New Zealand
College of Midwives
TE KĀRETI O NGA KAIWHAKAWHANAU KI AOTEAROA

JOURNAL

A new direction for the College Journal

"I've done a test, what now?" A focus group study exploring eHealth access for women

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

Maternal socio-economic disadvantage in Aotearoa New Zealand and the impact on midwifery care

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New Zealand College of Midwives Journal

The New Zealand College of Midwives Journal is a double-blind peer-reviewed journal that presents research undertaken within a continuity of midwifery care framework. It is the official publication of the New Zealand College of Midwives and is provided as a benefit to all College members. The Journal is aimed at both national and international readers with an interest in pregnancy and childbearing, including midwives, student midwives, midwifery managers and educators, allied health professionals and consumers.

The Philosophy of the Journal is:

- To promote women's health issues as they relate to childbearing women and their families
- To promote the view of childbirth as a normal life event for the majority of women, and the midwifery professional's role in effecting this
- To provoke discussion of midwifery issues
- To support the development of New Zealand midwifery scholarships
- To support the development and dissemination of New Zealand and international research into midwifery and maternal and child health

PUBLICATION

The Journal uses open-access, article-based publishing. Once a paper is ready for publication, it is disseminated first to College members, and then made publicly available on the College website. Each issue covers a calendar year and is available online in full once it is completed.

SUBMISSIONS

The Journal welcomes original research, literature reviews, case studies, audits and research methodology manuscripts that fit with the Philosophy of the Journal. Submissions should be emailed to co-editor, Lesley Dixon, practice@nzcom.org.nz.
For full information about the Journal and how to submit a manuscript, see https://www.midwife.org.nz/midwives/publications/college-journal/

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EDITORIAL

A new direction for the College Journal

Andrea Gilkison and Lesley Dixon, Co-editors

Andrea Gilkison

Lesley Dixon

2020: the Year of the Midwife, and the year of Covid-19…what a year it has been for midwives in every role and every part of Aotearoa, and throughout the world. In Aotearoa, midwives have shown incredible dedication, innovation and flexibility to continue providing quality care for women and babies throughout the pandemic. Midwifery educators have continued to teach, midwifery researchers have continued to research – everything has needed to be adapted to virtual consultations, virtual teaching and virtual research.

This is the 56th issue of the College Journal and, for 28 years, the Journal has continued to publish original research and other articles, and has been printed and posted to all College members, libraries and other organisations who have subscribed.

In the early 1990s, when the Journal was first published, one of the co-authors (AG) remembers helping Helen Manoharan on her kitchen table to decide on the layout of the Journal. In those days, poems, case studies and, of course, opinion pieces—often written by Joan Donley—were included. Over the years the Journal has become increasingly more academic and professionally presented, to the point where we now publish, almost exclusively, original research.

Until the mid-to-late 2000s, if you wanted to search for any journal article, this meant going to a library, searching through the journal's index for the article, and then searching the shelves to (hopefully) find the journal issue wanted. Standing at the photocopier, copying articles for research and education, was the norm.

Gradually more and more journals have been available electronically, and now many journals are only available online.

Since 2012, a printed copy of the College Journal has been posted to you once a year, with an electronic copy of each paper or article emailed to you as it is published, throughout the year. Papers have also been, and will continue to be, available on the College website.

Having papers online means that they are more readily found and are available to a wider audience, both nationally and internationally. However, this also means when people search online for evidence, there are thousands of articles to sift through, which is why most libraries and researchers use research databases to refine searches. The College Journal has been indexed with CINAHL for many years and, from 2021, will also be indexed with Scopus. This means that any researchers using CINAHL or Scopus will have College Journal papers identified during their searches, making our Journal more visible and accessible.

The Editorial Board and secretariat have been committed to ensuring that the Journal's processes meet the Committee on Publication Ethics (COPE) requirements and will continue to do so into the future. So, it was great news to hear that the Journal had been accepted by Scopus, whose Content Selection & Advisory Board (CSAB) noted the following attributes:

- Consistently includes articles that are scientifically sound and relevant to an international academic or professional audience in this field.
- Has scholarly relevance as evidenced by citations in other journals currently covered by Scopus.
- The abstracts are generally clear and provide an excellent summary of each article's content.
- •The articles are consistently of high academic quality, consistent with the journal's stated aims.
- The articles are generally well written and understandable.
- Excellent citation rates (cited by other authors) of the papers in this journal over a period of time. Papers have stood the test of time.

In 2020 we have all learned so much about how we can do things differently, especially as we have access to information and can communicate virtually so readily now. As well as realising how virtual we can be, it has highlighted to us all how we can operate sustainably. Reducing paper and printing is one way of improving our sustainability.

Considering all of these things, the Editorial Board and the College National Board have discussed whether we should continue to print paper copies of the Journal. We consulted with members, libraries and organisations to ask if people would be happy to receive it electronically, or still wanted the paper versions. The majority have said they would be happy with an electronic version.

Therefore, after 28 years, we are delighted to present this issue, Issue 56, as our first completely online version of the College Journal—the end of one era, but also an exciting beginning as we move into a new one.

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NEW ZEALAND RESEARCH

"I've done a test, what now?" A focus group study exploring eHealth access for women

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ABSTRACT

Background: Following the receipt of a pregnancy test result, a woman's access to timely and appropriate information is essential for enabling her to make informed decisions. Individually tailored information can be hard to find, which can constrain decision-making, leading to delayed engagement with maternity services. Carefully designed eHealth interventions could speedily deliver targeted information but women at most risk of adverse birth outcomes may experience significant barriers to accessing digitally delivered information.

Aim: To investigate how women find information about what to do next when they have a positive or negative pregnancy test.

Method: Professional networks were used to recruit women from ethnic and socio-demographic groups associated with delayed engagement in antenatal care. Informed by participatory design, we sought to understand how these women access reproductive health information following a pregnancy test; and then we explored their perspectives about which eHealth tool they would find most helpful. We collected qualitative and quantitative data from three focus groups and two individual interviews. Qualitative data were analysed interpretively using thematic analysis, and quantitative data were analysed descriptively.

Findings: Women accessed reproductive information following pregnancy from doctors, school nurses, midwives, the internet and, for some, family and friends. Barriers to access included financial challenges, degree of information literacy and the feeling of being judged by others. Participants expressed a clear preference for reproductive information which was free, instant, private and personalised to them. The most preferred eHealth tool was a free 0800 number and the least popular were the QR code and free text options.

Conclusions: Despite the rapid uptake of eHealth health tools to access health information in general, following a pregnancy test, study participants indicated they valued free, confidential and personal interactions with a health professional to supplement any electronic information they used or accessed. These methods did not eclipse the importance to many participants of embodied, face-to-face contact with a desired health professional, specifically a midwife.

Keywords: reproductive health information, pregnancy, e-Health tool, engagement

BACKGROUND

Delayed engagement with maternity services is a well-recognised contributory factor to adverse maternal and fetal health outcomes, such as undiagnosed congenital abnormalities and perinatal mortality (Perinatal Maternal Mortality Review Committee [PMMRC], 2015, 2017). Ideally, pregnant women engage with antenatal care within 10 weeks of conception; however, surveys drawing on the multi-ethnic population of a large city in New Zealand (NZ) showed that 17% of pregnant women in the district health board (DHB) catchment booked late (i.e. >18 weeks) for antenatal care (Corbett, Chelimo, & Okesene-Gafa, 2014). Corbett et al. (2014) found that the mother not knowing the importance of starting early with antenatal care was a significant predictor of poor maternal, fetal and neonatal outcomes (OR 4.2; 95% CI, 1.39 - 12.70). In addition, the odds of late booking were six times higher for Māori (the indigenous people of NZ) and Pacific women (Corbett et al., 2014). Ensuring information is delivered in a timely and appropriate fashion is likely to be important to achieving early engagement but there appear to be several barriers to engaging early, particularly for marginalised or vulnerable women (Bartholomew, Morton, Atatoa Carr, Bandara, & Grant, 2015; Downe, Finlayson, Walsh, & Lavender, 2009). Not knowing what to do after a positive (or for some women, negative) pregnancy test is likely to lead to a delay in women engaging, unless more effective health promotion strategies can be developed that ensure there is targeted information specific to the needs of women from all sectors of society. The Clinical Indicators Report (Ministry of Health [MOH], 2018) also found

that, although early engagement (understood as early registration with a Lead Maternity Carer [LMC]) has increased over the past 10 years, there are differences in this rate amongst the NZ DHBs, which may be due to the varying effectiveness of health promotion strategies throughout the 20 DHBs.

Despite the need for timely information to guide decision-making in any area of healthcare, currently reproductive information is difficult to access. There appears to be no easily accessible, comprehensive and systematic tool that can support NZ women through the complex decision-making that may be required, and that takes into account their individual circumstances. The use of electronic methods, known collectively as eHealth interventions, has gained rapid acceptance as an approach to support health promotion efforts. eHealth encompasses everything that comes within information and communication technology and healthcare, including telemedicine, mobile health and health informatics (Enam, Torres-Bonilla, & Eriksson, 2018). eHealth is purported to provide personalised, context-specific and interactive information. However, feedback concerning its effectiveness, although promising, continues to suggest the approach is inequitable, particularly for vulnerable populations.

The process of gaining appropriate information following a pregnancy test is likely to be complicated by the different types of information needed, depending on the result of the test and the response of the women to these results. For some women the discovery of their pregnancy is not welcome news. Early access on the part of women to information and services supporting decision-making around termination of pregnancy (TOP) remains important in reducing the gestation at which TOPs occur, and thus their risk of complications (Silva, McNeill, & Ashton, 2010). The time of finding out whether or not she is pregnant is also a prime opportunity for the woman to access information around contraceptive methods and sexual health.

Some women may be disappointed about a negative test. In their desire to conceive, especially after repeated negative results, these women have an opportunity at this time to access educational tools or resources about fertility and reproductive cycles, and an introduction to pathways for fertility investigations.

Finally, for women continuing with a pregnancy, information on engagement with, and choice for, pregnancy care is the priority. Engaging in early antenatal care with an LMC provides the avenue for early pregnancy care. This is an opportunity for fetal and maternal health screening, and for receiving nutritional advice, including interventions such as folic acid and iodine supplementation, to optimise maternal and fetal health outcomes. The PMMRC, along with the National Maternity Monitoring Group (NMMG), has identified increasing the rate of early engagement with pregnancy care as one way of improving outcomes for women and babies (NMMG, 2018).

The genesis of this study was the belief that pregnancy test kits could be harnessed to provide women with novel ways of accessing reproductive health information digitally. Potentially, a Quick Response (QR) code, web address or application (app) name on test kit boxes or accompanying information leaflets could provide access or links to a carefully designed information portal or mobile health app, leading to faster provision of tailored information. The information would be targeted to the various reproductive needs of women when they were likely to be receptive (Kim & Xie, 2017). It was hoped such tailored information would overcome the problem of "not knowing" and assist women to decide to enrol earlier with an appropriate health provider or service.

In NZ, as in other developed countries, there are marked health disparities in relation to maternal and fetal health outcomes (PMMRC, 2015, 2017). For example, the PMMRC (2015) showed health disparities in relation to maternal outcomes, with a significantly higher perinatal mortality for certain socio-demographic groups, including those of Māori, Pasifika or Indian ethnicity, those with increasing social deprivation, multiple pregnancies and mothers who are under 25 years of age.

Health literacy is defined as "the capacity to obtain, process and understand basic health information and services in order to make informed and appropriate health decisions" (MOH, p.1, 2015). Where previously a consumer's relative health literacy was identified, now there is support to focus on improving the health literacy of health systems and providers. The MOH's framework puts the onus on health providers to ensure that their services are easy to access and navigate, and give clear health messages to New Zealanders (MOH, 2015). This is illustrated in work undertaken in the area of health literacy on the prevention and management of skin infections. It shows the development of the work through to the resources for parents and families (Workbase, 2013). While this example is in an area outside midwifery, it shows how health literacy is not just about information giving but also about ensuring health professionals have the skills and resources to deliver the evidence in an accessible way.

Many researchers, exploring the link between health literacy and health equity, have argued that low information literacy may be a critical contributing factor to explaining health disparities (Berkman, Sheridan, Donahue, Halpern, & Crotty, 2011; Hasnain-Wynia & Wolf, 2010; Logan et al., 2015; Mantwill, Monestel-Umaña, & Schulz, 2015; Paasche-Orlow & Wolf, 2007). In relation to women's reproductive health, a recent systematic review found evidence supporting the importance of health literacy in relation to a range of reproductive health issues, such as contraception, fertility and prenatal screening (Kilfoyle, Vitko, O'Conor, & Bailey, 2016). Barriers to accessing and utilising antenatal healthcare services are more often identified amongst women from specific socio-demographic groups. Women from specific groups who may have lower levels of educational attainment are particularly vulnerable to adverse outcomes (Downe et al., 2009). These women may have difficulty navigating both health information and the health system, which may contribute to poor utilisation of antenatal services. Seeking to understand how these women access reproductive information may be an important step to helping overcome barriers to early (or any) engagement.

In an Australian study, Lupton (2016) asked 36 women who were either pregnant or had given birth in the previous three years about the use of digital media for pregnancy and parenting purposes. The women in Lupton's study wanted information that was: 1) immediate; 2) regular; 3) detailed; 4) entertaining; 5) customised; 6) practical; 7) professional; 8) reassuring; and 9) unbiased. The findings revealed the importance of using digital information when establishing and maintaining social connections and intimate relationships with other mothers. However, participants also highly valued expert advice and expressed the desire for greater and more ready access to face-to-face information and support offered by healthcare professionals. Lupton (2016) suggests that further research with women from socio-economically disadvantaged backgrounds and non-urban locations is required to identify whether they have different information needs and values from the women who were included in the study.

Sa'uLilo (2016) explored the health literacy of Pacific peoples in NZ in relation to non-communicable diseases. Sa'uLilo (2016)

identified a preference by the participants for the use of mobile devices, such as phones, to access information, and that trusting relationships and opportunities for conversations were important in engaging Pacific women in conversations to do with health and wellbeing.

To date there has been limited research seeking to understand how NZ women from at-risk groups access reproductive information, specifically eHealth information, or their preference for different types of supportive eHealth interventions. The aims of this focus-group pilot study were to 1) understand how women from groups at greater risk of adverse outcomes currently source information following a pregnancy test, and 2) provide preliminary data that could be used to design future eHealth initiatives in the area of reproductive health information.

METHOD

This study was designed to be the exploratory phase of a bigger project that aimed to develop an eHealth tool which could improve access to appropriate reproductive information for all users of pregnancy tests. Ethical approval for the study was gained from the AUT Ethics Committee (15/81 Finding reproductive health information). Consultation with Māori was undertaken as part of the ethics approval application. The wider project emerged from discussions between midwives employed by a DHB and their academic colleagues on how to address the challenges contained in PMMRC reports relating to ways to support earlier engagement in antenatal care.

One idea was to use a QR code on the back of the pregnancy test package which could enable women to quickly access interactive and tailored information in their own time and space for privacy. Other ideas were: to enable access to an electronic portal through a four-digit text number (free text), a health information app, a web address, or an 0800 free phone number printed on the pregnancy test package. As part of the preparatory developmental work, the research team designed visual images that included a pictorial summary of the different types of responses and possible sources of reproductive information (Figure 1).

Study design, setting and recruitment

With their methodology informed by a participatory design philosophy (Sanders & Stappers, 2008), the research team utilised focus groups to obtain insight into the ideas and attitudes of women who appear to engage later with maternity services in NZ following a positive pregnancy test. We intentionally sought to recruit women from groups who have been identified as engaging in maternity services late in their pregnancy: young women, Māori and Pasifika women, women who had had a number of pregnancies, and women living in areas of socio-economic deprivation. Purposive sampling was used to identify potential participants. Using our professional networks, we approached registered nurses working specifically with women from the identified groups, and community midwives whose caseload included several women who identified with these groups. Women were included if they were between 16-40 years of age, lived in South Auckland or Palmerston North, and had taken one or more pregnancy test(s) or been pregnant in the last three years. The women were invited to participate in the study by community midwives or Pasifika maternal-child health workers who agreed to support our recruitment. Interested women gave permission for their contact details to be given to the research team. These women were given an information sheet and asked to contact either the researcher or the person who provided the information sheet to find out more or to participate.

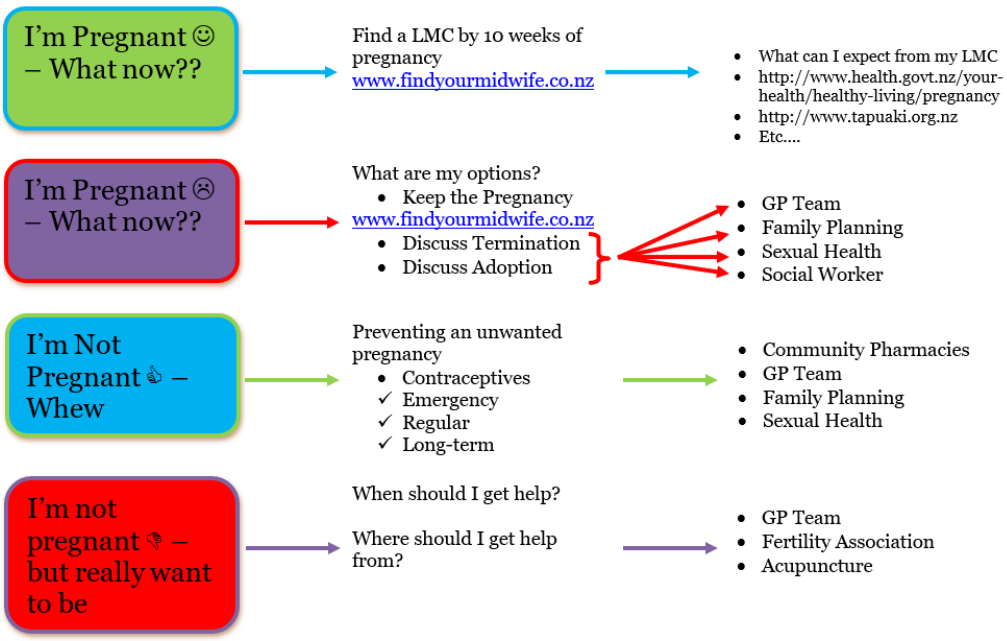

Figure 1. Options for women following a pregnancy test

Focus group and interview procedures

Data were gathered using focus groups and interviews. Six to eight participants were sought for each focus group. Three focus groups were run in two cities (two in Auckland, one in Palmerston North). Each focus group had an experienced facilitator and a note taker who recorded the first words in each interaction and the key points made. An interview guide was prepared in advance for the focus group. Each focus group lasted approximately one hour, and participants were given a $25 grocery voucher as koha (gift or contribution).

Table 1. Examples of focus group questions

When you thought you might be pregnant, how did you find out whether you were or not?
What made you take a pregnancy test?
Where did you get a pregnancy test from?
Once you knew you were or were not pregnant, how did you find information about what to do?
What will help you and other women to find information about what to do when you first find out you are, or are not, pregnant?

Table 1 shows the types of questions in the interview guide. To supplement the focus group data, two individual interviews were used to provide alternative means of collecting the perspective of individuals who elected not to participate in a focus group.

All participants provided informed consent. The confidential nature of the process, including how the data were anonymised, was outlined in the information sheet and reinforced in the group, sometimes with the help of an interpreter for those for whom English was not their first language. The transcriber was asked to sign a confidentiality agreement regarding the content of the focus group discussions. A brief questionnaire to gather some demographic data was completed at the start of the focus group or interview; a series of conversational prompts encouraged participants to expand on their answers. During the focus group, participants were also shown a figure displaying five different types of eHealth tools and asked to select a first, second and third preference for accessing reproductive health information (Figure 2).

Data analysis

A coding framework informed by Braun and Clarke (2006) was drawn up and used to guide the analytic process for the qualitative data. Data collection and analysis occurred concurrently. The first phase involved active reading and familiarisation with the transcripts and reflecting on the meaning of the data. All members of the research team individually read through the transcripts and discussed the findings jointly.

Data were systematically coded by different researchers in the team, and findings shared with the larger group through research team meetings. During the final stage, an independent researcher reviewed the coding decisions made and the full body of data to check for consistency in the coding process. In this final stage, qualitative analysis shifted to identifying patterns across the data set and how this related to the research aim. The demographic data were collected from the transcripts, entered into an Excel spreadsheet and appropriate data visualisation tools were selected to display the quantitative data.

TABLE 2. Characteristics of study participants

Group characteristics	Numbers
FG1: Focus group	**Total (n=7)**
Members of teen parent unit	Māori (n=4)
NZ city	Cook Islander (n=1)
Aged 15-18	Samoan (n=1)
Recruited by social workers in unit	NZ European (n=1)
FG2: Interview	**Total (n=2)**
Midwifery clients	
NZ city	Pasifika (n=2)
Aged 20 & 31	
Recruited by local midwives	
FG3: Interview	**Total (n=1)**
A relative of a focus group participant	
NZ city	Pasifika (n=1)
Age DNC*	
Volunteered for interview	
FG4: Focus group	**Total (n=5)**
Midwifery clients	
NZ city	Tongan (n=3)
Age DNC*	Unspecified (n=2)
Recruited by local midwives	
FG5: Focus group	**Total (n=9)**
Midwifery clients	
NZ regional city	Fijian (n=4)
Aged 16-44	Samoan (n=5)
Recruited by Pasifika maternal-child health service workers	
	TOTAL 24

*Data not collected (DNC)

Figure 2: Image shown to focus group participants of potential pregnancy information tools

FINDINGS

Three focus groups took place. One focus group consisted of teenage mothers from a large urban centre who were predominantly Māori. The other two focus groups contained participants from a variety of Pacific Islands, including Tonga, Samoa and Fiji, who had settled in NZ. The individual interviews were with participants from the large urban centre. Table 2 displays the key demographic characteristics of the focus groups and the individual interview participants.

Information access points

Most interview participants had used a pregnancy test to confirm their pregnancy but relatively few had purchased pregnancy tests from a supermarket. Participants described barriers to purchasing tests at the supermarket, relating particularly to cost and privacy.

> *Interviewer: And what about the barriers to going to get it from the supermarket? What gets in the way of you doing that?*
>
> *N: The cost.*
>
> *S: Everyone will see you.*
>
> *C: And grabbing it off the shelf and people might look at you and think, 'oh she might be pregnant'.*
>
> *S: Going to the counter.*
>
> *N: And especially when you're young and you are buying a pregnancy test then they'll just have that …judgmental face.* (FG1)

Those who purchased tests preferred to visit a pharmacy to buy the test. Many of the teenage mothers had taken tests in the school health clinic with the support of the school nurse. In general, midwives, general practitioners (GPs) and school nurses appeared to be the most desired providers of pregnancy related tests and information, as well as of other reproductive information such as contraceptive or fertility advice. However, some participants did describe accessing the internet to gather more information:

> *I didn't tell anybody. I just mainly searched on the internet. It was easier; you didn't have to worry about what other people were saying or what they think about you.* (C; FG1)

Although several participants did describe using the internet to find information, their feelings about this were mixed. Some found the internet useful, while others found getting the information they wanted was difficult, the medical language hard to understand, finding information specific to their needs challenging and they had difficulty knowing where to look. For many of these women, having access to a knowledgeable person was especially valued as noted by S below:

> *Interviewer: If you could live in a world where it was easy to get that information that you needed, where would you?*
>
> *S: I would go to a doctor and the second one maybe go online. But I prefer to go see a doctor or nurse.*
>
> *Interviewer: What is the advantage of seeing a doctor or a nurse?*
>
> *S: Because I know that they will explain everything, yeah. I get to ask them like if I need help. Yeah I think I'd prefer to see a doctor because maybe they will make me understand … what to do, yeah.* (FG3)

Barriers to accessing care

The participants appeared to identify three main categories of barriers that could restrict their access to reproductive information and care. These were financial barriers, information literacy barriers and feeling judged by others. Financial barriers related to the cost of accessing relevant information. For example, purchasing a pregnancy test at either the supermarket or pharmacy was described as costing between $7 for one test and $30 for three tests. The cost of visiting the doctor appeared to vary between cities; participants in South Auckland reported free GP visits if they were pregnant but the participants from Palmerston North described being charged. Another financial problem was the lack of credit on mobile phones. All participants appeared to use mobile phones but many described how lack of internet access could impact their ability to find information at times due to running out of credit. One Pasifika support worker participating in the interview also noted the financial cost of needing to phone around to find a midwife.

> *…Most mothers don't have a landline at home. So they are also using their mobiles and then they run out of credit and it is difficult for them …and they kind of work together to go and find help in the health system.* (Pasifika Support Person; FG1)

Participants also described barriers relating to information literacy. This was worse when English was also their second language. The need for simple language was mentioned by participants, both in terms of information provided online but also when talking face-to-face:

> *Because when I found out I was pregnant, and I was thinking about abortion I went online to look for my options…but it was really confusing because it was like basically lots of big words and it just made it hard to understand everything.* (R; FG1)
>
> *Because there's too many answers [options] and I don't know which one I will go to.* (A; FG3)

A third area of concern mentioned, particularly by the younger mothers, was the sense of being judged by others when accessing reproductive information or services. This created a sense of embarrassment and a desire to stay anonymous.

> *N: People will judge you, and possibly getting in trouble. [Maybe] not getting in trouble [but] just people being aware of the possibility of you [being pregnant]….*
>
> *R: Yeah…. because you're automatically stereotyped.* (FG1)

Preferences for delivery of reproductive information

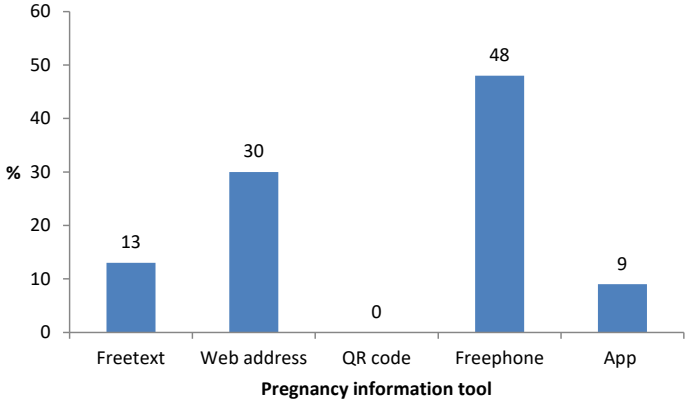

Figure 3. Participants' first preference for an eHealth pregnancy information tool

Information about the preferences of participants for the most useful type of eHealth tool that could be used on pregnancy test packs is summarised in Figure 3. Quantitative data were gathered for 23/24 participants. The majority of respondents selected a freephone number (n=11, 48%); the next most popular was a web address (n=7, 30%). No participants chose a QR code as their first choice as many did not really know what it was. Two (9%) and 3 (13%) chose the app and the free text options respectively.

Qualitative data analysis showed that study participants had clear preferences for how reproductive information could best be delivered to meet their needs. They preferred information that was free, immediate, private, personalised and confidential. For example, when discussing the relative merits of different eHealth tools, M summarised the benefits of the 0800 number:

> *You can phone for free, ask them questions and it is free and straight away.* (M; FG4)

Information that had minimal financial cost was particularly important. Some expressed concern that internet searching would not always be private and confidential. Although internet searching was free and immediate, for some it did have drawbacks:

> *Interviewer: What would be the disadvantages of a web address?*
>
> *J: Like someone seeing the history.*
>
> *C: No internet access.*
>
> *N: Oh you could be on it and somebody walks past you [and sees what you are looking at].* (FG 1)

The discussion around the use of a free text number illustrated how the need for anonymity and desire for a personalised approach could be in tension.

> *N: As long as it does not say a physical place you have to go or someone you have to ring up…*
>
> *Interviewer: As long as it's anonymous?*
>
> *N: because we're trying to avoid being identified.*
>
> *R: [We want it to be] As personal and confidential as it can be.* (FG 1)

There were examples, though, of situations where the need for privacy and a sense of awkwardness could be managed while still providing personalised information. One mother described the way a pharmacy assistant took her into a private room to provide contraceptive advice. Others spoke warmly of accepting nurses and other health professionals who helped answer their questions.

> *Interviewer: What is the advantage of seeing a doctor or a nurse?*
>
> *S: Because I know that they will explain everything, yeah. I get to ask them … if I need help. Yeah I think I prefer to see a doctor because maybe they will make me understand … what to do, yeah.*
>
> *Interviewer: They can answer your questions?*
>
> *S: Yeah they can answer my questions.* (S, FG3)

DISCUSSION

Our focus group findings from this purposeful sample demonstrate that the women who were young or have Pasifika ethnicity preferred face-to-face reproductive health information from family, friends, school nurses, midwives, doctors and pharmacists. Contrary to our assumption that women would prefer a QR code or an app to access reproductive health information, the young, Pasifika and Māori women in our study clearly preferred a personal conversation. The need to interact with a person was a clear finding of this study, as seen in Figure 3, where the majority of participants preferred a conversation with a person as opposed to a website or even an app. This reinforces the importance of personal interactions and the training of health professionals to provide information that supports the health literacy of women. The education of health professionals in health literacy has certainly become the focus of the MOH in NZ. An example of this is the work done on gestational diabetes mellitus (GDM) and Māori health literacy. The resulting report showed that Māori women were unsure about both the importance of screening and the risks of GDM, so were less likely to complete the screening than non-Māori (Workbase, 2014). This report also identified that women who engage with screening had LMCs who used an approach that built up the women's understanding and health literacy around GDM. The regular encouragement provided by LMCs to women to complete the processes of screening and monitoring was also identified as important (Workbase, 2014).

The findings of this study support the findings of other studies that pregnant women and mothers prefer midwifery advice to information they have retrieved from the internet (Kraschnewski et al., 2014; Lupton, 2016). Grimes, Forster and Newton (2014) found that women tended to use the internet for minor queries but would seek their midwife's advice for serious problems. Grimes et al. (2014) found that women experiencing midwifery-led care labelled midwife discussion/education as most useful while women receiving obstetric-led care found the internet most useful. Whether this can be attributed to how the providers supply information or the level of complexity of the pregnancy, could not be ascertained and may be due to the level of care required.

Contrary to Lupton's (2016) findings that urban Australian pregnant women place a high value on the information and support they receive from, and share using, online sources and apps, our study found that significant barriers limit some groups of women accessing information in this way. These barriers relate to finance, health literacy and their sense of privacy.

The challenges of accessing health information on the internet have been well recognised (Kim & Xie, 2017; Lagan, Sinclair, & Kernohan, 2010; Neuhauser & Kreps, 2010). Many women who are pregnant, including participants in our study, consult the internet to gather information (Lagan et al., 2010). However, it is likely that understanding the information provided to appropriately inform decision-making is less certain. For example, a review of eHealth websites, which examined the readability of the information provided, found the majority contained written information that required at least six years of education, i.e. above sixth grade reading levels (Berland et al., 2001). Navigating information is likely to be challenging for people for whom English is their second language. Mantwill and colleagues (2015) closely reviewed the body of evidence for the relationship between literacy and self-rated health status. They found the strongest indicator for poor health outcomes was for those who had both low English proficiency and low health literacy. Most of the studies in this review were done on North American populations (Mantwill et al., 2015), although the Pasifika mothers in our study highlighted similar challenges. While eHealth interventions show considerable promise at making information more accessible, more work needs to be done to ensure the information provided is understood by all consumers.

There are estimated to be 136 million websites disseminating pregnancy-related information (Kraschnewski et al., 2014), and 6,300 pregnancy-related apps are available in the Apple iTunes store (Moglia & Castano, 2015). In NZ, 92% of under 25-year-olds and 84% of those aged 25 to 35 use smartphones (Statista, 2015) and these phones are transforming the way people communicate and access information.

eHealth strategies are advantageous for health providers in that they are more economic and can reach a greater number of women. However, health data clearly show that the women who arguably are in most need of reproductive healthcare do not use many of the eHealth strategies (PMMRC, 2017). Instead of society labelling these women as illiterate or unintelligent, this study suggests that we need to reconsider how information is made available and presented. Our study of young, Pasifika and Māori women found that, while websites and apps can be useful, there was a clear preference for eHealth tools that were free, confidential and allowed them to interact with a person. Further, the focus group evidence showed that many of the participants desired embodied, face-to-face contact with a trusted health professional, such as a midwife, so long as they were non-judgemental, kind and helpful.

STUDY LIMITATIONS

This study had only three focus groups, and used structured questions, resulting in the exploration of views or perspectives only to the extent the participants were willing to engage. Two of the groups comprised Pasifika peoples and, while the results may be culturally influenced and not generalisable across other cultures, their views are important, as many Pasifika women who are new to NZ need support to navigate and engage with the health system.

CONCLUSIONS

In conclusion, eHealth interventions, such as options for seeking further information and support on pregnancy test kits to promote early engagement, will go some way to guiding women where to get that support. However, if/when implemented, such interventions must include the availability of personalised interaction and the material offered should be clearly understandable to all women. Ensuring information is accessible for all ethnic groups of NZ women automatically implies that services are low cost or free, personal and supportive, in conjunction with new technological developments.

Key messages

- After receiving the results of a pregnancy test, women's access to timely and appropriate information is essential for informed decision-making.
- Barriers to accessing information are financial challenges, degree of information literacy and feeling judged by others.
- There is a clear preference for reproductive information which is free, instant, private and personalised.

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REFERENCES

Bartholomew, K., Morton, S.M.B., Atatoa Carr, P.E., Bandara, D.K., & Grant, C.C. (2015). Early engagement with a Lead Maternity Carer: Results from Growing Up in New Zealand. *Australian and New Zealand Journal of Obstetrics and Gynaecology, 55*(3), 227-232.

Berkman, N.D., Sheridan, S.L., Donahue, M.D., Halpern, D.J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. *Annals of Internal Medicine, 155*(2), 97-107.

Berland, G.K., Elliott, M.N., Morales, L.S., Algazy, J.I., Kravitz, R.L., Broder, M.S., . . . McGlynn, E. A. (2001). Health information on the Internet: Accessibility, quality, and readability in English and Spanish. *JAMA, 285*(20), 2612-2621.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Corbett, S., Chelimo, C., & Okesene-Gafa, K. (2014). Barriers to early initiation of antenatal care in a multi-ethnic sample in South Auckland, New Zealand. *New Zealand Medical Journal, 127*(1404), 53-60.

Downe, S., Finlayson, K., Walsh, D., & Lavender, T. (2009). 'Weighing up and balancing out': A meta-synthesis of barriers to antenatal care for marginalised women in high-income countries. *BJOG: An International Journal of Obstetrics & Gynaecology, 116*(4), 518-529.

Enam, A., Torres-Bonilla, J., & Eriksson, H. (2018). Evidence-Based Evaluation of eHealth Interventions: Systematic Literature Review. *Journal of Medical Internet Research, 20*(11), e10971.

Grimes, H.A., Forster, D.A., & Newton, M.S. (2014). Sources of information used by women during pregnancy to meet their information needs. *Midwifery, 30*(1), e26-e33.

Hasnain-Wynia, R., & Wolf, M.S. (2010). Promoting health care equity: Is health literacy a missing link? *Health Services Research, 45*(4), 897-903.

Kilfoyle, K.A., Vitko, M., O'Conor, R., & Bailey, S.C. (2016). Health literacy and women's reproductive health: A systematic review. *Journal of Women's Health, 25*(12), 1237-1255.

Kim, H., & Xie, B. (2017). Health literacy in the eHealth era: A systematic review of the literature. *Patient Education and Counseling, 100*(6), 1073-1082.

Kraschnewski, J.L., Chuang, C.H., Poole, E.S., Peyton, T., Blubaugh, I., Pauli, J.,... Reddy, M. (2014). Paging "Dr. Google": Does technology fill the gap created by the prenatal care visit structure? Qualitative focus group study with pregnant women. *Journal of Medical Internet Research, 16*(6), e147.

Lagan, B.M., Sinclair, M., & Kernohan, W.G. (2010). Internet use in pregnancy informs women's decision making: A web-based survey. *Birth, 37*(2), 106-115.

Logan, R.A., Wong, W.F., Villaire, M., Daus, G., Parnell, T., Willis, E., & Paasche-Orlow, M.K. (2015). *Health literacy: A necessary element for achieving health equity - discussion paper.* Washington, USA: Institute of Medicine.

Lupton, D. (2016). The use and value of digital media for information about pregnancy and early motherhood: A focus group study. *BMC Pregnancy and Childbirth, 16*(1), 171.

Mantwill, S., Monestel-Umaña, S., & Schulz, P.J. (2015). The relationship between health literacy and health disparities: A systematic review. *PLOS ONE, 10*(12), e0145455.

Ministry of Health. (2015). Health Literacy Review: *A guide*. Wellington: Author.

Ministry of Health. (2018). *New Zealand Maternity Clinical Indicators 2016*. Wellington: Author.

Moglia, M.L., & Castano, P. M. (2015). A review of smartphone applications designed for tracking women's reproductive health [111]. *Obstetrics & Gynecology, 125*, 41S.

National Maternity Monitoring Group. (2018). *National Maternity Monitoring Group Annual Report 2017*. Wellington: Ministry of Health.

Neuhauser, L., & Kreps, G.L. (2010). eHealth communication and behavior change: Promise and performance. *Social Semiotics, 20*(1), 9-27.

Paasche-Orlow, M.K., & Wolf, M.S. (2007). The causal pathways linking health literacy to health outcomes. *American Journal of Health Behavior, 31*(1), S19-S26.

Perinatal Maternal Mortality Review Committee. (2015). *Ninth Annual Report of the Perinatal and Maternal Mortality Review Committee: Reporting Mortality 2013.* Wellington, NZ: Health Quality and Safety Commission.

Perinatal Maternal Mortality Review Committee. (2017). *Eleventh Annual Report of the Perinatal and Maternal Mortality Review Committee: Reporting Mortality 2015*. Retrieved from https://www.hqsc.govt.nz/assets/PMMRC/Publications/Neonatal_Encephalopathy_PMMRC_11th_Report.pdf

Sanders, E.B.-N., & Stappers, P.J. (2008). Co-creation and the new landscapes of design. *CoDesign, 4*(1), 5-18.

Sa'uLilo, L. (2016). *Health literacy among Pacific mothers in New Zealand: Exploring the associations of demographic and behavioural factors with health literacy of Pacific mothers in the context of Pacific health and well-being* (Master's thesis, AUT, Auckland). Retrieved from https://openrepository.aut.ac.nz/handle/10292/10563.

Silva, M., McNeill, R., & Ashton, T. (2010). Ladies in waiting: The timeliness of first trimester services in New Zealand. *Reproductive Health, 7*, (Article 19).

Statista. (2015). *Smartphone usage in New Zealand in 2015, by age group.* Retrieved from https://www.statista.com/statistics/696945/new-zealand-smartphone-usage-by-age-group/

Workbase. (2013). *Health literacy and the prevention and management of skin infections.* Auckland: Author. Retrieved from http://www.moh.govt.nz/notebook/nbbooks.nsf/0/A3450A1425F82CC6CC257C2800768838/$file/Report-Skin-infections.pdf

Workbase. (2014). *Māori health literacy research: Gestational diabetes mellitus.* Auckland: Author. Retrieved from http://www.moh.govt.nz/notebook/nbbooks.nsf/0/F6CDB34BBE65334CCC257D10006C7300/$file/GDM-report-FINAL.pdf

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PROFESSIONAL DEVELOPMENT

Writing a journal article from your thesis or research project

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ABSTRACT

Background: Many midwives who have completed their thesis or dissertation have not subsequently published their findings in a peer reviewed journal. This means that the potential contribution of their research findings to midwifery knowledge does not reach a wider audience.

Aim: The aim of this paper is to alert prospective midwife authors to useful tips and writing strategies and encourage them to write and submit an article to a peer reviewed journal.

Discussion: Adapting a large manuscript to the size and shape required by a journal can be a daunting task, requiring trimming and rewriting. Some authors may also experience writer anxiety and a lack of practical support. These issues are addressed, and readers are alerted to steps and strategies for writing well and establishing a simple clear argument. We discuss the practical challenges and offer advice on making time to write, choosing a journal, enlisting the help of a co-author, preparing for submission, and responding to editor or reviewer comments.

Conclusion: It is our intention to assist midwives to publish their research, while acknowledging that this work needs to fit around already busy lives. In this article we address the personal and practical issues which may inhibit some midwives from writing, plus discuss tips and strategies to manage the writing tasks.

Keywords: midwifery research, writing anxiety, writing skills, writing for publication

INTRODUCTION

Many gems of well-crafted theses, with unique insights into midwifery practice and women's birth experiences, lie forgotten on shelves, never to see the light of day. Thus, our goal in this paper is to encourage these authors to dust off their work and write an article, based on their study, for publication in a peer reviewed journal. After all, much passion and hard work go into producing these works and the findings deserve to be in the public arena. So, if you have completed a research project, or a thesis, and have not yet published the outcomes, we hope this article will inspire you to do so.

We begin by considering some of the emotional and practical factors which may challenge prospective writers, and suggest strategies for managing them. We highlight resources which detail techniques for scholarly writing and teach you how to establish and maintain your voice and argument – including the challenge of downsizing a large manuscript into the confines of a publishable article. Practical tips are offered for planning the writing task, choosing co-authors and preparing your manuscript for publication. Finally, we advise on effective ways to respond to comments from editors and reviewers.

COMMITTING TO WRITING

Say goodbye to personal roadblocks

A common challenge for writers is anxiety about their ability to live up to the perceived expectations of others. Some may fear being exposed as a fake, despite having achieved outstanding academic and professional accomplishments. This so-called "imposter phenomenon" (Clance & Imes, 1978) is frequently found among high achieving women who, despite evidence to the contrary, insist on perceiving themselves unworthy of their success.

While men may struggle with similar anxieties (Flora, 2016), the phenomenon appears to be especially common in women working in health-related fields. For example, reluctance to publish or take up promotion appears to be common among nurses, some of whom have expressed feelings of phoniness when stepping into an enhanced work role (Wood, 2018). Further, Walsh et al. (2016) lament the lack of writing confidence among dental hygienists, suggesting that in some instances the "queen bee" syndrome may be a problem. This syndrome, described by Staines et al. (1973), suggests that the queen bee is a woman who has succeeded in her career but refuses to help other women to do the same – avoiding competition by associating predominately with her male-dominated management group rather than with her female peers (Cooper, 1997).

Neither of these phenomena may apply to midwifery scholars who are new to publishing. Nonetheless, at times we are all capable of sabotaging ourselves with defeatist self-talk (Sherman, 2013). So, it is important to be realistic and acknowledge what we have achieved to date and what is possible for the future.

Scholarly writing and establishing your voice and argument

We are all writers. We write for many different purposes and, with experience, learn what is expected in terms of style and detail. Similarly, writing a clearly worded and well-argued article for a

journal is a learned skill. Understanding the basics of good writing and ways to establish and develop your argument are particularly important when converting your master's thesis or research project into an article. A good way to start is to read some recent articles from midwives who have published from their research in midwifery journals. This will help you see the size and shape required. However, it is important to realise that the well-crafted sentences and arguments in journals or book chapters have gone through many drafts, careful editing and proofreading before appearing on the shelf or in the journal.

Of course, journal articles need to be shorter than the theses they were derived from, so considerable trimming is needed. This is a time to be ruthless. Brychan and Skinner suggest that

> *[T]o reframe a dissertation for a journal article requires a tight theoretical framework, a succinct literature review, a controlled presentation of the methodology, and concise discussion of the results. Since articles evolved from dissertations will be shorter, there is a need to trim the length of the dissertation. The process of trimming involves selecting and rewriting instead of cutting and pasting. For a journal article extraneous material must be removed, and substance needs to be preserved.* (2012, p.4)

Companion articles "Writing for publication; the basics" (Fahy, 2008b) and "Writing for publication; argument and evidence" (Fahy, 2008a) can help with this process. These articles provide detailed advice, with midwifery examples, on the basics of writing for publication and how to develop and maintain an argument. For example, they suggest that in the introduction the writer should start with the question or problem, summarise the relevant literature, define key terms and state the main message or thesis for the paper. This order logically and helpfully informs the reader of what to expect in the article.

Useful tips are to be found also in an article by Sarah Wickham in *Essentially MIDIRS* (Wickham, 2012). While she is not specifically discussing converting a thesis, the tips are useful for any writing project. Wickham suggests imagining that you are the editor looking for new and innovative ideas. Therefore, it is important to decide on your key points, or the bare bones, of your work with the goal of engaging your audience. (Of course, your first audience is the editor of your chosen journal.) Consider what kernels you will jettison, the style – first or third person – and the pivotal point in your story, in other words, nailing your argument. Thus, your best chance of succeeding in publishing your article is for your work to be clearly and concisely written with a well-developed and consistent argument throughout, supported by your research findings and appropriate references.

This advice is echoed in Belcher's (2009) workbook. The author provides detailed advice on planning and designing your article from start to submission, emphasising the importance of a clear research question or aim that is developed throughout the article. Further, Belcher stresses that your article must respond to the "so what" question. This means your article cannot be a ramble or based solely on your opinion. Rather, you need to support your argument by balancing and critiquing the arguments for and against your central thesis. One way to test your argument is by using the "instant thesis" (read "argument") approach:

> *Although… (general statement, opposite opinion)*
>
> *Nevertheless, … (your idea)*
>
> *Because, … (examples and evidence)* (Belcher, 2009, p.89)

This should not be an emotional or philosophical stand, but one based on the rigour of the evidence you present. For example, it is important to avoid attacking a "straw man", where an opponent's position is misrepresented to make it easier to refute their preferred evidence. Hence, your argument should be set out clearly at the start and evidence presented in a balanced way, explaining why the preferred evidence is more compelling.

Style is important. You want your reader to be captured by your abstract and wanting to read more. To hook their reader, Freysteinson and Stankus (2019) encourage writers to adopt a simple storytelling style by crafting a simple, concrete introductory sentence that engages the audience. This is not to say that your article should not be complex and rigorous but, rather, that you understand "simple" as a "…means of cutting through a significant amount of data and information to find the simple story within the material" (Freysteinson & Stankus, 2019, p.107). The story you are about to tell should be alluded to in the abstract and lead the reader into your work. Similarly, the conclusion should leave the reader satisfied that you have completed your story, while leaving an opening for the future.

GETTING STARTED

There is plenty of advice on how to get started on your article but, regardless of how long it is since you completed your thesis, it will be important to ensure that your article is up to date. For example, you will need to repeat your literature search for recent articles; i.e., those published in your field of interest since you completed your thesis (Student Learning Development, 2016). If you have not previously used an electronic referencing system, learning how to use one will be time well invested. Such a system enables you to upload articles and references directly from databases and other internet sources and quickly convert them into the journal's required referencing style.

How you tackle the often "messiness" of the drafting task will vary depending on what works best for you. This may be a structured process or one embracing a more fluid and individual style. For example, Belcher (2009) sets out a structured and reflective workbook for completing your article in 12 weeks; while Silvia (2017) suggests that you start with your introduction, then your overview, followed by your research project. Alternatively, Murray (2011) suggests that you avoid procrastination and just get something down on paper; i.e., start with an outline but then plunge in and say how you did your research and what you found. The introduction can be written last, outlining your aim, purpose and relevant background. In whatever order you choose to tackle the task, the final draft will need to contain the key elements of your research process and findings in a logical and readable way.

Writing with others

It may help to invite someone to travel with you on this journey. So do consider engaging the help of a willing colleague with previous publication experience, or your research supervisor. Most are keen to help get you published and it is a win/win for them too. They will become your co-authors and will have a vested interest in the quality of your work. It is expected that they will read and provide feedback on your drafts. In addition, you may also choose to organise, or join, a writing group. These can be energising and expose you to new ideas, resources and technical knowledge, such as formatting documents and reference management skills. So be realistic about what you know how to do and be ready to ask for help when you need it.

Developing a writing habit

We all have busy lives so fitting writing into your day is usually a challenge. Silvia (2017) agrees that writing is hard work but

ruthlessly shatters some of our "specious barriers" to writing. These include: the complaint of not being able to "find" time, delaying writing for more and more analysis, or waiting until you have the muse and feel like it – all of which he asserts can be overcome by scheduling a time to write. In other words, he recommends "allotting" time for writing in the same way we allot time for other activities in our lives, as opposed to trying to "find" time for it.

On a lighter note, Kearns and Gardiner (2011) parody Samuel Beckett's play *Waiting for Godot* in their column titled, "Waiting for the Motivation Fairy". In the play where in fact Godot does not show up, similarly, the motivation fairy rarely appears. The authors suggest you ask yourself what is keeping you from writing and why is housekeeping so much fun when you really should be working on your article. This and other displacement activities can fill your day and distract you. Thus, a three-pronged attack is suggested. Firstly, you need to start writing before the motivation sets in. Secondly, break the work into tiny doable steps and, finally, promise yourself a reward when you have done some writing. Whether you use short regular bites, or carve out dedicated blocks of time, is up to you and your individual circumstances but it is important to keep plugging away at the task.

PREPARING YOUR ARTICLE FOR YOUR SELECTED JOURNAL

While you are writing your first draft you need to consider where you want to publish. Begin by visiting the websites of a range of preferred journals and read the advice for authors. Check the journal submission guidelines carefully. These will detail the types of articles accepted, required word count and referencing style. A good idea is to skim read a selection of articles on a range of topics and methodological styles to see how the authors have shaped their work for particular publications.

When you and your co-authors have agreed on the final version of your article, print a copy of it. Reading your text aloud and hand proofing enables you to check for minor spelling and grammatical errors, or any irritating text that you missed in the online version. Also, consider shortening or splitting any wordy sentences.

All journals have a process for submission and you may wish to enlist help if you find the process confusing. Once you have submitted, it is time to celebrate this significant step while you anticipate the response from the editor. You will be notified once your article has been sent for peer review. Peer reviewed journals will request two independent peers to review each article and, once the reviews are completed, the editor makes the decision about whether the article will be accepted or not, and what amendments are required. You will receive the reviewers' and editor's feedback, which is aimed to assist you to craft your article into an even better article. This process usually takes between 6-8 weeks.

Responding to editor and reviewer comments

Some of you, like us, have sent an article for review and been discouraged by the reviewers' comments.

> *My first submission to a journal was rejected because I had tried to do too much in the one article. Once I recovered from the disappointment, I was able to see what the reviewers were saying and how I could split the material into three more focused articles, all of which were subsequently accepted for publication. This was a valuable lesson about keeping to a focused argument throughout and allowed for a richer text in each article.* (J.P.)

It is incredibly rare for an author to have an article accepted without any changes (Williams, 2004). Most editors will explain why the article is rejected, so this is good feedback for you. If changes are minor, then you can get on with them quickly and return your article. Major revisions will need more thought and collaboration with your co-authors. If the editor has suggested your article would be accepted with recommended changes, then that is great news. While the changes may seem overwhelming on first reading and just not worth the effort, put your work away for a few days before you tackle it. The recommended changes are probably not as difficult as you first thought. Most authors find that starting with the "low hanging fruit" enables them to ease into the changes, starting with the easy-to-fix bits and then tackling the comments which recommend or require more detail or structural changes (Williams, 2004).

Silvia (2017) suggests that we shouldn't fear rejection but rather embrace it as a step on the journey. Nonetheless, we are human and the candid quote below, written by an established author may be redolent of the range of emotions that authors may experience in response to rejection.

> *The rejection of my own manuscripts has a sordid aftermath: (a) one day of depression; (b) one day of utter contempt for the editor and his [sic] accomplices; (c) one day of decrying the conspiracy against letting Truth be published; (d) one day of fretful ideas about changing my profession; (e) one day of re-evaluating the manuscript in view of the editors [sic] comments followed by the conclusion that I was lucky it wasn't accepted!* (Underwood, 1957, p.87, as cited in Belcher, 2009, p.291)

The three golden rules when responding to reviewer comments, according to Williams (2004), are to answer completely, answer politely, and answer with evidence. It is helpful to make a table with reviewers' comments on the left, and your responses on the right. Reviewers are human and may not always be right or may require further clarification to enable them to understand the point you were making. You do not have to agree with all the reviewer comments, but you do need to respond and state what you have changed or justify why you have not made a change. Useful phrases you could use in your response are, *we agree with the reviewer that… but…* Or, *In accordance with the reviewers' recommendation we have now changed…*These and other polite but clear responses acknowledge the reviewers' investment in your work and enable you to respectfully agree, or disagree, with their comments or recommendations.

Once you have responded to the reviewer comments, the article is returned to the editor, along with the documents the journal requires, such as the table you have created with the changes you have made. Sometimes, if there have been a lot of amendments needed, the article is sent back to the reviewers, or other times just the editor will check the changes you have made. If there are issues still to be addressed, the article will be sent back to you again until it is ready to be sent for proofreading and layout. During the proofreading and layout stage your article will be sent back to you with queries and corrections to be made until the final copy of your article is ready for publication. With online publishing, articles are usually available electronically straight away. Now is the time to celebrate the important contribution your research has made to the midwifery literature.

CONCLUSION

Many potential contributions to midwifery knowledge lie dormant in theses and research that have not been published and therefore are not readily accessible in the public arena. This article has highlighted some of the emotional and practical challenges that may inhibit potential writers from publishing their work.

Addressed are the anxiety some may experience when exposing work to public scrutiny and suggestions for how to hone writing skills – in particular, the importance of establishing and maintaining a clear and well supported argument. The prospect of writing an article from a large manuscript presents unique challenges, and advice is offered on how to begin and maintain progress, including enlisting co-author support for the task. Practical advice is offered on preparation for submission and on how to respond to editor and reviewer comments in an efficacious way.

Key messages

- Publishing findings from a thesis or dissertation is crucial for disseminating the findings.
- There are some practical steps and strategies which can be taken to turn a thesis or dissertation into a journal article for publication.
- One of the most important aspects of writing for publication is establishing and maintaining a clear and well supported argument.

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REFERENCES

Belcher, W. L. (2009). *Writing your journal article in 12 weeks.* A guide to academic publishing success. London: Sage.

Brychan, T., & Skinner, H. (2012). Dissertation to journal article: A systematic approach. *Education Research International, 2012*. Article 862135. http://dx.doi.org.op.idm.oclc.org/10.1155/2012/862135

Clance, P. R., & Imes, S. A. (1978). The imposter phenomenon in high achieving women: Dynamics and therapeutic intervention. *Psychotherapy: Theory, Research & Practice, 15*(3), 241-247. https://doi.org/10.1037/h0086006

Cooper, V. W. (1997). Homophily or the queen bee syndrome: Female evaluation of female leadership. *Small Group Research, 28*(4), 483-499. https://doi.org/10.1177/1046496497284001

Fahy, K. (2008a). Writing for publication: Argument and evidence. *Women and Birth, 21*(3), 113-117. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=105665894&site=ehost-live

Fahy, K. (2008b). Writing for publication: The basics. *Women and Birth, 21*(2), 86-91. https://doi.org/10.1016/j.wombi.2007.12.005

Flora, C. (2016). The fraud who isn't. *Psychology Today, Nov*, 71-88. Retrieved from https://static1.squarespace.com/static/59ca7af1ccc5c53642092a36/t/5b510ccd0e2e72f7a5389ec5/1532038352167/PT150_imposer_70-88.pdf

Freysteinson, W. M., & Stankus, J.-A. (2019). The language of scholarship: How to write an abstract that tells a compelling story. *Journal of Continuing Education in Nursing, 50*(3), 107-108. https://doi.org/10.3928/00220124-20190218-04

Kearns, H., & Gardiner, M. (2011). Waiting for the motivation fairy. *Nature, 472*, 127. Retrieved from https://www.nature.com/articles/nj7341-127a.pdf

Murray, R. (2011). Skillful writing of an awful research paper. *Analytical Chemistry, 83*(3), 633. https://doi.org/10.1021/ac2000169

Sherman, R. O. (2013). Imposter syndrome: When you feel like you're faking it. *American Nurse Today, 8*(5), 57-58. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=104290879&site=ehost-live

Silvia, P. J. (2017). *How to write a lot. A practical guide to productive academic writing* (1st ed.). Washington USA: APA Life Tools.

Staines, G., Travis, C., & Jayerate, T. (1973). "The queen bee syndrome". *Psychology Today, 7*(8), 55-60.

Student Learning Development, University of Otago. (2016). *Writing a literature review.* Dunedin: Otago University.

Walsh, M., Ortega, E., & Heckman, B. (2016). The dental hygiene scholarly identity and roadblocks to achieving it. *Journal of Dental Hygiene, 90*(2), 79-87. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=115330219&site=ehost-live

Wickham, S. (2012). Top ten tips on turning an assignment into an article. *Essentially MIDIRS, 3*(7), 27-31. Retrieved from https://www.midirs.org/wp-content/uploads/2012/12/Essentially-MIDIRS-%E2%80%93-Jul-Aug-2012-Top-Ten.pdf

Williams, H. C. (2004). How to reply to referees' comments when submitting manuscripts for publication. *Journal of the American Academy of Dermatology, 51*(1), 79-83. doi: https://doi.org/10.1016/j.jaad.2004.01.049

Wood, C. (2018). Writing for publication: Sharing your clinical knowledge and skills. *British Journal of Community Nursing, 23*(1), 20-23. https://doi.org/10.12968/bjcn.2018.23.1.20

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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 ($p < 0.01$).

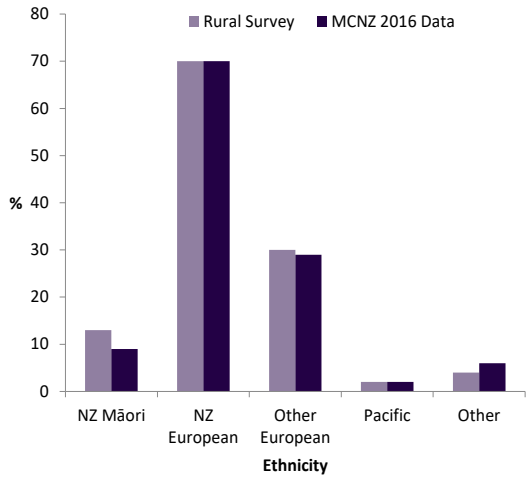


Figure 1. Comparison of ethnicity between Midwifery Council of New Zealand data and New Zealand study participants
(Note: includes first, second and third ethnic categories and therefore percentages add up to more than 100%).

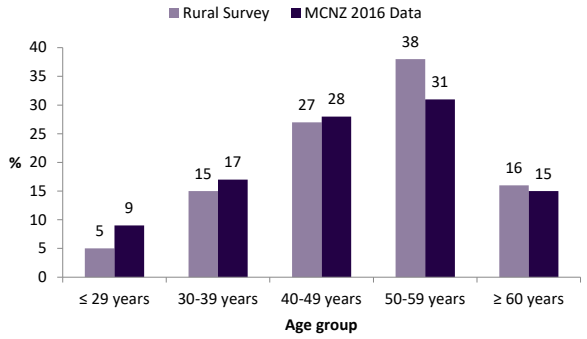


Figure 2. Comparison of age groups between Midwifery Council of New Zealand data and New Zealand study participants

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).

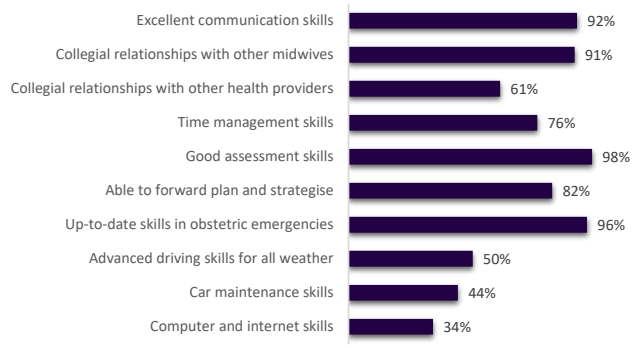
The appreciation of rural women and the commitment to rural communities have been found in other research into rural midwives in New Zealand (Crowther, 2016; Kyle & Aileone, 2013; Patterson 2009).

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

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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

NEW ZEALAND RESEARCH

Maternal socio-economic disadvantage in Aotearoa New Zealand and the impact on midwifery care

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ABSTRACT

Background: Maternal socio-economic disadvantage affects the short- and long-term health of women and their babies, with pregnancy being a particularly vulnerable time.

Aim: The aim of this study was to identify the key factors that relate to poverty for women during pregnancy and childbirth (as identified by midwives), the effects on women during maternity care and the subsequent impact on the midwives providing that care.

Method: Survey methodology was used to identify Aotearoa New Zealand midwives' experiences of working with women living with socio-economic disadvantage.

Findings: A total of 436 midwives (16.3%) who were members of the New Zealand College of Midwives responded to the survey, with 55% working in the community as Lead Maternity Care midwives, or caseloading midwives, and the remainder mostly working in maternity facilities.

The survey results found that 70% of the cohort of midwives had worked with women living with whānau (family) /friends; 69% with women who had moved house during pregnancy due to the unaffordability of housing; 66% with women who lived in overcrowded homes; and 56.6% with women who lived in emergency housing, in garages (31.6%), in cars (16.5%) or on the streets (11%). The cohort of midwives identified that women's non-attendance of appointments was due to lack of transport and lack of money for phones, resulting in a limited ability to communicate. In these circumstances these midwives reported going to women's homes to provide midwifery care to optimise the chances of making contact. The midwives reported needing to spend more time than usual referring and liaising with other services and agencies, to ensure that the woman and her baby/family had the necessities of life and health.

This cohort of midwives identified that women's insufficient income meant that midwives needed to find ways to support them to access prescriptions and transport for hospital appointments. The midwives also indicated there was a range of social issues, such as family violence, drugs, alcohol, and care and protection concerns, that directly affected their work.

Conclusion: Recognising the impact of socio-economic disadvantage on maternal health and wellbeing is important to improving both maternal and child health. This cohort of midwives identified that they are frequently working with women living with disadvantage; they see the reality of women's lives and the difficulties and issues they may face in relation to accessing physical and social support during childbirth.

Keywords: midwifery, socio-economic disadvantage, maternity care

INTRODUCTION

Maternal socio-economic disadvantage in the perinatal period is an important predictor of long-term outcomes, including health, education, income and adverse early life experiences

(Asher & St John, 2016; Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; Clark, D'Ambrosio, & Barazetta, 2019; Larson, 2007; Vettore, Gama, Lamarca, Schilithz, & Leal, 2010). Widening health disparities are impacting on women's wellbeing, as well as affecting the ways in which midwives can deliver quality care. In Aotearoa New Zealand midwives work closely with women and their whānau (families) to develop a partnership relationship. This relationship supports an improved understanding of the issues women face in relation to socio-economic disadvantage and how it affects the woman's maternity care.

Effects of socio-economic disadvantage on pregnant women

Socio-economic disadvantage during pregnancy has an impact on maternal health, pregnancy outcome and child health, and can have a growing effect for families through the context of cumulative

exposure from one generation to the next. Pregnant women with low incomes are more likely to experience negative life events, stress, depression and family violence during pregnancy (Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre, 2003; Katz, Crean, Cerulli, & Poleshuck, 2018; Phelan, DiBenedetto, Paul, Zhu, & Kjerulff, 2015). They are less likely to access early maternity care and often feel powerless and have low self-esteem (Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre, n.d.; McLeish & Redshaw, 2019). Women and their babies in lower socio-economic groups are over represented in mortality statistics with higher maternal mortality and perinatal mortality, i.e. stillbirth and neonatal death (Perinatal and Maternal Mortality Review Committee, 2019). In Aotearoa New Zealand 22.3% of women who gave birth in 2017 lived in the most deprived quintiles and were more likely to be multiparous, have a high BMI, smoke during pregnancy and book for pregnancy care later (Ministry of Health, 2019). They were also more likely to have a pre-term birth, a low birthweight baby and were less likely to breastfeed. Those living in the most deprived neighbourhood (quintile 5) include 48.5% of Māori, 58.8% of Pasifika and 31.9% of Indian women, compared to 14% of NZ European.

Children depend on their parents and families for meeting their basic needs, yet for those parents/families experiencing financial hardship, many are unable to meet these needs. It is estimated that 14-15% of children in Aotearoa New Zealand live with socio-economic disadvantage, dependent on the measure used to determine poverty (Department of the Prime Minister and Cabinet, 2018). Children living in the most deprived regions experience poorer social and emotional health and exhibit more behavioural difficulties (Ministry of Health, 2018). Maternal stress during pregnancy can also affect the ongoing health of the child. Kingsbury et al. (2016) found an association with depression during adolescence following high levels of maternal antenatal stressful life events. The wellbeing of children is now a government priority in Aotearoa New Zealand and the Child Poverty Reduction Act introduced in 2018 aims at achieving a significant and sustained reduction in child poverty (Department of the Prime Minister and Cabinet, 2018; Stats NZ, 2019). It could be argued that the genesis of child poverty is maternal and/or family poverty, which is frequently caused and exacerbated during pregnancy and following childbirth in families who have increased vulnerability (Larson, 2007). Socio-economic disadvantage is often intergenerational, with environmental conditions exerting a strong influence on short- and long-term outcomes for both the mother and her children (Braveman et al., 2010; Clark et al., 2019). The midwifery perspective on care provision for women living with socio-economic deprivation has not been widely explored in Aotearoa New Zealand. One author (Griffiths, 2002) has described the experiences of eight Aotearoa New Zealand midwives providing midwifery care to women living in socio-economic deprivation. These midwives identified the importance of being even more closely involved due to the women's needs and a desire to optimise pregnancy outcomes. Priday (2018) reviewed engagement with pregnancy care of eight women living in a socio-economically deprived community. She reported that these women found accessing midwifery care daunting and required supportive navigation into maternity care. Recognising the impact of socio-economic disadvantage on maternal health and wellbeing is important to improving both maternal and child health and is integral to ensuring a reduction in child poverty.

The aim of this study was to identify the prevalence of key factors that relate to socio-economic disadvantage for women during pregnancy and childbirth, the impact on women during their maternity care and the impact on the midwives providing that care.

METHOD

This research used a single cross sectional study design involving survey methodology. A survey tool was developed which aimed to identify indicators of socio-economic disadvantage and explore the impact on maternity care.

Development of the survey tool - indicators of socio-economic disadvantage

Statistics NZ have developed a measurement tool known as DEP 17 as a way of measuring material hardship for children in Aotearoa New Zealand to ensure consistency of measurement for their purposes (Stats NZ, 2019). However, this study was not surveying individual women so we were unable to use DEP 17. Instead we reviewed common themes found in the literature related to socio-economic disadvantage and which we posited could affect pregnant women. These were: housing and homelessness (Kelly et al., 2013), heating, mould and weatherproofing (Fisk, Eliseeva, & Mendell, 2010; Grey, Schmieder-Gaite, Jiang, Nascimento, & Poortinga, 2017), income and food insufficiency (Carter, Kruse, Blakely, & Collings, 2011; Moafi, Kazemi, Samiei Siboni, & Alimoradi, 2018; van den Heuvel & Birken, 2018) and social issues such as smoking, drugs and alcohol (Foster et al., 2018).

The research team developed the themes from the literature to establish four quasi-indicators of socio-economic disadvantage which collectively would indicate socio-economic disadvantage and how it could be identified by midwives. These were:

1. Housing and homelessness
2. Heating and weatherproofing of homes
3. Income and food insecurity
4. Social issues such as family violence, drugs, alcohol and care and protection concerns.

Survey questions for each quasi-indicator were developed to gain an understanding of the prevalence of maternal socio-economic disadvantage and its impact on maternity care. The survey questions included four which were specifically asking about housing, heating/weatherproofing, income/ food security and social issues.

Questions were set out with multiple answer responses, with additional questions asking how these issues impacted on midwifery care. Respondents were provided with a range of options that covered concepts of time, access, emotional impact and safety. Participants were given an opportunity to write a free text response as a means of providing further detail to their answers and further explain the complexities and impact of socio-economic disadvantage. Demographic information questions regarding the midwife's role, district health board region and caseload size were included. Ethnicity data were not collected from the midwifery respondents nor was it possible to identify the ethnicity of the women they were discussing in their responses.

A final question asked the respondents to share a clinical example from a time during the last year concerning a woman they were caring for who was living with socio-economic disadvantage. Skip logic was used to ensure that the questions suited the work setting identified by the midwife respondent (hospital or community).

The survey was piloted by three midwives who reported the questions were clear, concise and easy to answer.

Participants

The survey was hosted on the SurveyMonkey® website and access to the survey was provided by the New Zealand College of Midwives (the College) to all midwife members via an email link on 6th December 2018, with a reminder a week later. The survey was closed on 20th December 2018.

Ethics

The project was evaluated by peer review through the Massey University Ethics Committee and identified as low risk (Ethics identification number 4000020305).

Methods of analysis

The survey responses were cleaned and analysed using SPSS version 25. Descriptive statistics were provided for the survey responses. Survey question responses are supported by comments from the respondents.

FINDINGS

Demographics of the participants

A total of 439 midwives (16.3%) responded, of which 55.8% were caseloading or Lead Maternity Care (LMC) midwives and 28.5% were hospital (core) midwives (Table 1). The 38 respondents who identified their role as "other" specified roles such as researcher, locum, casual midwife, maternity manager, specialist midwife and midwife manager. The largest proportion of respondents was from the Auckland region (27.3%) although each region of the College had respondents. Similarly, participants reported working within each of the 20 district health boards, with the highest proportion within the Canterbury District Health Board (10.9%). The majority of midwifery respondents who had a caseload reported an average caseload size of between 41 and 60 women a year (17.8%).

Housing and homelessness

One of the key questions we asked midwives was whether any women under their care had experienced issues related to housing and homelessness during the previous twelve months (Table 2). A high proportion of both hospital and caseloading midwives identified issues related to housing, with women staying with whānau/friends most commonly identified (70%), followed by women moving addresses due to the unaffordability of housing (69.7%). Furthermore, 66.1% identified overcrowded housing as being a concern, with 56.5% of midwives indicating they had provided care to women living in emergency housing at some point during their maternity care. Smaller proportions identified that women in their care had become homeless during pregnancy (46.2%) or following the birth (20.4%) and reported women living in a garage (31.6%), in a car (16.5%) or on the streets (11%).

Comments from midwives:

(Woman's name) was accepted in a Motel for 3 weeks with her children and moved to Emergency accommodation with a charity agency for the rest of her pregnancy … She is now out of area for my DHB but I managed to continue to be her LMC as my team is very supportive of me and wish her to continue treatment of her medical condition and pregnancy in our DHB. Transport has been arranged. And, she has a fridge to keep her insulin safe.

I was caring for a woman readmitted at day 15 for an MRSA infection in her caesarean wound. She had a toddler and a newborn. When she initially was discharged from hospital she and her family were living in the car. During the period of her readmission she was able to obtain emergency housing in a motel. The impact of major surgery and hospital acquired infection in the context of extreme poverty was devastating for her and her family, and negatively impacted her personal wellbeing, breastfeeding, and ability to parent well.

Table 1. Demographics of survey participants

Demographics of participants	n	%
Work type		
Core midwife in a tertiary unit	50	11.4
Core midwife in a secondary unit	46	10.5
Core midwife in a primary unit	29	6.6
LMC or Caseloading midwife	245	55.8
Educator/manager	29	6.6
Other (please specify)	38	8.7
Missing	2	0.5
Total	439	100
College region		
Northland	32	7.3
Auckland	120	27.3
Waikato	47	10.7
Bay of Plenty	34	7.7
Central	61	13.9
Wellington	44	10.0
Nelson	15	3.4
Canterbury/West Coast	49	11.2
Otago	27	6.2
Southland	7	1.6
Missing	3	0.7
Total	439	100
Caseload size		
Less than 10	4	0.9
11 to 20	10	2.3
21 to 40	52	11.8
41 to 60	78	17.8
More than 60	49	11.2
Total*	193	100

*52 caseloading participants did not respond

Heating and weatherproofing of homes

The survey asked the 245 respondents who were community LMC or caseloading midwives, and who predominantly home visit during postnatal care, about the condition of women's homes and whether these were cold, damp or mouldy (Table 3). This question was not asked of the hospital midwives (or those in the "educator/manager" or "other" categories) because they do not usually visit the home when providing midwifery care.

Community midwives were also asked whether they considered the homes to have inadequate heating and cooking facilities and whether the home was weatherproof. Just under two thirds of the midwifery respondents (62.9%) identified visiting homes withinadequate heating, with 57.1% stating that they had visited

Table 2. Midwives providing care to women experiencing housing issues

Question: Have you provided care to women with issues with housing over the last 12 months?	Caseloading or LMC midwife (n=245)		Hospital midwife (n=127)		Other (n=67)		Total (n=439)	
Housing issue	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Moved addresses due to unaffordability of house rental	152	62.0	101	79.5	52	77.6	305	69.5
Staying with whānau/friends	167	68.2	114	89.9	60	89.6	341	77.7
Overcrowded housing	139	56.7	96	75.6	54	80.6	289	65.8
Became homeless during pregnancy	86	35.1	82	64.6	34	50.7	202	46.0
Became homeless after the birth	25	10.2	43	33.9	21	31.3	89	20.3
Living in emergency accommodation at any point	111	45.3	93	73.2	43	64.2	247	56.3
Living in a garage	54	22.0	53	41.7	31	46.3	138	31.4
Living in a car	17	6.9	36	28.3	19	28.4	72	16.4
Living on the streets	7	2.9	27	21.3	14	20.9	48	10.9

Table 3. Midwives providing care to women experiencing heating and weatherproofing problems

Question: To your knowledge, have women in your care experienced any of the following problems with their accommodation during the last 12 months	Caseloading or LMC midwife	
Heating/weatherproofing problem	n	%
Inadequate heating facilities in the home	154	62.9
Unable to afford to heat the home	140	57.1
House feels cold during midwifery visits	173	70.6
House is damp	168	68.6
House has mould	147	60.0
House is not weatherproof	59	24.1
Inadequate cooking facilities in the home	40	16.3

women who were unable to afford to heat the home. A high proportion of respondents reported that they had undertaken visits in houses that felt cold (70.6%), damp (68.6%) and/or mouldy (60.0%). Smaller proportions reported inadequate cooking facilities (16.3%) or poor weatherproofing (24.1%).

Comments from midwives:

… living in rental accommodation with inadequate heating, too much damp, mould growing on walls. Landlords unwilling to fix these issues.

Living in cold/damp/mouldy houses as no other option.

A very real problem, living in old buses and farm sheds with no running water or power.

Income, essential items and food insecurity

Survey respondents were asked if they had provided midwifery care to women who had experienced issues due to lack of money, such as having transport difficulties, communication difficulties, or being unable to meet the costs of co-payments for health care – for example, general practitioner visits, prescriptions and/or pregnancy ultrasound.

The majority of the respondents identified that they had had such experiences (Table 4), with 82.4% indicating that they had cared for women who had transport difficulties due to lack of money, 81% had cared for women who had problems with communication due to no availability of phone or no credit on the phone. Over two thirds of the midwives reported that the women they provided care to were unable to meet the costs of co-payments for health care (68.2%) with a further 51.7% identifying that women in their care were unable to afford essential items for themselves or their baby (58.8%). The majority of midwives reported the need to provide advocacy for benefit issues (61.3%) and needing to refer to other agencies (62.9%).

Comments from midwives:

Challenging when social services have reports of concern for non-attendance or lack of contact when it's usually lack of transport or money for phones that causes it. Also interagency collaboration could be lots better. Midwives can be left out of discussions (social workers /cyfs [now Oranga Tamariki Ministry for Children]) which can put us in positions of risk and also we have additional information that would be important to the conversations.

Table 4. Midwives providing care for women experiencing income and food insecurity issues

Question: Have women in your care experienced any of the following during the last 12 months?	Caseloading or LMC midwife		Hospital midwife		Other		Total	
Issue related to lack of money	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Transport difficulties due to cost or lack of money	179	73.1	119	93.7	62	92.5	360	82.4
Requiring food parcels	100	40.8	79	62.2	52	77.6	231	52.9
Problems with communication (no phone or no credit on phone)	181	73.9	113	89.0	60	89.6	354	81.0
Requiring some advocacy with benefit issues	123	50.2	92	72.4	53	79.1	268	61.3
Inability to meet the costs of co-payments for health care	149	60.8	96	75.6	53	79.1	298	68.2
Unable to afford essential items for the woman	97	39.6	83	65.4	46	68.7	226	51.7
Unable to afford essential items for the baby	108	44.1	100	78.7	49	73.1	257	58.8
Requiring referrals to other agencies	118	48.2	103	81.1	54	80.6	275	62.9

Remaining in unaffordable rental and therefore unable to afford to register or warrant car, resulting in fines that cannot be paid and the ongoing consequences of this. Also unable to afford prescriptions or healthy food due to unaffordable housing costs.

Social issues

The respondents identified that they had worked with women who had experienced family violence (72%), a need for women's refuge (44%), and care and protection issues (64.7%) in the previous 12 months. They also identified caring for women with excessive alcohol consumption (43.3%) and drug taking (62.2%), along with smoking (78.8%), with a further 77.9% reporting caring for women with mental health concerns.

Comments from midwives:

Need more support for moderate mental health problems so they don't get bigger. Women motivated to change/help themselves more during pregnancy but opportunities missed by not fitting the strict criteria for referral.

I am very worried about the use of methamphetamine and synthetic cannabis in pregnancy which seems to be an increasing problem in my area.

I think that the use of meth (P) is a massive issue that we aren't fully aware of the extent of.

Impact on the midwife and midwifery care

We asked the midwifery participants, "How does caring for women living in poverty, or with social complexities, impact on your midwifery care?" The question differed depending on the role of the midwife due to the differing nature of care provision.

Impact on community/caseloading midwives

Table 5 illustrates the impact on the work of community LMC/caseloading midwives, with 65.4% identifying the need for longer appointments, more referrals to other agencies (71%), and more time needed for that liaison (66.5%). A further 64.9% reported difficulty accessing the woman to provide care and 41.2% identified concerns about their own personal safety whilst providing care. Midwives own emotional health was affected by providing care to women living with the effects of socio-economic disadvantage, with 59.4% declaring an impact, 64.1% identifying feelings of inadequacy in terms of the available support options for the woman, and 70.2% agreeing that they worried about the woman's wellbeing.

Table 5. Impact on midwifery work for caseloading or LMC midwives

Impact	n	%
Need for longer appointments	158	65.4
Difficulty accessing women to provide care	159	64.9
Impact on their personal emotional health	143	58.4
Feelings of inadequacy	157	64.1
Situations where own safety compromised	101	41.2
Requiring referrals to other agencies	174	71.0
More time needed for liaison	163	66.5
Worrying about women's wellbeing	172	70.2

Impact on hospital midwives

There were similar levels of concern identified by the hospital midwives (Table 6). A high proportion of the hospital midwives (89.6%) and educators/managers/others (92.5%) identified that the woman needed additional care, and that the woman needed more support for parenting (hospital midwives 84.4%; educators/managers/others 82.5%). Midwives also reported women needed referrals to other agencies (hospital midwives 89.0%; educators/managers/others 92.5%), and more time was needed for liaison with those services (hospital midwives 76.6%; educators/managers/others 87.5%). Providing care also influenced these midwives' emotional health, with 66.2% of hospital midwives and 72.5% of educators/managers/others identifying an impact on their own personal emotional health; feelings of inadequacy of available options for the woman (hospital midwives 69.5%; educators/managers/others 77.5%); and worry for the woman's wellbeing (hospital midwives 85.1%; educators/managers/others 95.0%).

DISCUSSION

This study aimed to capture midwives' perspectives about women experiencing socio-economic disadvantage and maternity care. The midwives who participated in the survey reported that they provide care for women with a wide range of issues relating to socio-economic disadvantage. The results provide insight into the prevalence of maternal socio-economic disparities that affect maternal health and wellbeing during childbearing, which consequently also impact on infants' health.

The pre-requisites for health

Our findings indicate that there are women in Aotearoa New Zealand who do not have the appropriate pre-requisites for health. The World Health Organization emphasises that health is a human right that can only be achieved if the pre-requisites are present.

Table 6. Impact on midwifery work for hospital midwives and educators/managers/others

Impact	Hospital midwife		Educator/manager/other	
	n	%	n	%
The woman needs additional midwifery care to support her wellbeing	138	89.6	37	92.5
The woman needs more support in her parenting	130	84.4	33	82.5
Impact on their personal emotional health	102	66.2	29	72.5
Feelings of inadequacy	107	69.5	31	77.5
Situations where own safety compromised	86	55.8	21	52.5
Requiring referrals to other agencies	137	89.0	37	92.5
More time needed for liaison	118	76.6	35	87.5
Worrying about the woman's wellbeing	131	85.1	38	95.0

These fundamental requirements for health include: peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity (World Health Organization, 1986). Inequalities in socio-economic conditions throughout the life course are considered to be responsible for many inequalities in health (Marmot, 2017a), and action to improve health and reduce inequalities does not simply depend on individual changes, because the ability to change is constrained by social circumstances (Marmot, 2017b).

The findings of this survey showed that midwives are providing care to women who often do not have adequate shelter or sufficient income for food and other costs related to their pregnancy and following the birth of their baby. This lack of the pre-requisites to achieve health is concerning and suggests that equality and optimal health outcomes for mothers and babies will not be achieved without concentrated efforts on many fronts. It is therefore unsurprising that the women in lower socio-economic groups have higher rates of maternal mortality and perinatal mortality, i.e. stillbirth and neonatal death (Perinatal and Maternal Mortality Review Committee, 2019). Optimising outcomes for women during childbirth is an important goal but arguably can only succeed if the social determinants of health are identified and adequately addressed for pregnant women in Aotearoa New Zealand. Concerted cross-governmental efforts will be required to address maternal socio-economic disadvantage. If child wellbeing is to be achieved, maternal pre-requisites for health are essential goals.

Transience and moving homes

A large proportion of midwives reported providing care to women who were homeless, staying with whānau (family), or who had to move during their maternity care. Moving houses is considered one of the five most stressful life events and moving during pregnancy results in poorer health than not moving (Tunstall, Pickett, & Johnsen, 2010). The Growing Up in New Zealand study found that 45.3% of families had moved at least once between the birth of a child and that child reaching two years of age (Morton, Atatoa Carr et al., 2014). When Tunstall et al. (2010) used cross sectional data for the 18,197 families in the UK Millennium Cohort, they found that families that move during pregnancy, due to negative circumstances, had worse self-rated health and more depression among the mothers, lower birth weight of the babies and a higher risk of accidents among the infants. There is a growing body of literature that links high levels of stress during pregnancy with less favourable or adverse outcomes in the developing baby (Horsch et al., 2017; Kingsbury et al., 2016; Phelan et al., 2015).

Poor quality housing

Cold, damp and mouldy homes were identified as an issue by many of the caseload/LMC community midwives who visit women's homes during pregnancy and/or following the birth of the baby.

Fuel poverty is a term that identifies the inability to heat the home to an adequate temperature at a reasonable cost and is recognised as a significant issue (Grey et al., 2017). Living in cold, damp conditions can have a negative effect on the physical and mental health of the occupants and can exacerbate existing medical conditions such as respiratory or cardiovascular problems (Grey et al., 2017). Other effects of fuel poverty amongst adults are higher levels of minor illness, such as colds and flu, and poorer mental health (Marmot Review Team, 2011). Dampness and mould are also associated with increased rates of respiratory infections and bronchitis in infants (Fisk et al., 2010). Ingham et al. (2019) described housing as a risk factor for childhood respiratory illness and found a dose response association between housing quality, measured related to damp and mould, and hospital admission for young children. Mason, Lindberg, Read and Borman (2018) also found that damp, mouldy housing had a major effect on children's health in their Aotearoa New Zealand study, with approximately 500 children admitted to hospital annually due to asthma.

This association between poor quality housing and poor health is well documented, and has been an ongoing concern for centuries, with those living in impoverished conditions being over-represented in poorer health outcomes (Kreiger & Higgins, 2002). Poor quality housing affects multiple aspects of health and wellbeing and is particularly problematic for infants and children. It is promising that the New Zealand Government has committed to meeting its human rights commitment through the United Nations (UN) Agenda for Sustainable Development with the aim to provide safe, affordable and adequate housing for all by 2030 (New Zealand Human Rights Commission and He Kainga Oranga/Housing and Health Research Programme, 2016). The lack of affordable housing has been identified by the current government as a priority action issue, with pregnant women and their families currently prioritised in the Healthy Homes Initiative (Pierse, White, & Riggs, 2019).

Health and lifestyle

The period of time when they are receiving maternity care is often considered a time for optimising women's health through consistent public health messaging at a crucial life/developmental stage (including smoking cessation, alcohol free pregnancy, healthy food, being active, healthy weight gain and family violence screening).

Healthy eating requires access to healthy affordable food, yet for women on low incomes this can be problematic. A Canadian resource identified that women often understand the need to eat healthy food during pregnancy but are unable to do so due to a lack of means (Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre, n.d.). In Aotearoa New Zealand, Morton, Grant et al. (2014) found that most pregnant women do not follow the current nutritional guidelines for pregnancy, with only 3% meeting the recommendations for the four identified food groups. Food insecurity is a major barrier to a healthy pregnancy, with food purchase often less a priority than rent and/or heating (Abrahams, Lund, Field, & Honikman, 2018; Raven & Stewart-Withers, 2019; van den Heuvel & Birken, 2018).

Living in deprived circumstances increases the risk of depression and stress (Wilkinson & Marmot, 2003). When women are living in circumstances, where they are continually anxious, worried and stressed and have little control over work and income, the use of alcohol, drugs and tobacco can be a way of coping with that stress and anxiety (Wilkinson & Marmot, 2003). For women living with socio-economic disadvantage, there are often competing priorities and multiple barriers. For the health carer, assessing women's needs and supporting them to identify and meet their priorities are often more important than providing a public health message that will remain unheeded. Women have identified that empathic interaction from someone who listens, does not pass judgement and does not shame or blame is important to them (Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre, n.d.; Ebert, Bellchambers, Ferguson, & Browne, 2014; McLeish & Redshaw, 2019). A holistic approach is considered optimal; one which connects and refers to other providers and services. This would be similar to the Whānau Ora approach for

Māori, an approach which seeks to put whānau and families in control of services (New Zealand Government, 2020).This is especially important for Māori women who are over-represented within the groups living in the most deprived neighbourhoods (Ministry of Health, 2019). The approach may also be useful for other ethnic groups who are socially disadvantaged. Solutions that support all women living in poverty are urgently needed.

Impact on midwives and midwifery care

The vast majority of Aotearoa New Zealand women engage with midwives for their maternity care (Ministry of Health, 2019). Women living in deprived quintiles are more likely to choose a midwife as their LMC. However, for women with low incomes, barriers due to social, housing and income issues can cause increased, and often undisclosed, health needs and social service delivery gaps. Midwives are one of the few health professionals who visit the woman and her family in the woman's home. This enables the midwife to understand the reality of the woman's life and the difficulties and issues she may be facing in relation to accessing physical and social support.

Midwives, whether working in hospital or in the community, identified that there was an impact for them when working with women with low incomes. Women with complex social and/or poverty related concerns frequently required more time and longer appointments with midwives. This was so that the woman's issues could be fully discussed and strategies identified to support her and her family. It is only by taking the time to do this that midwives can then identify and discuss harm reduction strategies, and provide health information and parenting support. A number of midwives reported the need for referral (with often multiple referrals) and liaison with other agencies. Doing this is time consuming and requires knowledge of available local community services. For midwives working in the community specifically, there were often difficulties accessing the woman (due to transience) to provide maternity care, and a need for more home visits to provide that care during pregnancy as well as during the postpartum. Our findings resonate with those of Griffiths (2002) in her qualitative study involving eight Aotearoa New Zealand midwives. She found that the midwives she interviewed 'stayed involved' because 'the need seems so huge' and that women were sometimes wary of forming relationships, which were necessary to ensure support and to provide education on improving health and parenting. These midwives also identified that issues were often not related to maternity care but, nevertheless, required the midwives' time and support of the family in order to optimise the woman's and her baby's health. They also reported that women were often dealing with different forms of abuse (physical violence, drug and alcohol addiction, etc.) and required additional time for liaison with the appropriate government agencies and community services.

Providing care to women in these circumstances also affected the midwife's emotional health, with midwives in this study admitting personal worry about the woman's wellbeing, feelings of inadequacy, and there were situations where the midwives themselves felt their personal safety was compromised. This finding echoes those of the midwives in Griffiths' (2002) study who described emotional conflict, needing a network of support to help them emotionally, and needing to ensure their own personal physical safety.

Providing maternity care to women living in socio-economic disadvantage is challenging on many levels. It requires additional resources both for women and their families and for the health professionals providing that care. At present the workload involved in supporting women living in impoverished circumstances does not attract additional funding. Any new funding model proposed by the New Zealand Government will need to identify, recognise and reimburse community midwives appropriately when they work with women living in difficult and/or impoverished circumstances. Hospital maternity services also need to recognise the additional resources required by women, the impact on midwives working with these women, and the need to ensure additional staffing levels.

This study strongly suggests that during pregnancy, while all women need dedicated time and support to deal with the issues they face during this major life event, the economically deprived need significantly more time and support. Midwives are the health professionals providing physical and emotional support and require improved resources and support themselves.

STRENGTHS AND LIMITATIONS

This is the first survey exploring maternal socio-economic disadvantage from a midwifery perspective within the Aotearoa New Zealand context. This study has enabled us to explore the depth of midwifery concern about the impact of socio-economic disadvantage on women, as well as the impact on the midwives themselves. Survey methodology is limited by lack of nuance and cannot avoid eliciting detailed responses and answers from those who hold strong opinions on the subject matter. The survey responses are not generalisable but do provide a snapshot of the socio-economic disadvantage-related issues women are experiencing and the effect of these on the work of our respondent midwives.

CONCLUSION

This study has demonstrated the complex demanding nature of the midwifery care being provided to women and families living with socio-economic disadvantage. This cohort of midwives reports providing care to pregnant women who are experiencing homelessness, transience, and/or poor quality accommodation during their pregnancy and following the birth. During pregnancy women are also often experiencing material deprivation and many have insufficient funds for food items, transport and communication. They are frequently unable to afford the costs of co-payments for maternity health care and they often cannot afford the essential items they need for themselves and/or their baby. There is need for urgent action to support pregnant women living with socio-economic disadvantage. A good start to life for babies and children means supporting and improving circumstances for women during pregnancy and birth.

Midwives engage with a diverse group of women and families within society, many of whom are vulnerable or experience chaotic or difficult social circumstances. These women and their families often fall through the gaps in care provision for a variety of reasons. The midwives' role is to provide information, support and healthcare for the woman for her pregnancy, birth and early parenting. Unfortunately, women who are living in these difficult circumstances require more than midwifery care; they also need social, income, housing and sometimes legal support. Although midwives are ideally placed to navigate, and refer the woman to, these other services – when they are available and accessible – doing so takes time and deserves recognition along with funding support. At present, and in order to protect women and their babies, midwives are stepping into this gap and referring, liaising and advocating with a variety of agencies. This work needs to be identified, recognised, valued and better supported.

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We would like to thank all the midwives who took the time to complete our survey.

The authors state they had no conflict of interests when undertaking this study.

Affiliation: Maternity Equity Action (MEA) is an organisation that aims to explore the prevalence and impact of poverty on women during childbirth. It is a nationwide advocacy group which seeks to collate consensus among health professionals and then advocate for policies which support this consensus.

Key messages

- Midwives work with many women and families living with socio-economic disadvantage.
- This study explored the effect of socio-economic disadvantage from a midwife's perspective.
- Providing maternity care to women living with socio-economic disadvantage is challenging; it requires more time, more referral to other agencies and more advocacy from midwives.

REFERENCES:

Abrahams, Z., Lund, C., Field, S., & Honikman, S. (2018). Factors associated with household food insecurity and depression in pregnant South African women from a low socio-economic setting: a cross-sectional study. *Soc Psychiatry Psychiatr Epidemiol, 53*(4), 363-372. https://doi.org/10.1007/s00127-018-1497-y

Asher, I., & St John, S. (2016). *Child poverty and health in New Zealand.* Retrieved from https://thepolicyobservatory.aut.ac.nz/

Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre. (2003). The Impact Of Poverty On Pregnant Women: A guide to program managers. Retrieved from https://www.beststart.org/

Best start: Ontario's Maternal Newborn and Early Child Development Resource Centre. (n.d.). *Reducing the Impact: working with pregnant women who live in difficult life situations.* Retrieved from https://www.beststart.org/

Braveman, P.A., Cubbin, C., Egerter, S., Williams, D.R., & Pamuk, E. (2010). Socioeconomic disparities in health in the United States: what the patterns tell us. *Am J Public Health, 100 Suppl 1*, S186-196. https://doi.org/10.2105/AJPH.2009.166082

Carter, K.N., Kruse, K., Blakely, T., & Collings, S. (2011). The association of food security with psychological distress in New Zealand and any gender differences. *Soc Sci Med, 72*(9), 1463-1471. https://doi.org/10.1016/j.socscimed.2011.03.009

Clark, A., D'Ambrosio, C., & Barazzetta, M. (2019). *Childhood circumstances and young adult outcomes: the role of mothers' financial problems.* Retrieved from https://ideas.repec.org/p/cep/cepdps/dp1609.html

Department of the Prime Minister and Cabinet. (2018). *Legislating to Drive Action to Reduce Child Poverty.* Retrieved from https://dpmc.govt.nz/sites/default/files/2018-03/doc-06-cbc-paper-legislating-to-drive-action-to-reduce-child-poverty.pdf

Ebert, L., Bellchambers, H., Ferguson, A., & Browne, J. (2014). Socially disadvantaged women's views of barriers to feeling safe to engage in decision-making in maternity care. *Women Birth, 27*(2), 132-137. https://doi.org/10.1016/j.wombi.2013.11.003

Fisk, W.J., Eliseeva, E.A., & Mendell, M.J. (2010). Association of residential dampness and mold with respiratory tract infections and bronchitis: a meta-analysis. *Environ Health, 9*, 72. https://doi.org/10.1186/1476-069X-9-72

Foster, H.M.E., Celis-Morales, C.A., Nicholl, B.I., Petermann-Rocha, F., Pell, J.P., Gill, J.M.R., ... Mair, F.S. (2018). The effect of socioeconomic deprivation on the association between an extended measurement of unhealthy lifestyle factors and health outcomes: a prospective analysis of the UK Biobank cohort. *The Lancet Public Health, 3*(12), e576-e585. https://doi.org/10.1016/s2468-2667(18)30200-7

Grey, C.N.B., Schmieder-Gaite, T., Jiang, S., Nascimento, C., & Poortinga, W. (2017). Cold homes, fuel poverty and energy efficiency improvements: A longitudinal focus group approach. *Indoor Built Environ, 26*(7), 902-913. https://doi.org/10.1177/1420326X17703450

Griffiths, C. (2002). *Staying involved 'because the need seems so huge'.* (Unpublished master's thesis). Massey University, Palmerston North, New Zealand. Retrieved from https://mro.massey.ac.nz/xmlui/handle/10179/7239?show=full

Horsch, A., Gilbert, L., Lanzi, S., Kang, J.S., Vial, Y., & Puder, J. (2017). Associations between maternal stress during pregnancy and obstetric and neonatal outcomes. *Psychoneuroendocrinology, 83*, 28. https://doi.org/10.1016/j.psyneuen.2017.07.313

Ingham, T., Keall, M., Jones, B., Aldridge, D.R.T., Dowell, A.C., Davies, C., ... Howden-Chapman, P. (2019). Damp mouldy housing and early childhood hospital admissions for acute respiratory infection: a case control study. *Thorax, 74*(9), 849-857. https://doi.org/10.1136/thoraxjnl-2018-212979

Katz, J., Crean, H.F., Cerulli, C., & Poleshuck, E.L. (2018). Material Hardship and Mental Health Symptoms Among a Predominantly Low Income Sample of Pregnant Women Seeking Prenatal Care. *Matern Child Health J, 22*(9), 1360-1367. https://doi.org/10.1007/s10995-018-2518-x

Kelly, A., Denning-Kemp, G., Geiringer, K., Abdulhamid, A., Albabtain, A., Beard, M., ... Baker, M. (2013). Exposure to harmful housing conditions is common in children admitted to Wellington Hospital. *The New Zealand Medical Journal, 126*(1387), 108-126.

Kingsbury, M., Weeks, M., MacKinnon, N., Evans, J., Mahedy, L., Dykxhoorn, J., & Colman, I. (2016). Stressful Life Events During Pregnancy and Offspring Depression: Evidence From a Prospective Cohort Study. *Journal of the American Academy of Child & Adolescent Psychiatry, 55*(8), 709-716.e702. https://doi.org/10.1016/j.jaac.2016.05.014

Kreiger, J., & Higgins, D. (2002). Housing and Health: Time Again for Public Health Action. *American Journal of Public Health, 92*, 758-768.

Larson, C. (2007). Poverty During Pregnancy: Its effects on child health outcomes. *Paediatric Child Health, 12*(8), 673-677.

Marmot, M. (2017a). Closing the health gap. *Scand J Public Health, 45*(7), 723-731. https://doi.org/10.1177/1403494817717433

Marmot, M. (2017b). The health gap: Doctors and the social determinants of health. *Scand J Public Health, 45*(7), 686-693. https://doi.org/10.1177/1403494817717448

Marmot Review Team. (2011). *The Health Impacts of Cold Homes and Fuel Poverty.* Retrieved from http://www.instituteofhealthequity.org/

Mason, K., Lindberg, K., Read, D., & Borman, B. (2018). The Importance of Using Public Health Impact Criteria to Develop Environmental Health Indicators: The Example of the Indoor Environment in New Zealand. *Int J Environ Res Public Health, 15*(8). https://doi.org/10.3390/ijerph15081786

McLeish, J., & Redshaw, M. (2019). Maternity experiences of mothers with multiple disadvantages in England: A qualitative study. *Women and Birth, 32*(2), 178-184. https://doi.org/10.1016/j.wombi.2018.05.009

Ministry of Health. (2018). *Social, Emotional and Behavioural Difficulties in New Zealand Children: Summary of findings.* Retrieved from: https://www.health.govt.nz/publication/social-emotional-and-behavioural-difficulties-new-zealand-children-new-zealand-health-survey

Ministry of Health. (2019). *Report on Maternity 2017.* Retrieved from: https://www.health.govt.nz/publication/report-maternity-2017

Moafi, F., Kazemi, F., Samiei Siboni, F., & Alimoradi, Z. (2018). The relationship between food security and quality of life among pregnant women. *BMC Pregnancy Childbirth, 18*(1), 319. https://doi.org/10.1186/s12884-018-1947-2

Morton, S.M., Grant, C.C., Wall, C.R., Atatoan Carr, P.E., Bandara, D.K., Schmidt, J.M., . . . Camargo, C.A., Jr. (2014). Adherence to nutritional guidelines in pregnancy: evidence from the Growing Up in New Zealand birth cohort study. *Public Health Nutr, 17*(9), 1919-1929. https://doi.org/10.1017/S1368980014000482

Morton, S.M.B., Atatoa Carr, P.E., Grant, C.C., Berry, S.D., Bandara, D.K., Mohal, J., Tricker, P.J., . . . Wall, C.R. (2014). *Growing up in New Zealand: A longitudinal study of New Zealand children and their families. Now we are Two: Describing our first 1000 days.* Retrieved from https://www.growingup.co.nz/

New Zealand Government. (2020). Te Puni Kokiri: Ministry of Maori Development. Retrieved from https://www.govt.nz/organisations/te-puni-kokiri/

New Zealand Human Rights Commission and He Kainga Oranga/ Housing and Health Research Programme. (2016). *Inadequate Housing in New Zealand and its impact on children: Thematic snapshot report to the United Nations Committee on the rights of the Child.* Retrieved from Wellington:

Perinatal and Maternal Mortality Review Committee. (2019). *Thirteenth Annual report of the Perinatal and Maternal Mortality Review committee: Reporting mortality and morbidity 2017.* Retrieved from https://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/publications-and-resources/publication/3823/

Phelan, A. L., DiBenedetto, M. R., Paul, I. M., Zhu, J., & Kjerulff, K. H. (2015). Psychosocial Stress During First Pregnancy Predicts Infant Health Outcomes in the First Postnatal Year. *Matern Child Health J, 19*(12), 2587-2597. doi:10.1007/s10995-015-1777-z

Pierse, N., White, M., & Riggs, L. (2019). *Healthy Homes Initiative Outcomes Evaluation Service: Initial analysis of health outcomes (Interim report).* Retrieved from https://www.health.govt.nz/system/files/documents/publications/healthy-homes-initiative-outcomes-evaluation-interim-report-18sept2019.pdf

Priday, A. (2018). *A Daunting Journey: Accessing a Lead Maternity Care Midwife.* (Unpublished master's thesis). Auckland University of Technology, New Zealand.

Raven, B., & Stewart-Withers, R. (2019). Using critical discourse analysis and the concept of food security to understand pregnant women's nutrition in Aotearoa/New Zealand. *New Zealand College of Midwives Journal, 55*, 35-43. Retrieved from https://portal.midwife.org.nz/research-article/1412

Stats NZ. (2019). *Measuring child poverty: Material hardship.* Retrieved from www.stats.govt.nz

Tunstall, H., Pickett, K., & Johnsen, S. (2010). Residential mobility in the UK during pregnancy and infancy: Are pregnant women, new mothers and infants 'unhealthy migrants'? *Social Science & Medicine, 71*(4), 786-798. https://doi.org/10.1016/j.socscimed.2010.04.013

van den Heuvel, M., & Birken, C. (2018). Food insecurity and breastfeeding. *CMAJ, 190*(11), E310-E311. https://doi.org/10.1503/cmaj.180167

Vettore, M., Gama, S., Lamarca, G., Schilithz, A., & Leal, M. (2010). Housing conditions as a social determinant of low birthweight and preterm low birthweight. *Revista de Saude Publica, 44*(6), 1021-1031.

Wilkinson, R., & Marmot, M. (Eds.). (2003). *Social Determinant of Health: The Solid Facts* (2nd ed.). Denmark: The World Health Organization Library.

World Health Organization. (1986). *The Ottawa Charter for Health Promotion.* Retrieved from https://www.who.int/healthpromotion/conferences/previous/ottawa/en/

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