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New Zealand's rural hospitals in 2021: findings from an exploratory questionnaire survey

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ABSTRACT

Introduction. There is a gap in our knowledge of the place and contribution of rural hospitals in the New Zealand health system. There is no current description of rural hospital services, no national policies and little published research regarding their value. **Aim.** To explore rural hospital leader perspectives of the role of rural hospitals. **Methods.** An on-line survey of rural hospital leaders conducted to capture perspectives on areas including facility nomenclature; access and equity; funding and the health reforms. **Results.** Fifty-five rural hospital leaders representing 19/24 rural hospitals responded. 'Rural Hospital' was the most common term used to describe facilities with 80% of respondents indicating this as their preferred term. Other descriptive terms varied widely from primary through to secondary care. Respondents indicated that the loss of rural hospital in-patient beds would be unacceptable to communities (median 0, IQR 0, 1). Scores on questions about 'range of services' (median 7, IQR 6, 8), 'accessibility' (median 7, IQR 6, 8) and how rural hospitals were addressing health equity (median 6, IQR 5, 7) were variable. The process for allocating funds to rural hospitals was perceived as lacking transparency (median 3, IQR 2, 5). National strategy and 'local governance and control' were both rated as important (median 9, IQR 7, 10 and median 9, IQR, 8, 10) for a rural hospital's future. **Discussion.** By capturing a collective national rural hospital leadership voice, this study facilitates the understanding of the rural hospital concept. The findings inform subsequent research needed to gain a clearer picture of New Zealand rural hospital provision.

Keywords: community hospitals, health inequities, rural and remote health, rural health policy, rural healthcare services, rural hospitals, rural proofing.

Introduction

New Zealand (NZ) residents of rural areas have poorer health outcomes than those living in urban areas, and this is accentuated for Māori.[1] It is estimated that around 15% of New Zealanders rely on rural hospitals for health care.[2,3] There is, however, no widely accepted definition nor current description of rural hospital services, no national policies and little published research regarding their role or value.

Although international studies have identified rural hospitals as important providers of health care, which can benefit the health of rural populations by enhancing access to, and integration of services, definitions of 'rural hospitals' vary widely across different jurisdictions.[4–7]

Rural hospitals matter to NZ rural communities, best demonstrated by consistent community responses to threats of rural hospital closures.[8] They vary considerably in terms of their size, structure (including different governance models) and resources. Published data on this, however, is now old, with the last comprehensive national survey carried out 20 years ago (2002–03).[2]

The working definition of rural hospitals accepted by the Medical Council of New Zealand and the Royal New Zealand College of General Practitioners' Division of Rural

WHAT GAP THIS FILLS

What is already known: Internationally, rural hospitals have been shown to be important providers of health care for rural communities. In New Zealand, there is no current description of rural hospital services and there are no national rural hospital policies.

What this study adds: A wide range and level of service facilities at the primary– secondary care interface is represented under the single 'rural hospital' term in New Zealand. National policy for rural hospitals that adopts a rural-context-specific approach, is urgently needed.

Hospital Medicine (DRHMNZ) for purposes of the Rural Hospital Medicine training programme[3] includes geographical distance from specialist services, acute in-patient bed capacity, 24/7 acute care and a predominantly generalist workforce. The DRHMNZ list of rural hospitals currently sits at 24.[3,9] These hospitals sit along a broad spectrum, from small (<15 beds) hospitals integrated with a primary care service, to larger (>30 beds) hospitals providing secondary care services separate from primary care, often with advanced diagnostics and providing some surgical and anaesthetic services.[3]

The survey aim was exploratory, to provide a snapshot of rural hospital leader perspectives of the role of rural hospitals in the context of NZ's coronavirus disease 2019 (COVID-19) pandemic and the imminent health sector reforms.[10] The survey forms part of a larger study conducted in 2021 using both semi-structured interviews with key informants[11] and a questionnaire survey to explore the place of rural hospitals in the NZ health system.

Methods

Using the DRHMNZ list of rural hospitals (n = 24), people self-identifying as having a rural hospital leadership role were invited by email and via the NZ Rural Hospital Network's website[12] to participate in an online survey (Qualtrics, Provo, UT, USA), between September and November 2021. Email recipients were encouraged to forward survey details to others in rural hospital leadership roles.

The questionnaire survey (Supplementary File S1) was designed with input from the full research team and piloted to ensure it was user-friendly and could be completed within 10 min. The final survey contained 15 questions (three List and 12 Likert scale 0–10 where 0 indicated a very negative/not important option and 10 a very positive/very important option) with optional open-text comment boxes. Questions were designed to capture personal perspectives on areas of rural hospital services and positioning, including facility nomenclature, service access and the proposed health reforms. Three questions regarding rural hospital transfers were not included in this analysis as they form part of the wider study and will be reported separately.

Demographics relating to respondent's workplace and leadership role were collected.

List and Likert scale questions were analysed descriptively. Open-text comments were handled as quotes and collated against the pertinent survey question for summative content analysis.[13]

Ethics approval was granted by University of Otago Human Ethics Committee D21/009.

Results

Fifty-five completed responses were collected representing 19/24 NZ rural hospitals (12 North Island, seven South Island). Leadership roles were described as medical 28/55, management 17/55, nursing 5/55 and unspecified 5/55. Comments, entered by more than one-third of respondents (this varied according to the question, as described below), ranged from a few words to full paragraphs.

Terms used to describe rural hospital facilities and preferred terms for rural hospital facilities (Fig. 1):

'Rural Hospital' was the most common term used to describe the role of facilities and 80% of respondents indicated that this was also their preferred term. Other facility descriptions ranged widely from 'GP-beds' and 'integrated health centre' through to 'emergency department' and 'regional hospital'.

Fig. 2 shows the Likert scale questionnaire findings and content analysis.

Respondents indicated that the loss of rural hospital in-patient beds would be unacceptable to the community (median 0, interquartile range (IQR) 0, 1). Comments centred around exacerbation of inequities with patients having to leave their locality (10/24 respondents), and potential for compromised patient safety (6/24).

Overall, the range of services offered by rural hospitals were considered appropriate (median 7, IQR 6, 8), although respondents felt there was a need for greater access to diagnostics (11/31 respondents) and for more outpatient specialist services (8/31).

Respondents considered their rural hospital was addressing health equity well (median 6, IQR 5, 7); however, comments indicated the need for improvement in both ethnicity-based (8/26 respondents) and geography-based (6/26) inequities.

Respondents considered their rural hospital services were accessible (median 7, IQR 6, 8). Nonetheless, examples were given where access was seen as problematic, such as costs to patients for emergency services (2/20 respondents) and where a population was spread over a large geographical area (4/20).

Respondents perceived a lack of transparency in the process of allocating funds from the District Health Boards

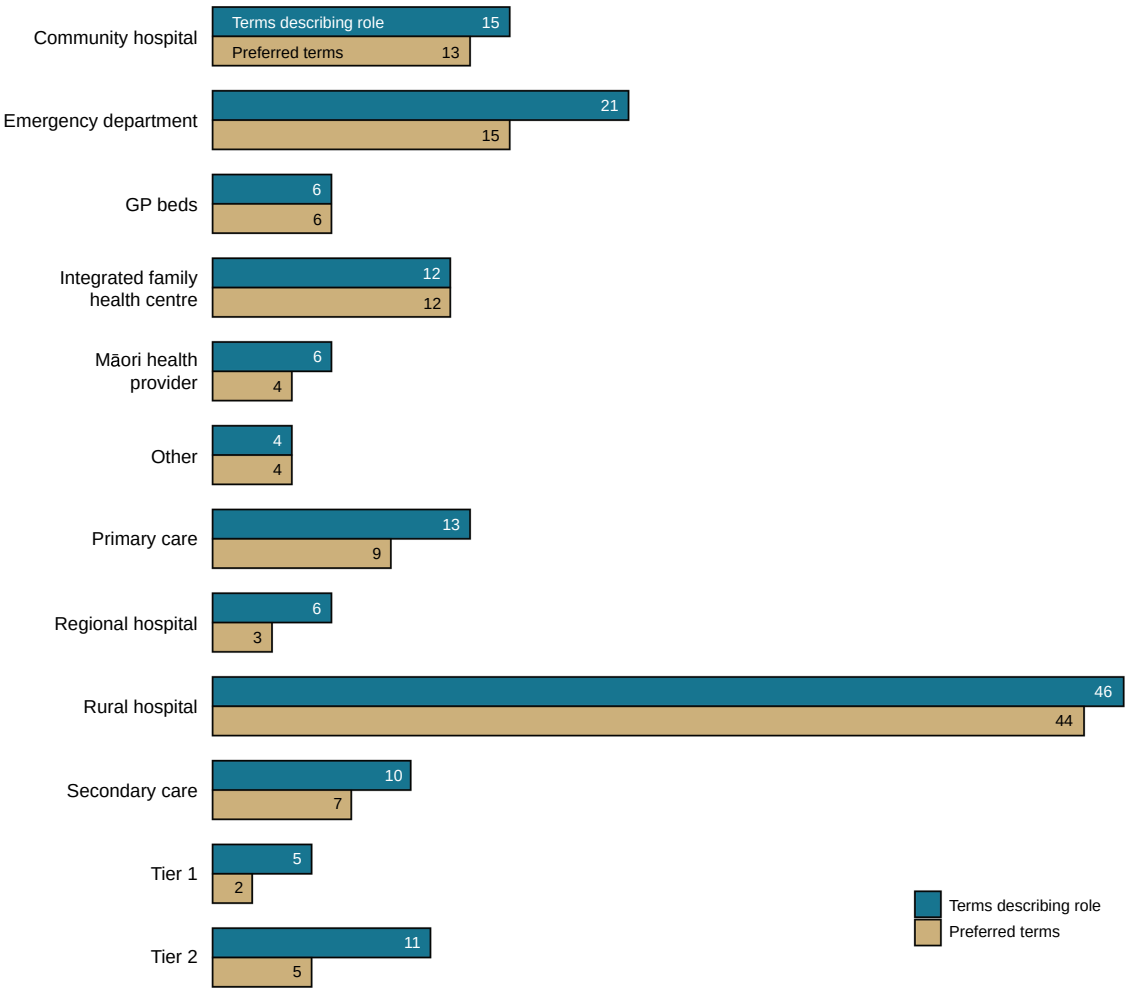

Fig. 1. Terms used by participants to describe the rural hospital facilities in which they work (dark) and the participants' preferred terms for these rural hospital facilities (light). Participants were able to choose more than one option.

to rural hospitals (median 3, IQR 2, 5), with some respondents commenting they did not know how funds were allocated (8/23 respondents) and that the control of funding allocation lay with tertiary hospitals with urban funding prioritised (6/23).

The terms and conditions rural hospital resourcing allowed when employing health professionals was seen as slightly inferior to urban hospitals (median 5, IQR 3, 7) with comments indicating on-call commitments and the need for broader skill levels seen as unattractive (7/19 respondents).

Both national rural hospital policies and strategies (median 9, IQR 7, 10) and local governance and control (median 9, IQR, 8, 10) were viewed by respondents as very important for the future of their rural hospital. Respondents emphasised the need within any national policies and strategies for flexibility, allowing localities to meet diverse rural hospital community needs (8/20 respondents); that local governance and control would ensure focus on community needs (5/14 respondents); and that a balance was needed between central and local control (4/14).

Respondents were optimistic regarding the future of rural hospitals given the establishment of the Māori Health Authority (median 7, IQR 5, 8). Some respondents expressed hope that changes will improve Māori health inequities (5/17 respondents), whereas careful planning was identified as a requirement to ensure positive changes for diverse rural hospital contexts (9/17). Respondents were less optimistic regarding the future of rural hospitals given the establishment of Health NZ (median 5, IQR 5, 7).

Discussion

A survey of NZ rural hospital clinical and non-clinical leaders has provided a snapshot of current perspectives regarding the role and place of rural hospitals. Findings indicate a strong affiliation to the term 'rural hospital' among rural hospital leaders, who represent a wide range of facilities and services under one umbrella term. The important role of rural hospitals in providing in-patient care for rural communities is

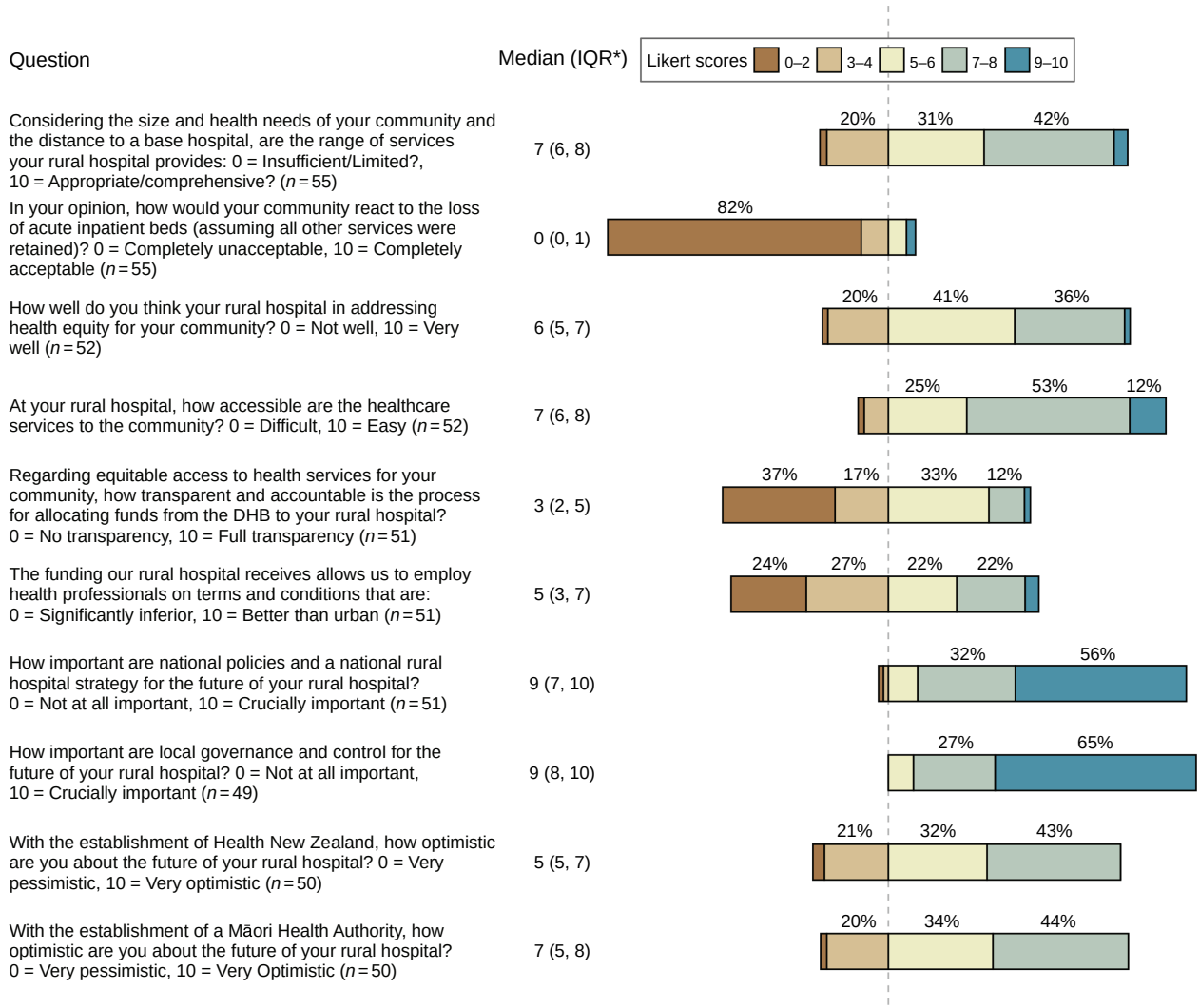

Fig. 2. Likert scale questionnaire findings. DHB, District Health Board; IQR, interquartile range.

highlighted, while findings suggest that rural hospitals have a key role in addressing healthcare inequities for these communities. The study findings emphasise the importance of both national and local rural hospital policy considerations and improved transparency in funding allocation for rural hospitals as NZ enters its 2022 health reforms.

Although this study presents wide national rural hospital leadership perspectives, community perspectives were not considered. While the study included representation across NZ, a minority of rural hospitals (5/24) had no study participants. We do not know if rural hospital leaders who responded are similar to those who did not, which may have influenced study results.

NZ rural hospitals provide a broad scope of services to diverse rural communities, at a geographical distance from urban centres and specialist services. Positioned at the periphery of a compartmentalised health system, they face unique challenges.[9] The study findings concur with previous research that the further these services are away from urban centres (where specialist and diagnostic resources are concentrated), the necessarily more blurred are the boundaries between primary and secondary health care. Rural communities need access to a wide range of health services including primary and secondary, acute and chronic, and hospital and community-based care.[14,15] The wide variation in facility nomenclature found in the survey has important implications with respect to alignment of rural hospitals within the regulatory environment, with resources for each facility and the community it serves ultimately linked with sustainability. Further research is needed to provide accurate data regarding rural hospital catchment populations and demographics.

Our findings show that rural hospitals do not fit neatly into the new Tier 1 (home and community services) or Tier 2 (hospital, specialist and diagnostic services) categories of NZ health service provision.[10] This anomaly emphasises the importance of rural-context-specific approaches and solutions for healthcare provision to rural communities.[9,16,17]

Our findings indicate a need for health delivery research into the function of NZ's rural hospitals and their contribution to the health and disability system, particularly the extent to which rural hospitals improve access to health care, improve health outcomes and improve health equity for rural and Māori communities. To progress such research, national policy for NZ rural hospitals that adopts a rural-context-specific approach, is urgently needed. These policies can define the role delineation between different types of facilities and targets for access to services for rural communities.[7] The current NZ health reforms, including the legislative requirement to develop a national rural health strategy,[18] offer a unique opportunity to enact this.

Conclusion

By capturing a collective national rural hospital voice, this study gives us a contemporary perspective of NZ's rural hospitals. The findings will inform subsequent research needed to gain a clearer picture of rural hospital provision in New Zealand.

Supplementary material

Supplementary material is available online.

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Data availability. The data used in the study will be shared upon reasonable request to the corresponding author.

Conflicts of interest. Tim Stokes is an Editor of the *Journal of Primary Health Care* but was blinded from the peer-review process for this paper. There are no other conflicts of interest to declare.

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