



Evidence paper to support a publicly funded Birthing Centre in the Hutt Valley

By Hutt Families for Midwives

August 2021

Summary

In this paper we present the evidence-basis in favour of a primary birthing facility to remain in the Hutt Valley, including:

1. Birthing in a primary birthing facility is **clinically safe** for healthy people with low-risk pregnancies.
2. People who birth at primary birthing facilities have more **positive birthing experiences and reduced birth trauma**. This has many benefits for maternal mental health outcomes and health benefits for baby, especially in the first 1000 days.
3. A primary birthing facility is **more culturally responsive** to birthing choices for Māori, allowing wāhine to birth with their whānau present and separate to a facility where whānau have died.
4. A primary birth facility is **cheaper for the health system** overall.
5. Primary birthing facilities provide **nurturing postnatal care**, allowing time to establish breastfeeding and recover from birth which leads to better outcomes for women and their babies.
6. The **Ministry of Health Maternity Standards** guide funding decisions and require DHBs to provide a comprehensive range of maternity services that ensure a woman-centred

approach. Without the Te Awakairangi Birthing Centre, the Hutt Valley DHB will struggle to meet those standards.

7. Having a primary-birthing unit in a region **frees up space in hospital** for birthing people who do need, or choose, to birth in a hospital setting with specialist care.
8. **Midwives enjoy working in a birthing centre**, which is important to support midwives retention at a time of dwindling numbers of lead maternity carers.

Context

In August 2021, the potential closure of Te Awakairangi Birthing Centre was announced. This purpose-built primary birthing facility in Melling opened in July 2018. This service is free for pregnant and birthing whānau. To date the building of the Birthing Centre and operating costs have been funded through the Wright Family Foundation - a Charitable Trust, without DHB or Ministry of Health funding.

There has been strong community opposition to the closure and loud calls for a publicly funded model to ensure a primary birthing facility in the Hutt Valley remains. The community group Hutt Families for Midwives set up a [community petition](#) and received over 6,000 signatures.

The argument for saving the Birthing Centre was presented in the petition and other Hutt Families for Midwives material. The purpose of this paper is to present the evidence-basis behind each of the claims made as part of the process to save Te Awakairangi Birthing Centre from closure. This paper is not intended as a complete literature review, but rather a selection of relevant research to dispel common misconceptions about primary birthing facilities.

The intended audience of this paper is decision makers (e.g. DHB Executive Leadership, Board members) and for general public information.

Definitions

Primary birthing facility

For the purposes of this document, a 'primary birthing facility' is defined as:

A community-based birthing unit, usually staffed by midwives. Primary birthing units provide access for women assessed as being at low risk of complications for labour and birth care. They do not provide epidural analgesia or operative birth services.¹

A key difference with birth centres is they provide a whānau-centred environment that supports normal physiological birth processes, rather than the more equipment-centred hospital environment. Midwives work with their clients to support natural births, with minimal intervention.

¹ Ministry of Health. *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*.

Stand-alone or co-located primary birthing facilities

Primary birthing facilities can either be stand-alone facilities (separate location from a secondary medical / obstetric unit) or co-located on hospital grounds (but not within the secondary / tertiary maternity ward). In some of the evidence cited, no distinction was made between stand-alone or co-located units, and so for this reason we refer to 'primary birthing facilities' to mean either stand-alone or co-located. We consider it out-of-scope of this evidence paper to provide a full assessment of stand-alone compared to co-located primary birthing facilities.

Women / birthing people

We acknowledge not all people who birth identify as women. In most cases, we have used gender inclusive terms to refer to 'people who birth' or 'pregnant people'. However as most of the cited literature refers to 'women', the research findings may differ for birthing people who do not identify as women. When referring to specific research, we use the term 'women' to align with the literature.

Evidence

In the following section we present relevant evidence to support the 8 claims on the first page of this paper.

1. Birthing in a primary birthing facility is clinically safe for healthy people with low-risk pregnancies

A significant literature review published in the New Zealand College of Midwives shows there is consistent evidence that healthy people with low-risk pregnancies are more likely to have normal births in primary birthing facilities, with less interventions.² This review showed there was no difference in rates of babies who died when born in primary birthing facilities compared to hospitals, and indicators after birth were more positive in a primary birthing unit (including higher Apgar scores at 5 minutes and lower rates to admission to neonatal intensive care).³

A New Zealand study from 2019 also showed that healthy people with low-risk pregnancies and their babies experience reduced medical problems when birthing in primary birthing facilities, compared to tertiary facilities.⁴ Healthy people with low-risk pregnancies were four times more likely to have a caesarean section when birthing in a tertiary facility compared to a primary facility.⁵ Similarly, less women in a primary birthing facility had other complications such as postpartum haemorrhaging and acute maternal postpartum admissions to theatre.⁶ These

² Dixon et al., *What evidence supports the use of free-standing midwifery led units (primary units) in New Zealand/Aotearoa?*

³ *ibid.*

⁴ Farry et al., "Comparing perinatal outcomes for healthy pregnant women presenting at primary and tertiary settings in South Auckland: A retrospective cohort study." 5-13

⁵ *ibid.*

⁶ *ibid.*

findings of lower intervention and complication rates were also found in a 2016 study of South Auckland primary birthing facilities.⁷

A large Australian study published in 2019 that followed 1.25 million births between 2000 and 2012 found that having a primary birthing facility is just as safe as a hospital birth for healthy people with uncomplicated pregnancies.⁸ The number of stillbirths and baby deaths up to four weeks of age was similar between birth centre births and hospital births. Rates were also similar for postpartum haemorrhaging and hospital readmission between the two birth settings. The study also found that primary birthing facility births were less likely to have unnecessary interventions (such as forceps, vacuum extraction, or a caesarean section).

This evidence, amongst a much wider set, demonstrates the clinical safety when healthy people with low-risk pregnancies birth in a primary birthing facility.

2. People who birth at primary birthing facilities have more positive birthing experiences and reduced birth trauma

A body of research has found that people who birth in a primary birthing facility have higher satisfaction ratings and positive experiences, compared to people who birth in hospital settings. A 2016 Norway study randomly assigned women to either a primary birthing facility or an obstetric unit and found significantly higher satisfaction ratings for the primary birthing facility.⁹ A 2010 Cochrane review demonstrated that birth in a non-hospital setting resulted in very positive views of care.¹⁰ Specifically for the Te Awakairangi Birthing Centre, Hutt Families for Midwives have received over 40 powerful and positive birth stories from people who have birthed at the centre.¹¹

More positive birthing experiences are in part due to the philosophy of care at a birthing centre. With this philosophy, people who birth there do not feel as rushed, have the freedom to do what feels right, are not constantly monitored by equipment, and all the while are in a home-like setting and a whānau-centred environment.

Part of fostering a positive birthing experience is minimising birth trauma. Many women experience birth trauma - one estimate puts it at about one-third of women overall.¹² This has significant implications for mental health challenges after birth, including postpartum depression and post-traumatic stress disorder. As suicide is the leading cause of maternal death in New Zealand, with wāhine Māori and Pacific at the highest risk,¹³ it is critical to provide people with options for birthing that support a positive birthing experience. Birth trauma not only takes a heavy toll on the woman's quality of life, but maternal mental health challenges negatively

⁷ Bailey, D.J., "Birth outcomes for women using free-standing birth centers in South Auckland, New Zealand" 246-251

⁸ Homer et al., "Maternal and perinatal outcomes by planned place of birth in Australia 2000 – 2012: a linked population data study" 1-12

⁹ Bernitz et al., "Evaluation of satisfaction with care in a midwifery unit and an obstetric unit: a randomized controlled trial of low-risk women."

¹⁰ Hodnett et al., "Alternative versus conventional institutional settings for birth."

¹¹ Hutt Families for Midwives, *Te Awakairangi Birth Stories*.

¹² Reed, R., et al., "Women's descriptions of childbirth trauma relating to care provider actions and interactions"

¹³ Health Quality & Safety Commission, *Thirteenth Annual Report of the Perinatal and Maternal Mortality Review Committee*

impact on the child's social, mental and emotional development.¹⁴ The first 1000 day period (the time from conception through to second birthday) is a foundational time of a child's development, and these negative impacts can lead to poorer outcomes over a life course.

Whilst there is a gap in the literature looking specifically at experiences of birth trauma by setting of birth (that is, primary birthing facilities compared to hospitals), a 2017 study found that experiences of trauma were often due to feeling disempowered and perceived unnecessary interventions.¹⁵ Whilst birth trauma can occur in any setting, the philosophy of a primary birthing unit, with a midwife-led, whānau-centred and low-intervention approach, minimises these scenarios.

3. A primary birthing facility is more culturally responsive to birthing choices for Māori

Pregnancy and childbirth is viewed as a normal part of Māori society.¹⁶ Traditional Māori birthing practices saw hapū (pregnant) women birth in a special birthing house or whare kōhanga. During labour and birth, tapuhi (midwives) would support the woman with techniques such as karakia (prayer), waiata (songs), story telling, warm baths and mirimiri (massage). These traditional birthing practices were radically changed with colonisation, with the dominance of a medical model that saw childbirth as a condition requiring medical intervention.

Birthing in hospital for Māori challenges Rongoā Māori and traditional Māori birthing practices. For example, the strangeness of hospital staff, not always being able to have whānau support, giving birth in a place where people die and the disposal of the whenua (placenta).¹⁷

From a te ao Māori perspective, cultural safety starts with wāhine (woman) choice of where to bring mokopuna (descendants) into this world. A New Zealand birth place study found that Māori women are more likely to plan to birth at home or in a primary birthing unit¹⁸.

A local facilitator of Hapū Wānanga shares information with her hapū (pregnant) māmā and whānau Māori about birthing firstly at home, second at the Birthing Centre, and only if they need to, then at the hospital. This local facilitator speaks of how Birthing Centres set Māori whānau up for a good beginning by having whānau present at the birth and honouring mana of wāhine.

4. A primary birth facility is cheaper for the health system overall

The evidence to support this claim is based on the lower intervention rates in primary birthing facilities and international cost effectiveness analysis. We cannot use costing information from the Te Awakairangi Birthing Centre since this is not an accurate reflection of actual primary birthing facility costs, due to the current under-utilisation - discussed later in this paper.

¹⁴ Reed, R., et al., "Women's descriptions of childbirth trauma relating to care provider actions and interactions"

¹⁵ ibid

¹⁶ Wepa, D., and Te Huia, J., "Cultural Safety and the Birth Culture of Māori"

¹⁷ Wepa, D., and Te Huia, J., "Cultural safety and the birth culture of Māori"

¹⁸ Dixon et al., "Place of birth and outcomes for a cohort of low risk women in New Zealand: A comparison with Birthplace England"

A complete cost effectiveness analysis by birth settings has not been done in New Zealand. A cost-effectiveness analysis in England compared birth costs specifically for 'low risk' women.¹⁹ This analysis found that costs for a planned birth in a free-standing primary birthing facility was £ 1435 compared to £ 1631 in an obstetric unit.²⁰ These costs only include the short-term costs (such as the cost of the midwife or other staff during labour and birth and any medical care needed immediately after the birth). They do not include longer term costs, and hence this saving will be greater when analysed over a life course.

In the absence of complete cost effectiveness analysis in the New Zealand context, we can however bring together cost data with intervention rates to demonstrate primary birthing facilities being cheaper overall. For example, the cost of caesarean sections is estimated as about \$10,000 per birth.²¹ New Zealand research, mentioned earlier, shows that healthy people with low-risk pregnancies are four times more likely to have a caesarean section in a hospital setting.²² This demonstrates the short-term cost savings to the health system with the higher rate of vaginal births in a primary birthing facility.

Complete costs to the health system also include long-term costs. Examples include:

- Higher rates of breastfeeding for babies born in primary birthing facilities saves the health system money as breastfed babies have less respiratory infections, less likely to be overweight or obese later in life, and mothers are less likely to develop breast, ovarian cancer and type 2 diabetes.²³
- More positive birth experiences and reduced trauma saves the health system money down the track in maternal mental health funding.
- Interventions from a hospital environment can also lead to more complications after birth. For example, 3-15% of women develop an infection from their caesarean section²⁴, along with other risks such as damage to the bladder. These complications come at further costs to the health system.
- Women who have a caesarean section delivery in a prior birth are also recommended to birth in an obstetric setting for subsequent births. This compounds the cost of intervention.

¹⁹ Cost analysis needs to take into account that by default pregnant people in primary birthing facilities are lower risk than hospital settings, and hence cheaper. This England analysis accounts for this by comparing 'low-risk' pregnant people only.

²⁰ Schroeder et al., "Cost effectiveness of alternative planned places of birth in woman at low risk of complications: evidence from the Birthplace in England national prospective cohort study"

²¹ Estimate only as exact costing information has not been available from the DHB. Estimate based on average costs charged to non-residents for caesarean sections.

²² Dixon et al., "Place of birth and outcomes for a cohort of low risk women in New Zealand: A comparison with Birthplace England"

²³ Muelbert, M., Galante, L., & Bloomfield, F. *Why breastfeeding is a public health issue*

²⁴ Suarez-Easton et al., "Postcesarean wound infection: prevalence, impact, prevention, and management challenges"

5. Primary birthing facilities provide nurturing postnatal care, allowing time to establish breastfeeding and recover from birth which leads to better outcomes for women and their babies

The first 1000 days of a child's life, including birth and the postnatal period, is a critical period of development where interventions and health expenditure offer significant benefits, including social, health and fiscal. World Bank research indicates that there are many interventions that if undertaken in the first 1000 days produce significant long-term savings, for example for every \$1 invested in breastfeeding the return is \$35.²⁵

Primary birthing facilities focus on a holistic and positive experience of birth, one element of which includes comfortable facilities and encouragement for people who birth to have a support person to stay in the immediate postnatal period. Benefits to this whānau-centred approach include, but not limited to, better family health, improved breastfeeding outcomes and satisfaction with postnatal care^{26,27}. This supports new parents to have a positive start to them and their baby's first 1000 days.

The World Health Organisation (WHO), the Ministry of Health and the NZ Breastfeeding Authority all promote breastfeeding as the Gold Standard of infant feeding when possible. A 2010 Cochrane Review found that women who birth in birth centres were more likely to be breastfeeding at two months after birth, compared to hospital births.²⁸

Te Awakairangi Birthing Centre is more than a place for people to give birth, it provides a community support hub from pregnancy through the postnatal period. The Birthing Centre also hosts:

- Parents Centre Lower Hutt
- birthEd antenatal classes
- local midwives have their clinic rooms there
- lactation consultants, perinatal mental health support workers, and breastfeeding support workers who hold drop-ins there regularly
- local midwives gather there for education workshops and their regional meetings.

These wraparound services, along with the encouragement of whānau to support a person both during birth and in the postnatal period can provide a sense of security for parents welcoming a new baby. Postnatal support in the first six months post-birth is a protective factor against

²⁵ Kakietek et al., *Unleashing Gains in Economic Productivity with Investments in Nutrition*, 6

²⁶ Persson, Fridlund, and Kvist, "Fathers' sense of security during the first postnatal week – a qualitative interview study in Sweden," 697-704

²⁷ Steen et al., "Not-patient and not-visitor: a metasynthesis of fathers' encounters with pregnancy, birth and maternity care," 422-431

²⁸ Hodnett, Downe, and Walsh. "Alternative versus conventional institutional settings for birth"

postnatal anxiety and depression²⁹. The recent Te Awakairangi Birth Stories project also suggests that people feel supported in their postnatal stay at Te Awakairangi Birth Centre³⁰.

6. The Ministry of Health Maternity Standards guide funding decisions and require DHBs to provide a comprehensive range of maternity services that ensure a woman-centred approach. Without Te Awakairangi, the Hutt Valley DHB will struggle to meet those standards.

The Ministry of Health provides DHBs with a set of standards to ensure the provision of equitable, safe and high-quality maternity services throughout New Zealand. The three standards are:

1. Maternity services provide safe, high-quality services that are nationally consistent and achieve optimal health outcomes for mothers and babies
2. Maternity services ensure a woman-centred approach that acknowledges pregnancy and childbirth as a normal life stage.
3. All women have access to a nationally consistent, comprehensive range of maternity services that are funded and provided appropriately to ensure there are no financial barriers to access for eligible women.³¹

Te Awakairangi Birthing Centre provides the only primary birthing facility in the Hutt Valley. Having a primary birthing facility allows for women in the Hutt Valley to have a choice in where and how they birth, supporting a woman-centred approach. While home birth is also a birth option, there are many reasons why this is not suitable or possible including not being able to find a midwife that supports home birth, housing instability or unsuitability, or preference to birth in a facility set-up for birthing.

A component of standard one is that DHBs work with consumer groups to identify the needs of their population and provide appropriate services accordingly. There is significant positive consumer feedback from those who birthed at Te Awakairangi Birthing Centre³², as well as significant ongoing community support and campaigning for a primary birthing facility in the Hutt Valley DHB area that the DHB must take into consideration to meet this standard.

If Te Awakairangi Birthing Centre is to close, the Hutt Valley DHB will not meet the standard three audit criteria that the appropriate levels of primary maternity services and facilities are identified and available. It has been suggested that the upgrade of the Hutt Hospital maternity unit will contain primary birthing rooms/units, however completion of this work is a significant time away and the rooms/units will still be located within the maternity unit of the Hutt hospital

²⁹ Milgrom et al. "Social Support—A Protective Factor for Depressed Perinatal Women?," 14

³⁰ Hutt Families for Midwives. *Te Awakairangi Birth Stories*, online

³¹ Ministry of Health. *New Zealand Maternity Standards: A set of standards to guide the planning, funding and monitoring of maternity services by the Ministry of Health and District Health Boards*. 1-13.

³² Hutt Families for Midwives. *Te Awakairangi Birth Stories*. online

(as far as we understand) where secondary services are located and the staff will cover both services.

7. Having a primary-birthing unit in a region frees up space in hospital for women who do need, or choose, to birth in a hospital setting with specialist care

Hutt Hospital is also affected by the national maternity service crisis. Over the past 12 months, Hutt Hospital has been in, or close to, Code Red on several occasions either due to being at capacity and unable to provide enough beds for the expected number of births, or not enough staff available to operate a safe service. There have been instances where this has meant the Hutt Valley Hospital Maternity Unit has contacted Te Awakairangi Birthing Centre requesting they take postnatal people to free up capacity on the ward.

Te Awakairangi Birthing Centre often has capacity and, if funded and supported properly, could provide additional capacity for healthy people with low-risk pregnancies, freeing up space for those who need or choose a hospital birth, including higher risk pregnancies that may require more staffing and additional time. This would relieve some of the pressure on Hospital midwives who have stated that they feel “in survival mode’ leading to acceptance of ‘risk’ behaviour”³³, and therefore make a safer birth experience for those who give birth at the hospital.

Many women have birthed at the Hutt hospital who would have chosen to birth at Te Awakairangi Birthing Centre had there been a midwife available (there are currently significant shortages in LMC midwives in the community numbers and DHB midwives are currently not able to support births outside of the hospital). This has a particular impact on wāhine Māori, as New Zealand research suggests a large high proportion of wāhine Māori plan to birth in a primary birthing setting³⁴.

Similarly, there has been a lack of promotion of the Birth Centre as a free service and an evidence based, safe option for healthy people with low-risk pregnancies. More people who birth would likely choose to use this facility if there was truly equitable access and information available, again freeing up more space in the hospital.

The capacity problem facing the Maternity Unit at Hutt Hospital is only set to increase with population growth. The Council's Urban Growth Strategy seeks to increase the population from 98,238 people in 2013 to at least 110,000 people by 2032³⁵ further highlighting the need for additional maternity facilities in the Hutt Valley. This additional service demand could be served by the Birthing Centre.

³³ Meates, John and Arthur. *Hutt Valley District Health Board Women's Health Services External Review*. 21

³⁴ Dixon et al., “Place of birth and outcomes for a cohort of low risk women in New Zealand: A comparison with Birthplace England,” 14

³⁵ Hutt City Council. *Hutt Valley Urban Growth Strategy*. 7,16

8. Midwives enjoy working in a birthing centre, which is important to support midwives retention at a time of dwindling numbers of lead maternity carers.

Midwifery is a holistic practice by nature and focuses on supporting a person's right to make their own choices throughout their pregnancy and birth journey.³⁶ This way of working is strongly in line with the purpose of primary birthing facilities, that allow healthy people with low-risk pregnancies to have additional choices around where and how they birth.

Research suggests that midwives practice differently in different birth settings. Midwives often feel under scrutiny when supporting people giving birth in a hospital, and feel safer and more relaxed when supporting people giving birth at home or in a midwifery-led birthing unit leading to a higher likelihood of a physiologically normal birth³⁷. Providing spaces where midwives feel supported, such as primary birthing facilities, is a key part of retaining skilled practitioners in the workforce.

In June 2015, a survey of Wellington-based midwives found that 95 percent of midwives think there needs to be a home-like, midwifery-led birth centre in Wellington. This suggests that midwives across the region are supportive that an alternative birth location would provide positive birthing outcomes for the people they work with.

It is critical that the Hutt Valley provides ways of working that support a midwifery led model as there is a significant shortage of midwives due to a range of compounding factors. According to publicly-available information gathered from DHB, Birth Centre and midwifery online sources, the Hutt Valley has under 20 community midwife LMCs practicing, and of those many work part-time. This compares to approximately 40 LMC midwives in the Hutt Valley in 2018. Due to unsustainable conditions this number is soon to reduce with the upcoming closure of the midwifery group BirthWorks.³⁸ The closure of this midwifery practice combined with other factors means it is expected there will only be 14 registered community midwives by the end of 2021³⁹.

³⁶ International Confederation of Midwives, *Core Document Philosophy and Model of Midwifery Care*, 2

³⁷ Miller, S. Moving Things Forward: Birthing Suite Culture and Labour Augmentation for Healthy First-time Mothers. 16

³⁸ Wells, 'Unsustainable' Lower Hutt midwife service closes doors, online

³⁹ *ibid.*

References

- Bailey, D.J. "Birth outcomes for women using free-standing birth centers in South Auckland, New Zealand." *Birth* 44, no. 3 (2017): 246-251. <https://doi.org/10.1111/birt.12287>
- Bernitz, S., Øian, P., Sandvik, L., & Blix, E. "Evaluation of satisfaction with care in a midwifery unit and an obstetric unit: a randomized controlled trial of low-risk women". *BMC pregnancy and childbirth* 16, no.1 (2016): 143. <https://doi.org/10.1186/s12884-016-0932-x>
- Dixon, L., Prileszky, G., Guilliland, K., Hendry, C., Millers, S., Anderson, J. "What evidence supports the use of free standing midwifery led units (primary maternity units) in New Zealand/Aotearoa?" *New Zealand College of Midwives Journal* 46, (2012): 13-20. <https://www.midwife.org.nz/wp-content/uploads/2019/01/JNL-46-June-2012.pdf>
- Farry, A., McAra-Couper, J., Weldon, M.C., and Clemons, J. "Comparing perinatal outcomes for healthy pregnant women presenting at primary and tertiary settings in South Auckland: A retrospective cohort study." *New Zealand College of Midwives Journal* 55 (2019): 5-13. <https://doi.org/10.12784/nzcomjnl55.2019.1.5-13>
- Health Quality & Safety Commission. *Thirteenth Annual Report of the Perinatal and Maternal Mortality Review Committee*. Wellington: Health Quality & Safety Commission, 2019. Accessed on 22 August, 2021. <https://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/publications-and-resources/publication/3823>
- Hodnett E.D., Downe, S., Walsh, D., and Weston, J. "Alternative versus conventional institutional settings for birth." *Cochrane Database Syst Review no.8* (2012) DOI: 10.1002/14651858.CD000012.pub4
- Homer, C.S.E., Cheah, S., Rossiter, C., Dahlen, H.G., Ellwood, D., Foureur, M.J., Forster, D.E., et al. "Maternal and perinatal outcomes by planned place of birth in Australia 2000 – 2012: a linked population data study". *British Medical Journal Open*. (2019): 1-12. doi: 10.1136/bmjopen-2019-029192
- Hutt City Council. *Hutt Urban Growth*. Hutt City Council, 2012. Accessed August 20, 2021. <http://iportal.huttcity.govt.nz/Record/ReadOnly?Tab=3&Uri=3677439>
- Hutt Families for Midwives. *Te Awakairangi Birth Stories*. Accessed on 22 August, 2021 <https://birthhub.weebly.com/blog>
- International Confederation of Midwives. *Core Document Philosophy and Model of Midwifery Care*, 2014. Accessed August 20, 2021 <https://www.internationalmidwives.org/assets/files/definitions-files/2018/06/eng-philosophy-and-model-of-midwifery-care.pdf>
- Kakietek, J., Eberwein, J., Walters, D., and Shekar, M. *Unleashing Gains in Economic Productivity with Investments in Nutrition*. Washington, DC: World Bank Group. https://openknowledge.worldbank.org/bitstream/handle/10986/26069/Economic_benefits_WEB.pdf?sequence=10&isAllowed=y
- Meats., J, John., M, and Arthur, J. *Women's Health Services External Review*. Hutt Valley District Health Board, 2018. Accessed August 21, 2021

<http://www.huttvalleydhb.org.nz/about-us/reports-and-publications/adverse-events-and-reviews/hutt-valley-dhb-womens-health-services-review.pdf>

Milgrom, J., Hirshler, Y., Reece, J., Holt, C., and Gemmill, A.W. "Social Support-A Protective Factor for Depressed Perinatal Women?" *International Journal of Environmental Research and Public Health* 16, no.8 (2019): 14-26. doi: 10.3390/ijerph16081426.

Miller, S. "Moving Things Forward: Birthing Suite Culture and Labour Augmentation for Healthy First-time Mothers." PhD Diss. University of Victoria Wellington, 2020.

Ministry of Health. *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*. Wellington: Ministry of Health, 2012. Accessed on 18 August, 2021. <https://www.health.govt.nz/system/files/documents/publications/referral-glines-jan12.pdf>

Ministry of Health. *New Zealand Maternity Standards: A set of standards to guide the planning, funding and monitoring of maternity services by the Ministry of Health and District Health Boards*. Wellington: Ministry of Health, 2014. Accessed on 20 August, 2021. <https://www.health.govt.nz/system/files/documents/publications/nz-maternity-stds-sept2011.pdf>

Muelbert, M., Galante, L., & Bloomfield, F., *Why breastfeeding is a public health issue*, University of Auckland. Accessed August 21, 2021 <https://www.auckland.ac.nz/en/news/2019/08/05/why-breastfeeding-is-a-public-health-issue.html>

Persson, E.K., Fridlund B., & Kvist, L.J. "Fathers' sense of security during the first postnatal week – a qualitative interview study in Sweden." *Midwifery* 28 (2012): 697-704 doi: 10.1016/j.midw.2011.08.010.

Reed, R., Sharman, R. & Inglis, C. "Women's descriptions of childbirth trauma relating to care provider actions and interactions". *BMC Pregnancy Childbirth* 17, no. 21 (2017): <https://doi.org/10.1186/s12884-016-1197-0>

Schroeder, E., Petrou, S., Patel, N., Hollowell, J., Puddicombe, D., and Redshaw, M. et al. "Cost effectiveness of alternative planned places of birth in woman at low risk of complications: evidence from the Birthplace in England national prospective cohort study". *British Medical Journal*. 344 (2012) doi:10.1136/bmj.e2292

Steen, M., Downe, S., Bamford, N., & Edozien., L. "Not-patient and not-visitor: a metasynthesis of fathers' encounters with pregnancy, birth and maternity care." *Midwifery* 28, (2012): 422-431. doi: 10.1016/j.midw.2011.06.009.

Wells, Imogen. 'Unsustainable' Lower Hutt midwife service closes doors". *1 News*. August 9, 2021. <https://www.tvnz.co.nz/one-news/new-zealand/unsustainable-lower-hutt-midwife-service-closes-doors>

Wepa, D and Te Huia, J. "Cultural safety and the birth culture of Māori." *Social work review* 18, no. 2 (Win 2006): 26-31. Retrieved from: <https://www.babyfriendly.org.nz/fileadmin/Documents/Te-Komako-Winter-2006-Articles-Wepa-and-Huia.pdf>

Zuarez-Easton, S., Zafran, N., Garmi, G., & Salim, R. "Postcesarean wound infection: prevalence, impact, prevention, and management challenges". *International journal of women's health* 9 (2017): 81–88. <https://doi.org/10.2147/IJWH.S98876>