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Published in:
New Zealand College of Midwives Journal

DOI:
10.12784/nzcomjnl56.2020.3.17-25

Published: 31/12/2020

Document Version
Publisher's PDF, also known as Version of record

NEW ZEALAND RESEARCH

Rural midwifery practice in Aotearoa/New Zealand: Strengths, vulnerabilities, opportunities and challenges

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ABSTRACT

Background: The sustainability of rural maternity services is threatened by underfunding, insufficient resourcing and challenges with recruitment and retention of midwives.

Aims: The broader aim of this study was to gain knowledge to inform the optimisation of equitable and sustainable maternity care for rural communities within New Zealand and Scotland, through eliciting the views of rural midwives about their working conditions and practice. This article focuses on the New Zealand midwives' responses.

Method: Invitations to participate in an online questionnaire were sent out to midwives working in rural areas. Subsequently, themes from the survey results were followed up for more in-depth discussion in confidential, online group forums. 145 New Zealand midwives responded to the survey and 12 took part in the forums.

Findings: The New Zealand rural midwives who participated in this study outlined that they are attracted to, and sustained in, rural practice by their sense of connectedness to the countryside and rural communities, and that they need to be uniquely skilled for rural practice. Rural midwives, and the women they provide care to, frequently experience long travel times and distances which are economically costly. Adverse weather conditions, occasional lack of cell phone coverage and variable access to emergency transport are other factors that need to be taken into account in rural midwifery practice. Additionally, many participants noted challenges at the rural/urban interface in relation to referral or transfer of care of a woman and/or a baby. Strategies identified that support rural midwives in New Zealand include: locum and mentoring services, networking with other health professionals, support from social services and community service providers, developing supportive relationships with other rural midwives and providing rural placements for student midwives.

Conclusion: Midwives face economic, topographic, meteorological and workforce challenges in providing a service for rural women. However, midwives draw strength through their respect of the women, and the support of their midwifery colleagues and other health professionals in their community.

Keywords: midwifery, rural maternity services, rural communities, sustainability, New Zealand

INTRODUCTION

In recent years there has been increased attention paid to the sustainability of rural midwifery in New Zealand. Concerns have been raised that there is a growing crisis within the rural maternity services, which is compromising women's and babies' safety (see, for example, Broughton and McKenzie-McLean, 2019; and Duff, 2019). Between the years 2014-2017, a team of researchers representing midwifery education providers from New Zealand and Scotland collaborated to carry out an international research study on rural midwifery. New Zealand and Scotland are comparable as they have similar population sizes, birth rates, rural topography, climate conditions and models of midwifery practice and education. Perhaps not surprisingly therefore, the countries also share some similar challenges in the provision of care in rural and remote areas, including concerns about the recruitment and retention of rural midwives.

The objectives of the study were:

- To establish the characteristics of sustainable rural midwifery practice;
- To explore and identify the personal skills, qualities and professional expertise needed for rural midwifery practice;
- To explore and identify the education needs for undergraduate and postgraduate midwifery education in New Zealand and Scotland.

This article focuses specifically on the New Zealand arm of the study, duly considering the interest of a New Zealand audience and in recognition of the wealth of information shared by the New Zealand rural midwives. It presents a descriptive summary report of the New Zealand midwives' responses, grouped under the headings of "strengths", "vulnerabilities", "opportunities" and "challenges", to capture their views and experiences of providing midwifery care for rural families.

Some investigators have attempted to define key attributes of New Zealand rurality for the purposes of researching rural maternity care (Crowther & Smythe, 2016; Kyle & Aileone, 2013). However, there is a lack of consensus about defining rurality in New Zealand, resulting in there being no consistent all-purpose definition (Fearnley Lawrenson, & Nixon, 2016). The United Nations estimates that 14% of New Zealanders live in rural areas (United Nations Department of Economic and Social Affairs, Population Division, 2015). However, Uchida and Nelson (2011) developed an agglomeration index for OECD countries based on several factors, including density of population per square kilometre and travel time. This index, which utilises a consistent methodology across different countries, estimates that 34% of the New Zealand population could be classified as living rurally. Fearnley et al. (2016) estimate that 19% of New Zealand's population access rural healthcare. As a result of this complexity, for the purposes of this research study it was agreed that New Zealand midwives would self-identify whether they considered they worked rurally.

Several studies undertaken on rural midwifery in New Zealand have identified significant barriers and challenges for rural midwives. Challenges include shortages of rural Lead Maternity Carer (LMC) midwives (Gibbons, Lancaster, Gosman, & Lawrenson, 2016; Kyle & Aileone, 2013) and the marginal economic feasibility of rural LMC midwifery practice due to the costs and time associated with travel distances and low caseload numbers (Crowther, 2016; Kyle & Aileone, 2013; Patterson, 2009). Several studies have found that rural midwives experience relative professional isolation which leads to "heightened vigilance" (Kyle & Aileone, 2013, p.39) and pervading feelings of vulnerability (Crowther, Smythe, & Spence, 2018) in needing to be prepared to manage unexpected and emergency events on their own. This is exacerbated by the fear of being subjected to criticism from urban-based colleagues (Crowther et al., 2018; Patterson 2009; Patterson, Skinner, & Foureur, 2015).

This research project has produced several publications. The first of these highlighted that courage, fortitude and resilience are essential underpinnings of rural midwifery practice in New Zealand and Scotland (Gilkison et al., 2018). Combined with the practical midwifery skills needed in emergencies, midwives also need preparedness, resourcefulness and the ability to develop meaningful relationships. The importance of relationships was explored through the concept of social capital in another article from this study (Crowther et al., 2019). The pre-registration education experiences and views of rural midwives were discussed in a third article which affirmed the value of including rural specific components in midwifery education (Kensington et al., 2018).

METHODS

The research team used a mixed methods approach for this study. The first stage was an online questionnaire (using the application SurveyMonkey) comprised of 29 open and closed format questions. This was developed through an initial questionnaire based on open-ended questions which was piloted by a small convenience sample of midwives with rural midwifery experience in order to check the clarity and comprehensiveness of the design. Consequently, some questions were reconstructed as multi-choice (for example, reasons for choosing rural midwifery practice) and Likert scale-type questions (importance of selected skills) and the results from this survey are reported here. The process of consultation with Māori, through the New Zealand participating institutions, resulted in extra questions being added specifically about whether participants grew up in a rural community and whether a connection to their particular community was a motivating factor for practising as a rural midwife.

In the second stage of the study, a subset of the midwives who participated in the survey accessed one of two online anonymised, asynchronous discussion forums that were accessible for six weeks. The groups were established to allow access only to the midwives who had consented to be part of an asynchronous online "focus group" forum. There were five broad questions which were developed after initial analysis of the survey data. Midwives wrote responses to these and to each other. Two of the researchers moderated the groups, posting prompts to further the discussions. The forums were an important consideration as they were cost effective and allowed reasonably easy access for midwives in remote areas by limiting the amount of time and travel required to participate.

Recruitment and ethics

There is no specific database for identifying rurally based midwives in New Zealand. Participants were recruited via the New Zealand College of Midwives (NZCOM), which forwarded an invitation email to the approximately 2500 midwife members in April, 2016. The email invited midwives who were currently working with rural women, or who had done so in the past, to take part in the study. This email additionally included a direct URL link to the introductory information relating to the online survey and information leaflet regarding the ethical aspects of the study. Participants in the online survey were invited to contact one of the researchers if they were interested in taking part in an online forum. There were 145 midwives from New Zealand who responded to the online survey, and the New Zealand online forums attracted the participation of a total of 12 midwives.

Maintaining the confidentiality of those midwives participating in both stages of the research process was an important factor in light of the small numbers of midwives working within rural communities. As a result, the questionnaire was set up so that midwives could choose not to answer all questions to enable them to ensure that they would not be identifiable. For the online forums, one member of the research team had the responsibility for gaining consent, assigning pseudonyms and providing the participants with access to one of the forums. The identities of the participants were not known to any of the other researchers. The participants were asked not to disclose their locality or any other potentially identifying information. Midwives were assigned numbers in the survey, and the forum discussion midwives were given pseudonyms. For the New Zealand component of the study, ethical approval was granted by Auckalnd University of Technology (AUT) Research Ethics Committee (AUTEC 16/02) and endorsed by the Ara Human Research Ethics Committee.

Data analysis

The online survey provided profiles of participants in relation to a range of factors such as age, ethnicity, District Health Board (DHB) practice area, years in rural practice, and transfer times, as well as a rating of the skills required for rural practice.

Qualitative data generated from the survey and online forum groups were individually categorised, coded and interpreted by all the researchers, using thematic analysis informed by Braun and Clarke (2006). Collectively, the research team used King's (2012) template analysis to organise the qualitative data into a hierarchical structure of themes and sub themes. Themes were then compared and analysed more deeply by the research team to ensure the rigour of data analysis. The research team reached a consensus on the final template of themes following three face-to-face meetings and regular virtual meetings. These themes have been reported on elsewhere (Crowther et al., 2019; Gilkison et al., 2018; Kensington et al., 2018). Subsequently, two regional focused articles have been written, the first specifically focusing on the Scottish rural midwives' data (Crowther et al., 2020) and this article, which focuses specifically on the New Zealand rural midwives' data.

The findings of the New Zealand data are presented, based on the initial coding of the data and offering a "low-inference description" (Sandelowski, 2000, p.335) of the participants' responses. This allows for coverage of a broader range of the midwives' responses than is usually included in a thematic analysis. We have done this to report back to the midwives who contributed to this research as comprehensively as possible. In this detailed account of their views, relating to the specific issues that impact on rural practice in New Zealand, we hope also to provide comprehensive insight into the current state of New Zealand rural maternity services. We envisage that an increased awareness of the lived realities of practice for midwives in these regions will provide future guidance for policy makers and serve to inform recruitment and educational strategies.

During the data analysis, the research team noticed the paradoxical nature of the data. For every strength there was perceived to be a corresponding area of vulnerability; likewise, for every opportunity there was a corresponding challenge. These juxtapositions are addressed using a fourfold approach: the strengths that midwives can call on to sustain them in rural midwifery practice; the vulnerabilities or contextual issues that they face; the wider challenges that put pressure on rural maternity services; and the opportunities that midwives see for improving their working conditions and ensuring more equitable access to maternity care for rural families. This approach avoids focussing only on the negative aspects of rural midwifery. A "deficit approach" to rural health care has been critiqued as detracting from an understanding of the specific skill set required by those working in rural practice, which has led to a stereotyping of rural health care as less than appealing and inherently problematic (Bourke, Humphreys, Wakerman, & Taylor, 2010).

FINDINGS

Demographic profile of the survey participants

Most of the 145 New Zealand midwives who responded to the survey indicated their main rural midwifery work role as being a caseloading midwife (75.0%), either as an LMC (63.9%) or in an employed capacity (11.1%), while 12.5% were "core" (hospital employed shift-work) midwives and 8.3% of the respondents were locum midwives for rural LMCs (Table 1). Sixty percent of the respondents worked in areas where at least 70% of the women they cared for lived rurally. Almost a third of the respondents had worked more than 15 years in rural midwifery, while a similar proportion had worked five or fewer years in rural midwifery practice. As an indication of rurality we asked for the time it generally would take to transfer, from decision to arrival, to an obstetric or neonatal facility. For 55% of the respondents, this was over an hour. However, some noted that these times were dependent on a vehicle being available, and if there was not, the transfer times could be hours longer.

Table 1. Characteristics of the New Zealand survey participants

Characteristic	n (%)
Rural midwifery main work type	**144***
Caseloading self-employed (LMC)	92 (63.9%)
Caseloading employed	16 (11.1%)
Core midwife	18 (12.5%)
Core midwife and caseloading	5 (3.5%)
Rural locum midwife (caseloading or core)	12 (8.3%)
Midwifery educator	1 (0.7%)
Proportion of women cared for who live rurally	**143**
<30%	25 (17.5%)
30-49%	15 (10.5%)
50-69%	17 (11.9%)
70-100%	86 (60.1%)
Years in rural midwifery practice	**120**
≤5 years	39 (32.5%)
6-10 years	23 (19.2%)
11-15 years	20 (16.7%)
>15 years	38 (31.7%)
Transfer time from decision to arrival in obstetric/neonatal facility	**138**
≤60 minutes	62 (44.9%)
61-90 minutes	40 (29.0%)
>90 minutes	36 (26.1%)

* Not all midwives answered each question. Therefore, there are different numbers of respondents for each question.

Comparing the ethnicity (Figure 1) and age (Figure 2) distributions of the survey participants with the Midwifery Council of New Zealand (MCNZ) workforce data indicates that the survey sample is remarkably representative of the midwifery population generally (MCNZ, 2017). It is interesting to note that in terms of age distribution, the Māori midwifery respondents tended to be younger: 31% were under 40 years old compared to 18% for the rest of the participants ($p < 0.01$).

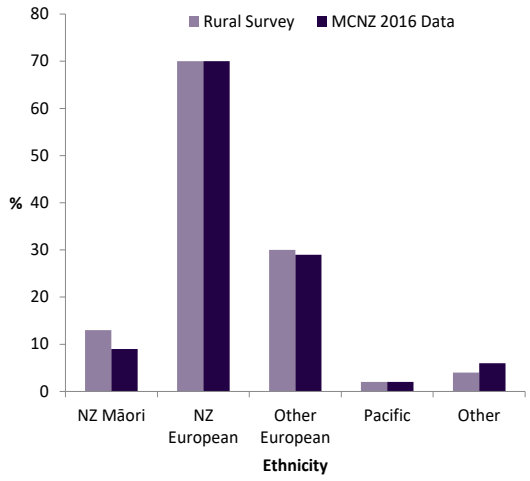


Figure 1. Comparison of ethnicity between Midwifery Council of New Zealand data and New Zealand study participants
(Note: includes first, second and third ethnic categories and therefore percentages add up to more than 100%).

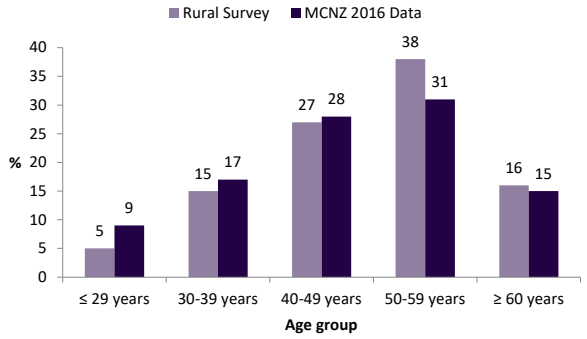


Figure 2. Comparison of age groups between Midwifery Council of New Zealand data and New Zealand study participants

Respondents were asked in which DHB area they mainly worked. Table 2 summarises these responses. Forty-four percent of the participants were from the South Island, with the largest cohort coming from the Southern DHB (which combines the former Otago and Southland DHBs). There were no participants from the Tairawhiti DHB area.

Table 2. New Zealand participants' DHB region

DHB area	n	%
Not stated	8	5.5
Auckland	3	2.1
Bay of Plenty	5	3.4
Canterbury	22	15.2
Capital & Coast	7	4.8
Counties Manukau	4	2.8
Hawke's Bay	6	4.1
Hutt Valley	1	0.7
Lakes	7	4.8
MidCentral	7	4.8
Nelson Marlborough	7	4.8
Northland	10	6.9
South Canterbury	1	0.7
Southern	28	19.3
Taranaki	6	4.1
Waikato	15	10.3
Wairarapa	1	0.7
Waitematā	2	1.4
West Coast	2	1.4
Whanganui	5	3.4
Total	**147***	**101.2***

*Two midwives nominated two DHBs each

Strengths: Rural midwives' passion and skills

Most of the New Zealand midwives participating expressed a passion for rural midwifery and indicated that they were, of necessity, also highly skilled in remote and rural practice. This section outlines these two crucial aspects of the strengths that rural midwives have to sustain their practice.

Many midwives who took part in this study wrote about their sense of connectedness to the countryside and rural communities. (Quotes are included exactly as they were written in the online survey or in the online forum. An ellipsis is used where words have been omitted.) As one midwife reported:

> *I experience a real joy working in my area and have the greatest respect for the women and their families. The time to unwind in the travel time is great, the sights and views are outstanding and the families are awesome.* (Molly, Forum)

Several linked this to having grown up in a rural area, as in the following example: *I am also closer to my roots* (2865, Survey).

Several of the Māori midwives described how practising as a rural midwife reflects their commitment to the principles and values of te ao Māori (see glossary), focussing on the significance of their relationships, past and present, to people and the land:

> *I enjoy living on whenua that I have whakapapa to, seeing my maunga and awa daily, continuing to be ahi kaa. Supporting wahine and whanau who remain in our ancestral lands to birth on their own whenua. Maintaining traditions, celebrating new life which invigorates our hapu/iwi and celebrates our continued existence and commitment.* (4259, Survey)

> *I enjoy knowing that my skill actually makes a difference. I enjoy the women and whanau whakapapa of my rohe/area … The continuing relationships with some whanau I work with … watching pride and knowledge with women and whanau as they transition to parent hood.* (6119, Survey)

In the survey open format questions, many midwives wrote about their appreciation of the attributes and attitudes of rural women: *I enjoy working alongside and in partnership with rural women who are often more resourceful, independent and have stronger networks in the community for support than those who live in towns* (2493, Survey). Rural women were described by the participants as being "resilient", "pragmatic", "self-reliant", "strong", "generous", "relaxed", "family and whānau oriented", and commended for "their confidence in themselves" and "their belief in natural birth". A number of the midwives added comments, such as: *The women whom live rurally have a very different lifestyle that does reflect the birthing process. High rate of normal birth and great breastfeeding rates* (6245, Survey).

Midwives also commented on having a sense of social connection to the community. Two of them expressed this as: *being an integral part of a small community* (8334, Survey) and having *community standing and responsibility* (2480, Survey). One midwife explained:

> *I love the chance to know women and their families seeing them for many years after the birth in the supermarket going to school etc. I love also watching the babies grow into young men and women in the community. Being known and respected is a nice feeling that wouldn't happen in the city as much.* (1692, Survey)

In the pilot for the online survey questionnaire, several of the midwives noted that a key reason for practising midwifery in a rural area was that they wanted to ensure that rural women would have access to a midwifery service. Therefore, this answer option was added in the final questionnaire and 64% of the respondents selected this reason. Of the midwives who indicated that they had grown up in a rural area, 88% indicated this was one of their reasons for practising rurally. As one midwife wrote in the survey: *I feel it is important for rural women to have equitable access to maternity services* (9761, Survey). Another wrote: *I feel strongly that these women should receive the same level of care as their city sisters* (8841, Survey).

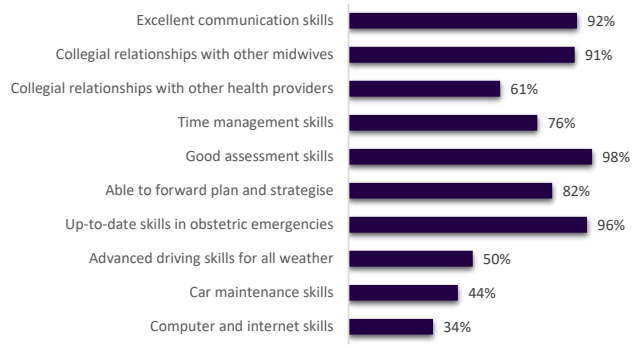
The appreciation of rural women and the commitment to rural communities have been found in other research into rural midwives in New Zealand (Crowther, 2016; Kyle & Aileone, 2013; Patterson 2009).

A common thread in the survey was that midwives identified that working autonomously is an essential and central tenet of rural practice and most commented on this positively. For example, a midwife stated: *I enjoy the autonomy that comes with practicing remotely* (4005, Survey). Rural midwives need to be able to practise autonomously by virtue of their isolation from other health practitioners and, at the same time, this requires a unique set of skills and attributes.

> *I believe it takes a strong autonomy to work rurally as you will need to be able to make safe well considered decisions. There is so much less collegial support remote rurally. It's lonely work at times. Your midwifery skills need to be at their best at all times and predicting how the progress is heading is essential to timely decision making.* (2091, Survey)

In the open format survey questions, the skills that midwives wrote about most were managing emergencies, comprehensive assessment, effective communication, maintaining collegial relationships and being able to anticipate and plan for any eventuality. This was also reflected in the responses to a list of midwifery skills. Figure 3 shows the percentages of midwives who evaluated each skill as *"very important"* on a 5-point Likert scale. The top four skills that were rated as *"very important"* were good assessment, being up-to-date in obstetric emergencies, excellent communication and collegial relationships with other midwives.

Figure 3. Skills required for rural midwifery practice rated as "very important" by New Zealand participants



When participants referred to midwifery skills, they tended to combine them, suggesting that these all need to be integrated. Helen outlined the importance of assessment skills in this next quote and links these to up-to-date knowledge, confidence and intuition:

> *Assessment skills need to be 'en pointe' I have had a few close calls, with some quite unwell women. Rural midwives need up to date knowledge (local and midwifery), adaptable personal skills, confidence in your midwifery skills and know what to do and when (a bit of intuition is needed for this!).* (Helen, Forum)

Midwives also talked about needing "courage" and needing to be "quick thinking on your feet", for example: *Courage and trust! To trust that my colleague and I have the combined skills to deal with the unexpected and will find a way through.* (8334, Survey)

There was recognition these skills are necessary for all midwives but, as Rori comments, in an obstetric hospital environment there are always others around who can assist.

> *Emergency skills and quick thinking on your feet is an essential skill for rural midwifery. In a sense this is a skill every midwife has as it is needed to be competent. However, I get the impression this sometimes gets lost in a hospital environment as there is always someone around that could do the suturing of a difficult perineal tear or resuscitate a newborn.* (Rori, Forum)

Previous research in New Zealand has also identified that rural midwives need enhanced skills to deal with emergencies which include skills in decision-making and contingency planning (Crowther et al., 2018; Kyle & Aileone, 2013; Patterson 2009). The purpose of these skills is to enable rural women to have the benefit of birthing in their own communities, close to their families rather than in obstetric facilities far from home when this is not what they need:

> *Most importantly you need to be able to really carefully and appropriately assess risk without over emphasizing the risks over the physiological norm. Really important that women are supported to birth in their low risk environment and supported to have good antenatal and postnatal care close to or at home where possible, but are aware of the risks if there are any and have full discussion around need for referral and transfer etc if required… especially essential… when significant travel times to help are required.* (7379, Survey)

The participants outlined the strengths inherent in rural midwifery, based on their respect for rural women and families and their comprehensive set of skills for remote and rural midwifery practice.

Vulnerabilities: Travel, isolation and social determinants of health

This section discusses aspects of the physical geography and the social determinants of health in rural areas that impact on rural midwives' practice.

The need to factor in the reality of the time, distances and costs associated with travel was a recurring theme in both the survey and the forum discussions. Whilst many midwives wrote of the joy and beauty of driving and having time to think, there was also a flipside. One participant summed up the challenges of rural practice in terms of: *The distances I have to travel between appointments. The weather and trying to get to people when it's winter. The communication problems i.e. cell phone coverage, power outages, the isolation of being a rural midwife.* (5316, Survey)

Another participant noted that due to the distances she had to travel in her rural area: *I can spend the day travelling and maybe only see two or three women* (1570, Survey). A point that was made over and over again was that the costs associated with travel in relation to the remuneration rates make rural midwifery economically unsustainable.

Some midwives referred to the month-to-month variability in caseload numbers in their practice: *Some months there are no women birthing, and other months there are 8 women birthing with no other option for care* (Virginia, Forum). The ability to take on a larger caseload is limited because of the time necessary to travel long distances to reach women. In remote rural areas where birthing numbers are too low to support more midwives, participants also described the difficulty accessing a back-up midwife in order to take regular time off:

> *My biggest challenges are the isolation - the closest midwife lives 85km away, the numbers (it's financially unsustainable to call this a caseload), and time off - there is no time off to be able to do anything reliable with my family.* (Kim, Forum)

The issues related to the time associated with travel, isolation and maintaining a sustainable workload have been highlighted in other research on rural midwifery in New Zealand (Crowther, 2016; Kyle & Aileone, 2013; Patterson 2009). In addition, many participants wrote about the impact of adverse weather conditions. Ana wrote that in her area of rolling hill country: *In winter snow, flooding, high winds, slips, debris on the roads may be one of the many factors we need to deal with* (Ana, Forum). The increased incidence of extreme weather events resulting from climate change (Hayward, 2017) suggests that this issue will become even more pressing in the future.

While several participants wrote about their sense of connection to their rural community, this can also be problematic, particularly when there is an unexpected outcome. This is captured in the following quote:

> *The very factor I enjoy about feeling a 'close, and friendly community' can have its challenges when dealing with poor outcomes. Emotions run high for all midwives in these challenging situations, but somehow it seems worse when you know the families personally.* (3275, Survey)

As has been noted in previous studies by Crowther et al. (2018) and Patterson (2009), the aspects that make rural midwifery attractive can also be sources of stress.

While there was notable consistency in their accounts of the environmental constraints such as travel distances and weather that affect the sustainability of rural midwifery, there was marked regional variability in the social factors described by the midwives in the study. This resonates with the adage "if you have seen one rural town, you have seen one rural town" (Schwartz, 2012, para 2).

The diversity of rural communities in New Zealand was apparent in the midwives' responses to the survey. For example, one midwife stated that in her area: *The women who live rurally are pretty down-to-earth, generally healthy and fit, and view birth as a normal life event* (2865, Survey). By contrast, another midwife raised concerns regarding the high ill health and social distress acuity in her community: *High risk factors especially domestic issues relating to poverty such as smoking, drinking, high drug use and violence as well as low education overall* (2091, Survey). In the forums, the opening question asked midwives to describe the rural community (without identifying location) in which they worked. In responding to this question, midwives discussed the social determinants of health for families in their rural community which affirmed that each area has its own specific history, demographics, industries and social problems.

Several midwives described remote rural areas where there is economic growth and increasing numbers of young people, drawn by employment opportunities and lifestyle factors. Virginia commented on a *general culture of health and wellness* (Virginia, Forum) and women being proactive in their information finding about keeping healthy during pregnancy, birth and postnatally. At the same time, she reported that there are associated challenges for families in this area: *Housing and food are expensive and generally 2 incomes are needed to afford to live here. Many families here do not have extended family nearby* (Virginia, Forum).

High housing costs and shortages resulted in families having *to move further out to access cheaper accommodation* (Alice, Forum), and this increases the travel times for midwives and the costs of accessing maternity services for women.

Other rural areas are dealing with problems associated with decreasing or fluctuating employment opportunities. Midwives mentioned the impact of the changing fortunes of rurally based industrial employers or dairy farming milk prices on young families. Sarah commented: *There has been a significant drop in birth rate the last couple of years due to many families moving away for better employment opportunities* (Sarah, Forum). Midwives in areas of high unemployment noted, for example, *over 60% would be on benefits and living with family* (Molly, Forum) or, conversely, *Rental and living is cheap hence many unemployed people move here* (Rori, Forum). As a result, midwives in different rural areas face quite different social issues for the women for whom they provide care. This diversity in the maternity care needs for different rural communities in New Zealand has not been explored elsewhere. Further research and greater consideration in policy-making of the specific social determinants of health affecting childbearing families in each rural community are needed.

Challenges: Gaps in services and the urban/rural interface

The diverse social issues facing rural communities, the material constraints of distances and time required for travel, and the obstacles posed by weather conditions are all realities rural midwives need to work with. However, as indicated in the previous section, these become much more challenging for rural midwives as the funding and service specifications for maternity care have been designed for an urban model. This presents a significant threat to the financial viability of rural midwifery practice. Another challenge that the midwives who participated in the research commented on extensively was the rural/urban interface, particularly in relation to referral or transfer of care of the woman and/or the baby. This is one of the most consistent themes to come through in the other research that has been conducted with rural midwives in New Zealand (Crowther et al., 2018; Patterson 2009; Patterson et al., 2015).

Problems with the rural/urban interface begin for some midwives with making the call to organise for a woman to transfer to an urban secondary or tertiary unit. Rather than feeling supported, they sometimes get responses that they experience as being unhelpful and undermining. Numerous accounts like the following one were shared by participants:

> *I find it really hard at the interface at transfer. When I phone the hospital to say we are coming the phone response is often to question my decision process e.g. "you should have decided to come in earlier with the retained placenta" or "what midwife are you that you can't convince the woman to come in when she is in premature labour" without understanding the context of the situation and the complexities surrounding the woman's situation e.g. no child care, no petrol in the car or on home detention and it is after curfew etc.* (0472, Survey)

Reliable access to emergency transport to secondary or tertiary facilities was also noted as challenging by some of the midwives. One midwife wrote that the time to transfer from the point in time of making the decision to arriving at an obstetric or neonatal facility would take: *2 hours travel time in ambulance, but rely on a volunteer ambulance service - can take 6 hours+ to find a driver* (9770, Survey). Many midwives made similar comments: *St John's are marvellous but a volunteer driver for back up isn't ideal* (Alice, Forum). There also seemed to be a perception that transfer by helicopter was rationed: *Helicopters seem to be difficult to get (funding? staffing for retrieval?)* (Virginia, Forum) and reserved only for the most severe emergencies. These problems with rural road and air ambulance services to assist with transfer of women in childbirth have been outlined in previous research (Kyle &

Aileone, 2013; Patterson, 2009) and more recently in media reports (Broughton & McKenzie-McLean, 2019; Duff, 2019). However, from some midwives' responses, it appears that these issues are being addressed in some areas. One midwife wrote that: *Ambulance service is very reliable here with two paramedics rather than a driver and a first aider/responder* (8387, Survey).

Other challenges related to emergency transfers included finding transport for themselves back home unless they *could get a lift back with the ambulance if they don't mind a wait while I hand over* (Shereen, Forum), and the length of time taken up with a transfer: *The difference being rural is that this can take several hours out of a day when travel is included. … It usually requires postponing the rest of the day's visits which poses its own problems* (Maya, Forum).

A number of comments from midwives suggested that some urban health practitioners lack awareness of the practical realities of rural midwifery practice.

> *It is difficult to ever explain to a midwife that hasn't worked in remote rural the added stresses that face you every day, and when you suggest exchanging roles with a core midwife- yes, they probably would say it's so easy!* (Sarah, Forum)

While most of the quotes in this section are from community LMC midwives, some rural core midwives also commented on the challenges they face through the: *Lack of understanding from base hospital of the special and unique role of the primary care rural midwife* (6809, Survey). The lack of understanding, compounded with the financial and practical challenges of sustaining rural maternity services, can lead to rural midwives feeling "undervalued". A midwife in the survey summed this up as: *I love love love being a rural midwife but it is not for the faint hearted! I feel the ache of responsibility and undervalued status as I sit and respond to this questionnaire* (8387, Survey).

Opportunities: Strategies to sustain rural midwives

In the survey and the forum discussions, participants outlined a range of strategies that sustain them in rural midwifery practice. These include access to mentoring and locum services; forming mutually supportive relationships within their rural communities; connecting with urban-based colleagues; and supporting rural-specific education in the preregistration midwifery programmes.

Many midwives referred to the importance of the Rural Midwifery Recruitment and Retention Service (RMRRS) as a support for them to practise rurally. This scheme is a joint initiative by the NZCOM and the Midwifery and Maternity Provider Organisation (MMPO) with funding from the Ministry of Health. Twenty percent of the New Zealand survey participants mentioned either the locum or rural mentoring services offered by the RMRRS. This is notable considering there were no specific questions about this as the survey had to be applicable to both midwives in Scotland and New Zealand.

One midwife explained that the locum service was essential for keeping her in rural midwifery: *I love rural midwifery and working with rural women. Sometimes I do lose enthusiasm for it though and if it wasn't for amazing supportive colleagues and rural locums I wouldn't do it any more* (3334, Survey).

Others also noted the value of: *Making the most of using the rural locum facilities to enable time off to avoid burn out* (7629, Survey), and: *Having a rural support mentor who lives outside my practice area to provide objective overview and fantastic support by phone* (6763, Survey).

Another strategy identified by some of the midwives to improve the sustainability of rural midwifery was networking with other health practitioners, social service providers and community organisations within their local areas. The following quote shows the range of relationships/collaborations that a rural midwife needs to develop:

> *As well as collegial relationships with GP's and other health providers, it is important as a Midwife in remote rural areas to have good collegial relationships with the local police, … the local fire brigade and ambulance staff, … the local pharmacy. When they get to know you they are happy to ring you, and you them if you have any concerns.* (3275, Survey)

Midwives linked these inter-professional relationships to better support for women: *Generally, the services in the area are great and I have built some great partnerships and this is really reflected in the women's care* (Helen, Forum), and: *Our local GP clinic, Plunket, Maori health provider and us; all work together to support families in the community* (Ana, Forum).

Several midwives noted that being able to share clinic space with other local practitioners is beneficial and *has helped to break down some historic boundaries that midwives and doctors had* (Alice, Forum). A few midwives made comments that sometimes creating new relationships or making changes can be difficult, as individuals can have significant influence in a small community: *Personalities matter much more in rural practice. Culture can have a much stronger influence and is harder to break away from, as this often reflects the community* (1076, Survey).

However, generally strengthening these local relationships was seen as positive.

Several midwives wrote about developing supportive relationships with other rural midwives to share experiences and knowledge. Molly recounted that:

> *The informal education is what keeps me up to date with rurality. We have also had 1-3 times a year, met half way with a group of midwives that are located 1 & 1/2 hours away to discuss our practices, case reviews and also any education that we've been to. … the best way to learn and great for us as midwives for company and reduce that feeling of isolation. It takes a lot of organising because it is about midwives giving up their time off and organising their workloads to attend.* (Molly, Forum)

This suggests that rural midwives can benefit from forming "communities of practice" with other rural midwives.

Many midwives saw benefit in annual update workshops such as neonatal resuscitation or emergency skills. Some midwives recommended that these be held in a primary or rural setting and not always at the secondary or tertiary unit:

> *I think a rural emergency day would be good. Many of the emergency days tend to be urban and hospital focused. It would be good for hospital staff to have hands on practice to then understand how it feels for us waiting 45 + min for an ambulance while trying to arrange transfer.* (3334, Survey)

The midwives' responses to the survey and the forum were strongly supportive of rural midwifery being included in the preregistration midwifery programmes:

> *A rural placement is absolutely vital. It would have given me an insight to how it works rural compared with urban*

> *midwifery. This may mean for some midwives that they will be more supportive at the interface when rural meets urban at a transfer.* (0472, Survey)

Midwives also wrote about the value of offering students rural midwifery placements – personally, for the profession and for rural communities:

> *I have found that students are a really valuable source of companionship but also an opportunity to improve the reciprocity of the knowledge of rurality. I know that our knowledge increases and our own enquiry into our every day work/practice increases.* (Molly, Forum)

> *As a Māori Midwife there is a lot of personal motivation for me to support Maori aspirations, maintain cultural integrity, encourage and nurture up and coming Māori midwives as students and colleagues.* (4259, Survey)

Some midwives stated that it is important to try to ensure that students are aware of the reality of relative isolation and the enormity of the responsibilities of rural midwifery practice. As Kim explains: *I don't think I was adequately prepared for the mental toll during my training - skills and timely transfer yes - but emotional and physical well-being - no way!* (Kim, Forum). The MCNZ requires that all the midwifery preregistration education programmes must "be delivered flexibly to provide access to students living in rural, provincial and urban locations" (2019, p.5) as a grow-your-own rural midwifery strategy. However, not all the urban-based midwifery students have rural placements included in their practice experience. The ongoing challenge for educators is to continue to work with rural midwives to ensure rural placement opportunities are available or that there is some provision for rural midwives to be involved in the midwifery programme in order to improve the rural/urban interface.

STRENGTHS AND LIMITATIONS

A key limitation is that we do not know what the response rate was or how representative the survey participants were of the rural midwifery population in New Zealand more generally, as the survey invitation was sent out to all midwives on the NZCOM membership email list. However, the challenge is how to define "rural midwifery" when there is so much debate about how rurality and rural health services should be defined (as discussed in the introduction). A strength of this study is the large number of midwives who took part and the richness and detail of their contributions both to the open-ended questions in the survey and in the online discussion forums.

CONCLUSION

The economic, topographic, meteorological and workforce challenges identified by the midwives in our study have contributed to a sense of vulnerability, both for their role and for the families with whom they work. The service that rural midwives provide for rural women and their families is described as tenuous and demanding at times. As has been discussed in other studies, the contract system that is essentially designed for urban-based LMC midwives does not work well for rural maternity services (Crowther, 2016; Kyle & Aileone, 2013; Patterson, 2009). Despite all these factors, the words of the midwives demonstrate how they draw strength and courage to provide the care required. They speak of their love for the communities that they work alongside and their respect and admiration for the women that they serve. They generally view their colleagues in midwifery and other health-related roles with collegiality and appreciation. These relationships appear to galvanise them and provide them with tenacity and resilience that enable them to view a challenge as an opportunity.

Key messages

- The views and experiences of rural midwives have been explored to better support a sustainable rural maternity service.
- Economic,topographic, meteorological and workforce challenges contribute to a sense of vulnerability.
- Admiration and respect for the women in their community, plus collegiality and appreciation of their colleagues, foster rural midwives' strength and resilience.

CONFLICT OF INTEREST DISCLOSURE

The authors declare that there are no conflicts of interest.

REFERENCES

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2010). From 'problem-describing' to 'problem-solving': Challenging the 'deficit' view of remote and rural health. *Australian Journal of Rural Health, 18*, 205-209. https://doi.org/10.1111/j.1440-1584.2010.01155.x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Broughton, C., & McKenzie-McLean, J. (2019, June 25). Will more babies be born on the side of the road? *Stuff.* Retrieved from https://www.stuff.co.nz/national/health/113637276/will-more-babies-be-born-on-the-side-of-the-road

Crowther, S. (2016). Providing rural and remote rural midwifery care: an "expensive hobby." *New Zealand College of Midwives Journal, 52*, 26-34. https://doi.org/10.12784/nzcomjnl52.2016.4.26-34

Crowther, S., Deery, R., Daellenbach, R., Davies, L., Gilkison, A., Kensington, M., & Rankin, J. (2019). Joys and challenges of relationships in Scotland and New Zealand rural midwifery: A multicentre study. *Women and Birth, 32*(1), 39-49. https://doi.org/10.1016/j.wombi.2018.04.004

Crowther, S., Rankin, J., Deery, R., Gilkison, A., Davies, L., Daellenbach, R., & Kensington, M. (2020) Experiences and Needs of Scotland's Rural Midwives. *The Practising Midwife, 23*(5), 36-40.

Crowther, S. & Smythe, L. (2016). Open, trusting relationships underpin safety in rural maternity: A hermeneutic phenomenology study. *BMC Pregnancy and Childbirth, 16,* 370. Retrieved from https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-016-1164-9

Crowther, S., Smythe, L., & Spence, D. (2018). Unsettling moods in rural midwifery practice. *Women and Birth, 31*(1), e59-e66. https://doi.org/10.1016/j.wombi.2017.06.019

Duff, M. (2019, August 1). The last midwife and the first babies born in the world. *Stuff.* Retrieved from https://www.stuff.co.nz/national/health/114367158/the-last-midwife-and-the-first-babies-born-in-the-world

Fearnley, D., Lawrenson, R., & Nixon, G. (2016). 'Poorly defined': Unknown unknowns in New Zealand rural health. *The New Zealand Medical Journal, 129*(1439), 77-81. Retrieved from https://www.nzma.org.nz/__data/assets/pdf_file/0007/50695/Nixon-2150-NZMJ-1439-FINAL.pdf

Gibbons, V., Lancaster, G., Gosman, K., & Lawrenson, R. (2016). Rural women's perspectives of maternity services in the Midland region of New Zealand. *Journal of Primary Health Care, 8*(3), 220-226. https://doi.org/10.1071/HC15051

Gilkison, A., Rankin, J., Kensington, M., Daellenbach, R., Davies, L., Deery, R., & Crowther, S. (2018). A woman's hand and a lion's heart: Skills and attributes for rural midwifery practice in New Zealand and Scotland. *Midwifery, 58*, 109-116. https://doi.org/10.1016/j.midw.2017.12.009

Hayward, B. (2017). *Sea Change, Climate Politics and New Zealand.* Wellington, New Zealand: Bridget Williams Books.

Kensington, M., Rankin, J., Gilkison, A., Daellenbach, R., Crowther, S., Deery, R., & Davies, L. (2018). 'Living the rural experience-preparation for practice': The future proofing of sustainable rural midwifery practice through midwifery education. *Nurse Education in Practice, 31*, 143-150. https://doi.org/10.1016/j.nepr.2018.06.001

King, N. (2012). Doing template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative Organizational Research: Core Methods and Current Challenges.* London, United Kingdom: Sage.

Kyle, M. & Aileone, L. (2013). *Mapping the rural midwifery workforce in New Zealand.* Christchurch, New Zealand: Midwifery and Maternity Providers Organisation & Health Workforce New Zealand.

Midwifery Council of New Zealand. (2017). *2016 Midwifery Workforce Survey.* Retrieved from https://www.midwiferycouncil.health.nz/sites/default/files/site-downloads/Workforce%20Survey%202016.pdf

Midwifery Council of New Zealand. (2019). *Standards for approval of pre-registration midwifery education programmes and accreditation of tertiary education organisations (3rd ed.).* Retrieved from https://www.midwiferycouncil.health.nz/sites/default/files/professional-standards/Pre-reg%20standards%20final%20for%20publication%20161219.pdf

Patterson, J. (2009). *A time of travelling hopefully: a mixed methods study of decision making by women and midwives about maternity transfers in rural Aotearoa, New Zealand.* A thesis submitted to the Victoria University of Wellington in fulfilment of the degree of Doctor of Philosophy in Midwifery. Victoria University of Wellington, New Zealand.

Patterson, J., Skinner, J., & Foureur, M. (2015). Midwives' decision making about transfers for "slow" labour in rural New Zealand. *Midwifery, 31*(6), 606-612. https://doi.org/10.1016/j.midw.2015.02.005

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health, 23*, 334-340. https://doi.org/10.1002/1098-240X(200008)23:4%3C334::AID-NUR9%3E3.0.CO;2-G

Schwartz, B. (2012). Vibrant Rural Communities Case Studies Series. Retrieved from the National Association of Development Organizations website: https://www.nado.org/vibrant-rural-communities-case-study-series/

Uchida, H. & Nelson, A. (2011). Agglomeration Index: Towards a New Measure of Urban Concentration. In J. Beall, B. Guha-Khasnobis & R. Kanbur (Eds.). *Urbanization and Development: Multidisciplinary Perspectives.* Oxford Scholarship Online. https://doi.org/10.1093/acprof:oso/9780199590148.003.0003

United Nations Department of Economic and Social Affairs, Population Division. (2015). *World Urbanization Prospects: The 2014 Revisions.* (ST/ESA/SER.A/366). Retrieved from https://population.un.org/wup/Publications/Files/WUP2014-Report.pdf

Accepted for Publication July 2020

Daellenbach, R., Davies, L., Kensington, M., Crowther, S., Gilkison, A., Deery, R., & Rankin, J. (2020). Rural midwifery practice in Aotearoa/New Zealand: Strengths, vulnerabilities, opportunities and challenges. *New Zealand College of Midwives Journal, 56*, 17-25.

https://doi.org/10.12784/nzcomjnl56.2020.3.17-25

GLOSSARY

ahi kaa	land held over several generations
hapu	a group of several whānau
iwi	a large group/tribe associated with a specific district
maunga/awa	mountain/river (geographical features are important for linking to one's place of belonging or spiritual home)
rohe	the district associated with a specific iwi
te ao Māori	the Māori world view, encompassing language, customs, connection with the land, and the Treaty of Waitangi
wāhine	women
whakapapa	heritage, genealogical connection
whānau	the extended family
whenua	land