, and is likely to have contributed to this improved position. A number of other initiatives also need to be recognised, including those from the two medical schools, and MCNZ. These include the introduction of the Rural Origin Medical Preferential Entry (ROMPE) scheme in 2002. The role of a rural background in helping redress the maldistribution of the medical workforce has long been espoused, although why the rural background effect occurs is not fully explained.

There is also some evidence of the benefit of the undergraduate rural immersion programs at the two New Zealand medical schools (the role of rural placements and the postgraduate general practice placement program) in
attracting young New Zealand graduates to the rural workforce. It is good to note the proportion of registrars in our study from a rural background is greater than the proportion of Fellows, and most had qualified between 2005 and 2009, therefore ROMPE and these other initiatives may well be having an impact.

The findings from both hospital managers and Fellows are consistent and suggest more than 70% can identify a clinical leader for their hospital. This has improved since 2009, and anecdotally it seems that achieving a vocational specialist registration has allowed more doctors to take up these roles as independent specialists who are able to lead the services. However, as with the rest of the New Zealand health system, more could be done to strengthen the partnership between management and clinical service delivery. It is also good to see that there is generally some credentialing of new doctors before they start work—again a simple, but useful, way of ensuring the quality of medical care being provided. It has been suggested that rural communities can expect a second-class level of practitioner, but a credentialing process ensures that only suitably qualified and experienced doctors are recruited to any vacant position. This should be especially important for locums, but also a rigorous process is required for substantive positions.

Although there has been a small increase in the number of medical positions available in rural hospitals, the actual number of available doctors is similar to the 107 we identified in 2009. The characteristics of the doctors are different, with most having gained extra qualifications since then. However, most Fellows are still in the 45–54 year age bracket, are male, and were trained overseas. This study shows again that rural New Zealand is highly dependent on an overseas-trained workforce. Retention of this international workforce depends on the appropriate organisational support, and should not be forgotten while we are actively “growing our own”. It is pleasing to see the rural hospital medicine doctors coming through are mostly New Zealand graduates, and with an increasing proportion of women. This shows that there will be a younger, more diverse and New Zealand-trained workforce available to replace older Fellows as they retire from practice. It is important that the positions remain attractive with reasonable rostering, a female-friendly work environment that allows opportunities for part-time work, or for breaks from practice for family reasons.

We also noted in our previous survey that most rural doctors are not able to access non-clinical time. It is necessary that rural hospital doctors are treated equitably, whether they work for a DHB or a community trust. We have noted that most rural hospital doctors practice at more than one workplace, many have additional vocational qualifications and many of the registrars are training in both rural hospital medicine and general practice. It is evident that through combined training the New Zealand College is helping to develop the rural generalist promulgated following the inaugural World Summit on Rural Medical Generalist Medicine held in Cairns in 2013.

Two other issues that we have highlighted concern training in obstetrics and palliative care. We have shown that many rural hospital doctors provide support for midwifery, but have not been accessing training in this field. A study from Otago highlighted the professional isolation of midwives from general practice and given that many rural hospitals also have a rural maternity annex means that the role of the rural generalist in midwifery needs clarification. A second issue is palliative care. It is uncertain why no registrars have undertaken a palliative care run, as 44% of Fellows reported they provide cover for palliative care patients. It is predicted that the need for palliative care services will only increase, and it would be good for the specialist palliative care services to discuss with the DRHM how they can better facilitate the training of registrars.

The scope of rural hospital medicine is defined by its context, and in particular the MCNZ definition of a rural hospital. It is clear from the survey that a number of Fellows are filling positions in larger hospitals, in particular small provincial hospitals, such as Grey Base and Wairau. These doctors are “working out of scope” and currently need a collegial relationship. Because the role of DRHM fellows in this context is still unclear, it is difficult to determine the future size of the workforce.
Resolving the MCNZ registration issues for these doctors would be a helpful first step.

Overall, we believe this study provides useful information for rural hospital managers, clinical leaders and others involved in workforce planning. While there has been a reduction of the workforce shortages of a few years ago, we still need to be vigilant and ensure that more doctors enter the DRHM pathway. It would seem that the shortage of rural general practitioners is also being helped by the dual pathway that many registrars have taken up. The College has to be commended for the way it has supported the work of the DRHM, and at the same time seen the benefits of having a rural GP workforce who are better equipped to provide expert acute medical care.

Overall, it appears that the DRHM have a training program that is proving attractive to trainees and will help ensure rural communities will have a well-trained workforce for the future.

### Appendix

**Rural Hospitals included in the Study (Number: 26)**

Two hospitals from the 2009 survey were not included: Akaroa, which was closed after the Canterbury earthquake and has not re-opened; and Taihape, which the MidCentral DHB transferred to a Community Trust, who then found the hospital unsustainable.

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<thead>
<tr>
<th>Ashburton Hospital</th>
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<td>Bay of Islands Hospital</td>
<td>Lakes District Hospital</td>
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<td>Buller Hospital</td>
<td>Maniototo Hospital</td>
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<td>Chatham Islands Hospital</td>
<td>Murchison Hospital and Health Centre</td>
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<td>Clutha Health First</td>
<td>Oamaru Hospital</td>
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<td>Dannevirke Community Hospital</td>
<td>Opotiki Hospital</td>
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<td>Dargaville Hospital</td>
<td>Taumarunui Hospital</td>
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<td>Dunstan Hospital</td>
<td>Taupo Hospital</td>
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<td>Golden Bay</td>
<td>Te Kuiti Hospital</td>
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<td>Gore Hospital</td>
<td>Te Puia Hospital</td>
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<td>Hawera Hospital</td>
<td>Thames Hospital</td>
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<td>Hokianga Hospital</td>
<td>Tokoroa Hospital</td>
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<tr>
<td>Kaikoura Hospital</td>
<td>Wairoa Hospital and Health Centre</td>
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Competing interests:
Ross Lawrenson is a Board Member of the New Zealand Rural General Practice Network and the Pinnacle Group Ltd.

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