

## ORIGINAL RESEARCH

# What is a sustainable remote health workforce? People, practice and place

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**What is a sustainable remote health workforce? People, practice and place**

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## ABSTRACT

**Introduction:** In rural and remote regions, access to healthcare services is reliant on the availability of a competent workforce. The global challenge for the attraction and retention of health professionals in rural and remote regions is exacerbated by inconsistent management practices, as well as the disparity of distribution of health professionals between urban, rural and remote areas. This aim of this study was to examine how remote health professionals describe a sustainable remote health workforce and how they propose it could be achieved. This study contributes to the research in this field by examining how health professionals who are currently working in remote regions of Australia describe aspects of a sustainable remote health workforce.

**Methods:** The findings from two data sources (interviews ( $n=24$ ) and an online questionnaire ( $n=191$ )) were examined to identify the characteristics of a sustainable remote health workforce. A purposive sampling method was used to recruit interview participants, ensuring the sample contained managers and health professionals with longevity working in remote regions. In contrast, the online questionnaire was disseminated by eight health service providers resulting in a random sample of current health professionals. The interview and questionnaire participants were asked the same question: 'What is a sustainable remote health workforce?' A thematic analysis was conducted and the emergent themes from the interviews were used to guide the thematic data analysis for the questionnaire.

**Results:** Examination of the characteristics of a sustainable remote health workforce, as described by health professionals currently working in remote areas, revealed that participants identified three extant themes: people, practice and place. Further analysis revealed that a sustainable remote health workforce is about an appropriate mix of health professionals with suitable personal characteristics and professional attributes to meet the remote populations' needs. Irrespective of geographical location, it seems that infrastructure, resources and community engagement together with the organisational systems influence the effectiveness of



management practices. Hence, management practices influence the outcomes of many of the policy choices that can improve workforce sustainability.

**Conclusions:** A sustainable remote health workforce is about an appropriate mix of health professionals with suitable personal characteristics and professional attributes to meet the remote populations' needs. Beyond person-fit, a sustainable remote health workforce requires an appropriate model of service delivery that provides continuity of health care through improved retention of competent health professionals. The solutions-focused approach of this study revealed opportunities for management practices that could positively influence the sustainability of future health workforces. Members of the current remote health workforce, experienced remote health professionals who know the landscape, propose that future health workforce sustainability is achievable with effective management practices focused on people, practice and place.

**Key words:** Australia, health workforce, management practices, retention, sustainable, turnover.

## Introduction

*A sustainable workforce is one which is not person-dependent but at the same time values the individual skills, experiences and ideas a person can bring to a role ... It is one that is able to provide continuous, reliable and safe care to patients ... because staff are appropriately skilled, oriented, supported and rewarded. It is one where staff movement is pre-empted, planned and refilled in a timely and appropriate manner. It is one that doesn't rely on agency and locum staff, but grows a local workforce wherever possible and provides the same incentive packages as those afforded outsiders ... It can be achieved by employing people who are passionate about their job and love a rural/remote lifestyle (questionnaire participant QP172).*

In rural and remote regions access to healthcare services is reliant on the availability of a competent workforce. However, attracting and retaining health professionals in rural and remote regions is a global challenge exacerbated by the disparity of distribution between urban, and rural and remote areas<sup>1,2</sup>. Global workforce shortages intensify challenges associated not only with attraction and retention; they reduce access to health services for vulnerable populations who experience poorer health outcomes than urban populations<sup>1-3</sup>. These challenges, which resonate with health professionals in remote regions across the world, have led to the realisation that to improve access to health services

more sustainable workforces are required. While many researchers have identified factors that influence voluntary turnover and workforce retention<sup>4-6</sup>, others have focused on the sustainability of health systems and health workforces<sup>1,7</sup>. Described so eloquently in the opening passage above, the achievement of sustainable remote health workforces is complicated, requiring an appropriate balance of both financial and human resources.

The present study contributes to the research in this field by examining the challenges from the perspectives of health professionals who are currently working in remote regions across various professions (nursing, medical, Indigenous health workers, allied health and dental). This is an area where research gaps have been identified<sup>2,5,6</sup>. This approach seeks to identify aspects of workforce sustainability beyond the boundaries of a particular health profession. Acknowledging the work of researchers who have examined turnover and retention of particular rural and remote workforces including nurses<sup>7-9</sup>, doctors<sup>10,11</sup> and allied health professionals<sup>12,13</sup>, this study seeks to build on current knowledge using a complementary approach. This human resource management (HRM) approach examines workforce sustainability through the complementary field of management studies with its evidence-based people and workforce management focus. The characteristics of sustainable remote health workforces emerged through using a management lens to examine how current remote health professionals describe a sustainable remote health workforce.



Wakerman and Humphreys<sup>1</sup> caution against focusing on workforce in isolation and this point is well founded. There are always risks in considering aspects of a complex issue in isolation. However, focusing on one aspect enables the researcher to consider the issue at a deeper level and often provides an opportunity to use an alternative lens. For this study, a management lens offers an alternative perspective with a complementary body of evidence through which to examine the issue. Furthermore, this provides the opportunity to use a pragmatic approach more suited to finding solutions than identifying problems, which moves away from the deficit approach<sup>1,14</sup>.

The aim of this study was to examine how remote health professionals (1) describe a sustainable remote health workforce and (2) propose how it could be achieved. A sustainable remote health workforce that requires further explanation, as follows.

## *'Sustainability'*

Humphreys et al<sup>7</sup> propose that for 'the rural and remote health context, the concept of sustainability refers to the ability of a health service to provide ongoing access to appropriate quality care in a cost-efficient and health effective manner' (p. 33). This study considers that efforts to improve workforce sustainability should be compatible with these objectives. Therefore, workforce sustainability refers to the continual supply of competent health professionals to provide health services in a manner appropriate to the remote context. Ultimately, sustainability is built on a strong foundation with appropriate leadership and management practices prepared to meet the challenges and respond to the opportunities, ensuring the needs of all interested parties continue to be realised. Humphreys et al<sup>7</sup> conclude that sustainable rural health services must take 'account of the social, economic and environmental dimensions influencing sustainability', suggesting that the key considerations are 'access to services, quality of care and cost of their provision' (p. 35). Furthermore, the contribution of a consistent and competent workforce and access to health services in improving the health of rural and remote populations is frequently emphasised<sup>1,15,16</sup>.

## *'Remote'*

There are many ways to describe geographical remoteness. In Australia, remote regions are often referred to as 'the outback', 'the bush', 'rural' and 'remote'. The geographical context for this study is that of a remote tropical setting in northern Australia, an area with similar climatic and geographical challenges for remote health professionals. This includes areas known as the Kimberley (northern Western Australia), the Top End (Northern Territory), north-western Queensland and far north Queensland. To improve the consistency in reporting, the Australian Bureau of Statistics (ABS) categorised Australia into five geographic regions based on geographical remoteness, which established common terminology for data analysis<sup>17</sup>. For this study, the two categories, 'remote' (which includes areas that some may refer to as rural) and 'very remote' were combined and are referred to collectively as 'remote'. Therefore, the remote health professionals described in this study worked in areas of northern Australia categorised by the ABS as 'remote' or 'very remote'.

## Methods

This article analysed the findings from two separate yet complementary data sources: interviews and online questionnaires. First, a purposive sampling method was undertaken to recruit interview participants from different professions and locations currently working or managing health professionals working in remote regions. Participants included managers (health managers and human resource managers) and health professionals with longevity (more than 5 years) in remote regions. Interview participants (IP) were asked the following question: 'This project is called A Sustainable Remote Health Workforce; in your own words, what do you think a sustainable remote health workforce would be? What would it look like?' Their descriptions provide evidence for the ways in which these participants view a sustainable remote health workforce. A thematic analysis of the transcripts ( $n=24$ ) was conducted using NVivo v10 (QSR International; <http://www.qsrinternational.com>) and the emergent themes formed the first-level coding. These emergent themes were then used to guide data analysis for



the responses from the questionnaire in which current remote health professionals were asked the same question.

The online questionnaire was distributed to health professionals working in remote regions of northern Australia. The questionnaire was distributed directly to remote health professionals ( $n=1317$ ) by eight organisations who agreed to participate in this study. This ensured that the questionnaire was only distributed to health professionals who were currently working in regions identified as remote by this study. A response rate of 21% was achieved with 272 questionnaires returned. This article discusses the findings for the 191 participants (QP) who provided a written response to the same question that was asked of IPs. A thematic analysis of the text responses was conducted using NVivo v10 using the emergent themes from the interview data to guide analysis. The findings from both approaches were compared and contrasted to capture the breadth and depth of the characteristics of a sustainable remote health workforce identified through the study.

## Ethics approval

Approval to conduct this research was granted by James Cook University Human Research Ethics Committee (HREC) (H5227), Townsville Hospital Health Service HREC (HREC113/QTHS/225) and the Western Australia Country Health Service HREC (2013:31).

## Results

The characteristics of a sustainable remote health workforce, as described by participants, were diverse and varied; however, there were many common characteristics. Analysis of the data from the interviews revealed that there were three extant themes: people, practice and place. Furthermore, analysis of the questionnaire data identified themes consistent with the findings from the interview data. The extant themes and their influence on the attainment of a sustainable remote workforce are examined, with a summary of the key characteristics presented in Tables 1–3.

## People

The ‘people’ theme comprised the aspects that related to the person’s characteristics, both personal and professional. Personal characteristics included person-fit, individual sustainability and relationships. These are the characteristics of a person that build resilience and contribute to an individual’s compatibility with the community and the organisation. Professional attributes included competence, professional development and career choices. These are the attributes of a person that contribute to their capacity to perform their work competently. The ‘person’ characteristics described by the questionnaire participants are summarised in Table 1.

Participants discussed aspects of personal characteristics and professional attributes for individual health professionals. However, there were differences in terms of the priority of aspects; for example, should the priority be person-fit or professional competence? Most participants discussed aspects of ‘person-fit’, explaining the importance of employing the right people for remote regions, with one saying:

*... there needs to be some sort of selection process so that we have people working in remote health for who it's a career, it's a passion, not just a holiday to pay the mortgage. ... part of the sustainability would be recognising that remote and isolated practice is actually a speciality area ... Not just anyone who has a registered nurse qualification can actually be a remote area nurse, nor should they be (IP1).*

Several participants commented on career paths with one suggesting that remote nursing be considered a speciality area of nursing, providing a more defined career path. Thus, improving access to professional development may generate an increase in remote career options, contributing to increased remote health workforce sustainability. While there was no consensus about whom the right person was or how to recruit them, there was a strong sense that personal characteristics and professional attributes play an important role.



**Table 1: ‘Person’ characteristics of a sustainable remote health workforce identified by questionnaire participants**

<b>Person – personal characteristics</b>	
Person-fit	New employees are prepared for the reality Needs and aspirations are fulfilled Understand the challenges of living remote Like living and working remote Job satisfaction, engaged and proud of their work
Individual sustainability	Recognises early warning signs of fatigue and excessive workload Resilience, energy and passion for work is sustainable Quality of life outside of work Employer-supported work–life balance, regular breaks from the remote site Beyond financial benefits gain true joy from the work they are doing
Relationships	Regular staff improve community relationships Working collaboratively without prejudice People need to feel connected to someone for something to last Engaging community in decision making People don't leave organisations, they leave people!
<b>Person – professional attributes</b>	
Competence	Mix of experience and qualifications Multidisciplinary clinical teams Knowledge and experience built upon over time Management have a sound grounding in rural/remote practice Improve leadership in management (eg management and clinical background)
Professional Development	Regular professional development is more accessible Professional development specific to remote area work Professional development opportunities for local people Opportunities for exchange/rotation with major centres Mentoring with specialised staff to gain local knowledge and competency Opportunities for staff to grow within their roles, ie grow own workforce
Career choices	Career development including career options for Indigenous employees Large skill set of health professionals working in remote communities Discourage people on fixed term contracts to go back to metro areas Includes those that want to work for a limited time exploring an area Rural graduate training programs in all disciplines Recognises that a remote health career is as exciting and challenging as a career in a tertiary hospital in the city

## Practice

The ‘practice’ theme comprised the aspects that related to both clinical and management practice. Clinical practice included models of practice and continuity of staff. These are the aspects of clinical practice that influence health service delivery, workforce composition and systems of workforce design. Management practice included leave, support, management systems and remuneration. These management practices influence aspects of organisational and health system policy that contribute to the sustainability of the remote

health workforce. The ‘practice’ characteristics described by the questionnaire participants are summarised in Table 2.

Participants suggested that turnover and vacancies impact on continuous service provision; for example, one respondent said, ‘you need to be realistic with sustainable, but I guess it would be something like ensuring that 95% of your positions remained filled’ (IP5), while another said sustainability was ‘an organisation being able to have a workforce that is capable of delivering a service at 100%’ (QP136). Some proposed that continuity of care was closely associated with continuity of health professionals, with one participant saying ‘our poor clients, they have such a change of



faces, and it takes so long to develop that relationship' (IP5). In contrast, another participant suggested that 'the way forward would be similar to mining and having a FIFO [fly in, fly out] system' (IP6). As one participant explained:

*A sustainable workforce does not mean people who work in one position/one site for a long time. It means the positions give individuals the opportunity to grow in their field and are supported during their tenure (QP162).*

Management practices contribute to the sustainability of the remote health workforce according to the participants in various ways, including filling vacancies, backfill, attracting health professionals, remuneration and financial incentives, employment patterns and models of practice (eg FIFO). More specifically, some participants suggested that improvements in management practices will influence sustainability, with one participant saying, 'we need managers to actually be skilled in distance management [...] just because they are able to manage a team face to face doesn't mean they have any capability of managing a team from a distance' (IP1). Leadership is a key aspect of effective management practices, as was pointed out by one participant:

*... remote services have the opportunity to be more flexible and innovative than large metropolitan services but they need good leadership and the options to do things in ways that work well for their particular areas. Sometimes it just does not work trying to apply models that work well in other parts of the country (QP122).*

## Place

The 'place' theme comprised the aspects that related to the physical work location. They include the person's connection to the place (geographic location/community) and the infrastructure. Connection with place included community and local workforce. These characteristics result from an emotional connection to place. Infrastructure included connectivity and resources. These are the attributes of place that contribute to sustainability through cooperation, collaboration and adequate infrastructure and the resources to

work effectively. The 'place' characteristics described by the questionnaire participants are summarised in Table 3.

Sustainability may be achieved through greater connectivity between the different health service providers. One participant emphasised that 'a sustainable remote health workforce is actually having appropriate people delivering [health services] according to the population needs' (IP3). Therefore, connection with the community is vital. Aspects of workforce sustainability that described a connection with place were discussed, suggesting that the physical work environment contributes to sustainability. For example, health professionals suggested that a sustainable remote health workforce 'needs to have people that are living in the community that belong to the community' (IP12). Another explained that it is about community acceptance:

*... sustainable remote health workforce is actually a workforce that is developed from the community and it is a workforce that the community accepts as well. I think there's not enough attention paid to the right fit in a community (IP3).*

Accommodation in remote regions was frequently mentioned as an infrastructure concern, with participants suggesting that addressing accommodation inadequacies was essential. Some participants described aspects of perceived disadvantaged, saying that 'free accommodation needs to be across the board for all employees, not just the ones who come from outside our area (needs to be fair to locals who want to stay)' (QP58). Many participants described perceived inequities with accommodation as well as other incentives offered to attract health professionals to remote regions. In addition, health professionals described their experiences with poor accommodation. One manager, explained that 'whilst we all want to be intrinsically motivated' accommodation is important because if they had 'dodgy accommodation, if people weren't sure if they were going to be assaulted in the night ... [it] doesn't matter what the manager does, you [are] not going to keep them there' (IP11). This suggests that the influence of infrastructure is such that the absence of basic conditions impacts the ability of management practices to improve retention and, in fact, they are suggesting that management practices are negated in these circumstances.



**Table 2: ‘Practice’ characteristics of a sustainable remote health workforce identified by questionnaire participants**

<b>Clinical practice</b>	
Model of practice	FIFO professionals support the remote-based workforce Not dependent on FIFO or agency staff FIFO is a viable solution when attracting reliable staff who already live in the area is unachievable Consistency rather than different locums each time FIFO maintains some normality to life.
Continuity of staff	Health professionals to stay for longer length of times Workforce that provides long-term continuity of care Low turnover so that there are permanent staff at local clinics who know the community and the system instead of a constant flow of relief workers Succession planning
<b>Management practice</b>	
Leave	Provides sufficient funded positions to ensure leave entitlements can be taken Leave provisions that provide for the geographical challenges of remoteness Provisions to cash in annual leave, airfares etc. Encourages (almost insists upon) regular leave
Support	Understand what remote work entails Mechanisms for people to think through the complexities of remote work so they don't get discouraged Personalised support because each new worker is not starting from the same place Support so that they are better equipped to cope with everyday challenges Supportive supervision/management whilst encouraging autonomy No bullying
Management systems	Effective management practices allow employee voice Open communication Responsive managers who understand the work demands in remote areas Feel valued and respected Recognition by capital city bases of unique geographical differences Administrative support is essential Different things work for different areas Cut system and policy overheads to reduce time-cost Promotions based on skill set, not length of time served in remote area Workplace health and safety funding same as metropolitan areas Prepared, empowered and supported workforce Free from policy- and system-generated inefficiency and overheads Job security Sufficient core permanent staff
Remuneration	Adequate financial rewards Incentives to live and stay in remote areas Fair remuneration and remote compensation across entire workforce Provides incentives for long-term staff, not just new employees Incentives that would be an enticement to stay in a remote community Incentives for people who are recruited from the area, as well as people who are recruited from outside the area

FIFO, fly in, fly out

## Discussion

Management practices were recognised as being critical for developing, implementing and maintaining the sustainability of remote health workforces. Studies investigating turnover

and retention in rural and remote regions identified that management practices are interrelated with other aspects of remote health care<sup>5,6,18</sup>. In addition, the influence of effective management practices on the sustainability of remote workforces continues to be specifically highlighted<sup>2,6,19,20</sup>. It is believed that management practices build the foundation of



sustainable workforces, particularly in remote regions where health services understand the value of having the right person, with the right skills, in the right place, at the right time<sup>6,21</sup>.

This study examined the factors that influence the achievement of a sustainable remote health workforce, through three extant themes: people, practice and place. However, it is acknowledged that sustainability is influenced by factors outside the scope of this study, such as political, economical, social and environmental factors (Fig1). While these factors contribute to the holistic approach needed to achieve sustainability, it is beyond the scope of this study to specifically comment on their influence other than to agree with the current evidence that improvements to healthcare funding, socioeconomic and environmental conditions that benefit the health outcomes for rural and remote populations are a critical component of sustainability<sup>7,18,21</sup>.

Focusing on the three extant themes, the influence of management practices on workforce sustainability is apparent. The 'person' factors that emerged in this study were not remarkable; they exist in any healthy employment relationship<sup>5,6,21</sup>. They include a workforce where competent, resilient and passionate health professionals who like the environment in which they work have access to adequate, regular leave and professional development opportunities that allow them to gain new skills for advancement<sup>4,5</sup>. Additionally, healthy relationships with colleagues and managers enhance collaboration, and engagement with the local community<sup>5,22</sup>. While management practices cannot ensure the community's acceptance of individual health professionals, managers can work with community members to ensure appropriate person-fit and then support their adjustment into the remote community. Hence, new employees who are well prepared for the remote workplace are welcomed and orientated in localised practices<sup>5,23</sup>. Improved collaboration between health service providers can reduce duplication of services, provide opportunities for professional development, career pathways and develop opportunities to share 'talent' in remote regions. This may benefit the health professional, the community and health service providers<sup>6</sup>.

Models of service delivery are improved where management practices support the workforce through clear communication and genuine understanding of the challenges of remote work environments. Competent, engaged health professionals, with high levels of job satisfaction, may be located in the remote region or be regular FIFO health professionals who frequently visit the remote location<sup>15,24,25</sup>. These regular FIFO health professionals can provide relief and additional clinical knowledge improving health outcomes for the community whilst providing continuity of care where these clinical services are not available locally<sup>15,25</sup>. Hence, effective management practices including adequate health and safety, maintaining reasonable levels of core staff, backfill and expediently filling vacancies can enhance the benefits of flexible models of service delivery<sup>12,16,22,26</sup>.

Interestingly, the health professionals who participated in this study provided a realistic and pragmatic contribution to the narrative. They described a sustainable remote health workforce in terms of the people that comprise it, the people that have a stake in it and the people who manage it, yet remain focused on the overall purpose – providing appropriate health services for remote populations. While several suggest improving current resources, such as housing and clinic equipment, many suggested areas where sustainability arises from equity<sup>2,6,21</sup>. In particular, they suggest that the inequity in incentive payments between clinical disciplines influences retention where health professionals work in teams of equivalent contribution<sup>27</sup>. Similarly, they highlight the difference in incentives and benefits offered to attract new health professionals compared to those received by community residents or long-term health professionals. This disparity appears to make the local and long-term health professionals feel less valued. Management practices influence this sense of inequity in remuneration and incentives. In addition, the perceived inequity between the infrastructure and resources further contributes to the sense of injustice. Thus, to improve workforce sustainability, managers could focus on reducing perceived inequities and embracing opportunities to develop the local workforce<sup>2,6,25</sup>.



**Table 3: ‘Place’ characteristics of a sustainable remote health workforce identified by questionnaire participants**

<b>Place – connection with place</b>	
Community	Integrated into the community People stay and connect with their community properly Calls rural and remote Australia home, and not just a source of adventure Respected by the community and the workforce genuinely care and respect the community A truly sustainable workforce should come from the people who are from that area, where they will have firm connections to their family and friends who also live in that same remote area Respects different cultures and their beliefs Balances health services with what is best for the communities it serves Continuous and appropriate service for the community it serves
Local workforce	Put local community members with cultural knowledge at the forefront of healthcare Recruits locally or from ‘like remote areas’ Values its local workforce and encourages staff to remain for years not months Recruits and develops local people Communities work with employers to ensure sustainability of workforce Does not require ongoing recruitment outside the area Workforce develops, remaining appropriate for the context
<b>Place – infrastructure</b>	
Connectivity	All health organisations working together as one Less duplication of services Recruitment pool across remote regions Communication between organisations when recruiting Share positions between organisations
Resources	Housing for local employees not just employees coming from other areas Safe, affordable housing in a quiet part of the community Accommodation incentives to permanent staff if they own their own home Free accommodation needs to be across the board for all employees Accommodation that is suitable for couples and families Sufficient infrastructure Modern facilities with up-to-date technology and access to expert knowledge Technology and equipment equivalent to that of urban and regional centres Meet future population health needs

In remote regions where chronic workforce shortages are reported, to attain workforce sustainability attention to both attraction and retention is critical<sup>25</sup>. Health professionals make decisions about remaining with their employer from within the remote practice setting<sup>20,28</sup>. This suggests that an increased focus on retaining those less transient health professionals, such as those with community ties or long-term community-based histories, should be areas in which retention rewards are focused. This approach would avoid feelings of inequity and disadvantage, as described by some remote health professionals. Drawing on psychological contract theory, which describes the unwritten contracts that exist between an employer and an employee<sup>29</sup>, it appears that these perceived inequities may be factors that fuel

dissatisfaction. Campbell et al<sup>4</sup> cite Herzberg’s motivation-hygiene theory, explaining that employees need sufficient extrinsic rewards to not feel dissatisfied, before the intrinsic motivators that are present in the work itself will lead to job satisfaction. Accordingly, management practices that minimise dissatisfaction are paramount in areas where turnover is high. Management practices that are perceived as fair make all employees feel valued and reinforce the balance of reciprocity<sup>29,30</sup>, and are less likely to breach an employee’s perception of the psychological contract. Such fair practices traditionally influence retention through management concepts such as organisational commitment, occupational citizenship behaviour and job satisfaction<sup>29,31</sup>.



The World Health Organization<sup>2</sup> suggests there is a need for further evaluation of the varied attraction and retention strategies that have been implemented globally. It reports that ‘policy-makers should be aware of the potential sensitivities surrounding giving health workers specific financial incentives’(p. 29)<sup>2</sup>, going on to describe the problems that this may cause with others not covered under the incentive schemes. Buykx et al<sup>6</sup> report on a systematic literature review that found that despite increased financial incentives for medical professionals, ‘there is little evidence that these incentives have made any significant difference to the medical workforce supply in underserved areas’ (p. 102). While incentives have been the focus for improving retention, WHO<sup>2</sup> suggests that personal and professional support for isolated health professionals is a complementary intervention and that they are more ‘likely to augment each other’s impact but are ineffective in isolation’(p. 30)<sup>2</sup>. In fact, WHO<sup>2</sup> suggests that a core requirement for all of the retention incentives and interventions ‘to be effective will come from developing, deploying and motivating effective local service managers and strengthening human resources management systems’ (p. 30).

Hence, effective management practices and leadership appear to be the way to achieve and maintain sustainability of remote health workforces<sup>6,20,21</sup>. The WHO<sup>2</sup> findings are conveying a similar message to that of the managers and health professionals who participated in this study when proposing that incentives and rewards in isolation are not effective in improving long-term workforce retention<sup>21</sup>. Furthermore, a supportive work environment and management practices that are congruent with the remote context, when combined with equitable incentives and rewards, are more likely to influence workforce sustainability in the long term<sup>16,20</sup>.

## Limitations

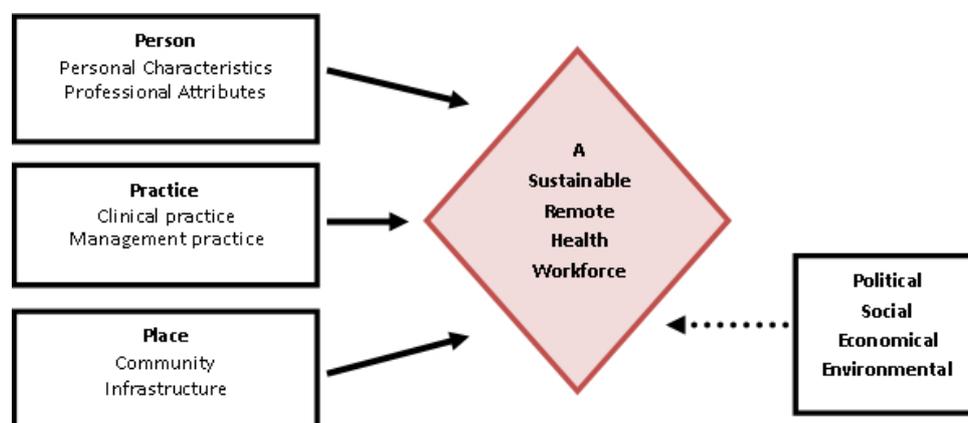
Low participation rates are a disadvantage of online questionnaires<sup>32</sup>. The response rate of 21% was low, which means that the findings may not be representative of all remote health professionals. The low response rate is consistent with this type of research tool, particularly with participants from rural and remote regions with the Australian Medical Association reporting a response rate of

13%, and Rural Doctors Association of Australia reporting 13.5% for online questionnaires in rural Australia<sup>33,34</sup>. In addition, there may be a self-selection bias, with health professionals interested in the topic more likely to participate<sup>32,35,36</sup>, or a non-response bias, which ‘refers to the bias that exists when respondents to a survey are different from those who did not respond in terms of demographic or attitudinal variables’(p. 411)<sup>36</sup>. In studies with a low response rate, the potential self-selection bias and non-response bias mean that the findings are not generalisable. However, the findings were consistent with the literature, suggesting that the sample was adequate to provide a good indication of the current remote health professional’s perspective.

This study made it clear that it sought the view of current remote health professionals about the sustainability of remote health workforces; however, it did not define ‘remote’ in the questionnaire. While it is not believed to have negatively impacted the findings it is acknowledged as a limitation given the different interpretations of ‘remote’, particularly the differentiation between ‘remote’ and ‘rural’<sup>17</sup>.

## Conclusions

The sustainable remote health workforce described in the opening passage of this article is not idealistic, nor is it unrealistic. It is an insightful narrative from a health professional with experience and expertise in remote health – someone who knows the landscape. Furthermore, it is indicative of the way in which current remote health professionals describe a sustainable remote health workforce. The solutions-focused approach of this study revealed possibilities for policies that could have a positive influence on the sustainability of remote health workforces. The findings reinforced the importance of ensuring that health professionals with current remote work experience and expertise are contributing to the planning and strategy development for the achievement of sustainable future remote health workforces. As seen in the opening passage, remote health professionals have much to offer this discussion.



**Figure 1: Characteristics of a sustainable remote health workforce.**

A sustainable remote health workforce is about an appropriate mix of health professionals with suitable personal characteristics and professional attributes to meet remote populations' needs. Beyond person-fit, a sustainable remote health workforce requires an appropriate model of service delivery that provides continuity of health care through improved retention of competent health professionals. This study found that management practices influence the outcomes of policy choices that provide for the achievement of sustainable remote health workforces. Hence, realising a sustainable remote health workforce requires management practices focused on aspects of people, practice and place.

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