

AIMS JOURNAL

**Improving maternity
care for all**



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Journal Editor: Alex Smith

Journal Production Team: Jo Dagustun, Anne Glover, Jo Williams, Zanna Szlachta, Katherine Revell, Salli Ward, and Josey Smith.

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To contact the editors, please email: journal@aims.org.uk

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Journal Vol. 37, No. 4

Improving maternity care for all

Editorial: Improving maternity care for all

By editor, Alex Smith

The MuM-PreDiCT project: fact-finding and awareness-raising on pregnancy and multimorbidity

By Rachel Plachcinski

Communicating Risk in Pregnancy: Supporting Women with Multiple Long Term Health Conditions

By Sally Darby

The Medication Dilemma in Pregnancy: Balancing Efficacy and Safety

By Dr Megha Singh and Dr Jingya Wang

Am I on a different path to everyone else? Will I be a mummy?

By Mary Smith

Motherhood - Am I on a different path?

By Jennifer Pearce

Just Baby, Me and Multimorbidity: Where Did All the Care Go?

By Dr Etomby Namme

Maternal Medicine Networks

By Natalie Whyte

Mental Health Matters

By Sara Javid

Maternity care co-ordination for women with two or more long-term health conditions

(MLTC): The need for joined up care

By Zoe Vowles

Conflicting advice for pregnant women with multiple long-term conditions

By Siang Ing Lee and Ngawai Moss

Women with Multiple Long-term Health Conditions in Pregnancy and Travel-Related Barriers to Quality Care

By Pavithra Harshani Warnakulasooriya and Mairead Black

Women, Pregnancy and Artificial Intelligence: Opportunities and Cautions in the Age of Digital Maternity

By Christopher Yau

Personalising Women's Care as a Midwife

By Fedwa Harrak

Midwifery matters: what does it mean to be committed to midwifery, and why is midwifery so important?

By Claire Feeley and Jo Dagustun

Complex needs, complex solutions: Reflections on the launch of the MBRRACE report 2025

By Nadia Higson

Birth Activists Briefing: NMPA State of the Nation Report for 2023

By The AIMS Campaigns Team

Highlighting the time volunteers give to research projects and what we feel we contribute.

By the AIMS Campaigns Team

What has the AIMS Campaigns Team been up to this quarter?

By the AIMS Campaigns Team

Editorial: Improving maternity care for all

By Alex Smith



Welcome to the December 2025 issue of the AIMS journal. Building on last summer's edition, '[When the Mother is Unwell](#)',¹ and with AIMS volunteer Jo Dagustun's support, we have invited the [MuM PreDiCT](#) research project to share what they have been finding out about improving the experience of maternity care for women who embark on pregnancy already living with two or more long-term medical conditions and who are expected to have a more complex and high-risk pregnancy.

MuM PreDiCT stands for Multimorbidity and Pregnancy: Determinants, Clusters, Consequences and Trajectories, which is research-talk. The issue opens with the project's Patient and Public Involvement lead and co-investigator, [Rachel Plachcinski](#), introducing the project and explaining the gap in the research and guidance that led to it.

In the current birth climate it is easy to believe that every birth is extremely risky, and so my personal default-setting response to the term 'high risk' is a powerful sense of suspended judgement. On the one hand this term is all too often used in a grossly inflated sense when a woman, for one reason or more, has a *very slightly* higher chance of experiencing an adverse outcome than a woman without those reasons for concern. I emphasise 'very slightly' because the actual level of increased risk, and the fact that this is very small, is usually not made clear to the women who have been labelled in that way. These women may well be denied the very aspects of care that are known to reduce risk, namely: midwife-led care; [continuity of carer](#); personalised care and a [choice of where to give birth](#) - all combined with good inter-professional communication. I have previously addressed the harm that this can do in, [The label of 'high risk'](#).²

On the other hand, my suspended judgement allows me to wait and to listen, and just occasionally, the woman goes on to explain her extraordinary medical history, often involving conditions that she was living with from before her pregnancy. This is a very different matter. Years ago, women who lived with chronic health conditions may have been advised not to marry, as marriage, in those days, implied the inevitability of pregnancy. Today, advances in the medical management of conditions like diabetes or epilepsy have made pregnancy a much safer possibility, but a possibility that still requires careful medical care. In those exceptional situations, one hopes that this medical care will be timely, personalised, respectful and all joined up by really good communication between the different specialists involved. Sometimes it is, but sometimes it isn't. In this journal, we hear from four mothers who had mixed experiences: [Mary Smith](#), [Jennifer Pearce](#), [Etomby Namme](#) and [Sara Javid](#). It is women like Mary, Jennifer, Etomby and Sara who are the concern of the Mum PreDICT project and of our journal theme for this issue.

The overuse of the words 'complex' and 'high risk' have done a massive disservice to the women who really do need close and ongoing medical support. Casting a very wide net and setting a very low bar for the diagnosis of a condition - one that is not causing major symptoms and would have either passed unnoticed or been considered as part of normal life - places a lot of essentially healthy women into a system intended for those who are unwell. For example, people are now medicated for [pre-diabetes](#) and for 'high' blood pressure that was considered normal a few years ago.^{3 4 5} The [intentions are good](#),⁶ but the [evidence of benefit](#),⁷ less so. Lowering the threshold for diagnosis (both before and during pregnancy) adds pressure to an already over-taxed service, and means that valuable resources are spread too thinly, potentially putting those in actual need of medical support at greater risk. Overdiagnosis and over-treatment is therefore an ethical issue of real importance for us all.⁸

The routine medical surveillance and hospitalisation of almost all pregnant and labouring women has led to a change in midwifery training. A third year midwifery student told me recently that her course provided only two hours of tuition on birth physiology. The system is now training would-be midwives as 'obstetric nurses', and their training can be completed without them ever having seen a truly physiological birth, and without any (or virtually any) training into how to support the physiological process. This lack of understanding about birth physiology in those regarded as being 'the experts', means that the physiological process is routinely and unwittingly disrupted, adding a layer of iatrogenic harm to anyone giving birth in hospital - including those with long term health conditions.

The principles that support undisturbed physiological birth, enhance every birth.

AIMS strongly believes that a physiology-informed approach to care for ALL women, enhances the safety and satisfaction of ALL women and their babies - including those with serious health conditions.. Read more about this in the AIMS position paper calling for a [Physiology-Informed Maternity Service](#).

In addition, AIMS upholds the human right of respect for a person's physical and mental integrity, so we get a bit picky about the use of language. One example in maternity care is the widely used but misleading term 'shared decision-making'. Legally, it is the mother alone who makes any decision about what happens to her body. Her wholehearted consent is required for any and every aspect of her care, and she is free to withhold it. Read more about this in the AIMS position [Decision Making in Maternity](#). Doctors and midwives are responsible for the quality of the care they give, and for the manner in which it is offered, but not for the woman herself. This leaves them free to provide truly personalised care, which is the safest there is and exactly what the MUM PreDiCT project is exploring.



In this issue MuM-PreDiCT parent advisory group member, [Sally Darby](#), explores the different ways of explaining levels of risks so that decisions about care can be fully informed. [Dr Megha Singh, and Dr Jingya Wang](#) from the MuM-PreDiCT project, explain the dilemmas faced when finding the safest balance of medication for pregnant women living with two or more health conditions, while [Zoe Vowles](#), a midwife working on the MuM-PreDiCT project, looks at the need for excellent communication between the different teams involved in a woman's care. Without joined-up care, women often receive conflicting advice. Researchers [Siang Ing Lee and Ngawai Moss](#) report on the qualitative study they conducted into this serious concern. Another issue for pregnant women with chronic health conditions is that they have to attend additional hospital appointments, often in different sites. [Doctors Pavithra Warnakulasooriya and Mairead Black](#) explore the impact of this on women, especially when they have to travel a long way for maternity care. A theme running through the MuM PreDiCT project is the importance of listening to the women who use maternity services; [Natalie Whyte](#), a

member of the MuM-PreDiCT Parent Advisory Group, explains why she is so passionate about amplifying their voices. And the final member of the Mum PreDiCT project, Professor of Artificial Intelligence, [Christopher Yau](#), considers the role of Artificial Intelligence in maternity care.

In addition to the MuM PreDiCT contributions we welcome back Independent Midwife [Fedwa Barrak](#) who explains how care can be personalised even in more complex pregnancies and why this is so important., and AIMS volunteer, [Nadia Higson](#) reflects on the launch of the MBRRACE report 2025, which, this year, included a series of case studies of mothers with complex needs who died after failures to provide holistic care and support. We also have our regular [Birth Activists Briefing](#) that, in this issue, highlights the key findings from the recently published NMPA State of the Nation Report for 2023, and raises some queries/ suggestions for further exploration.

Midwife [Claire Feeley](#) and AIMS volunteer [Jo Dagustun](#) remind us about the transformative power of the right midwife. Our penultimate article highlights the time that [AIMS volunteers](#) give to research projects and what we feel we contribute, and we round up with a general look at all of the things that the [AIMS Campaigns Team](#) have been up to since August.

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The MuM-PreDiCT project: fact-finding and awareness-raising on pregnancy and multimorbidity

By Rachel Plachcinski, Patient and Public Involvement lead and co-investigator with the MuM-PreDiCT project.



Author Bio: Rachel is a mother of 3 adult sons, breastfeeding peer supporter, longstanding member of her local Maternity Voices Partnership and a former NCT antenatal teacher. She works with various universities, particularly Birmingham, Oxford and Nottingham, to ensure the views and experiences of women and families are reflected in health research.

Women of reproductive age are increasingly living with two or more long term health conditions. This leads to a higher chance of complications for both mother and baby during pregnancy and birth and a heavier care burden for individuals, families and the NHS. There may also be long term consequences for both the baby and the mother's health conditions. However, there is also little research or clinical guidance on multimorbidity and the potential cumulative effects on maternity care, birth outcomes and future health.

The MuM-PreDiCT research project was set up to start to fill this gap. It has been a multi-disciplinary project, using both health datasets and interviews with women, families and health professionals, to begin to understand the implications for health and care and how best to respond to them at both an individual and system level.

We have also had an active parent advisory group, representing all four countries of the UK, a variety of long-term conditions, different ethnicities and families in both rural and urban locations. Members have had a huge impact on the project, sharing their experiences and perspectives and helping shape analysis and conclusions, and some of them have contributed articles for this journal.

So far, we have found that around 20% of pregnant women have two or more long term health conditions, and that mental health conditions are highly prevalent in this group.

The women were more likely to be older, have a BMI over 30 and to have smoked before conception. One of our studies used the Born in Bradford dataset and found differences in the occurrence of health conditions between White European and South Asian women, emphasising the need for culturally sensitive and targeted public health interventions. Women of South Asian heritage were more likely to develop diabetes, chronic liver disease, and thyroid disorders, and white women were more likely to develop cancer, common mental health disorders and neuromuscular conditions such as fibromyalgia. We also found an increased risk of preterm birth (6.7% in women with no long term health conditions, 11.6% in women with two or more conditions, and 15.6% in women with complex multimorbidity) although we could not determine whether these were spontaneous labours or planned preterm births. When we discussed this analysis before publication, our parent advisory group pointed out that, for women with health conditions and medications that were likely to cause problems for their baby's development in utero, a planned preterm birth would often be seen as a positive thing by parents as it would ensure all the necessary medical expertise was available.

We found that around 1 in 5 pregnant women are prescribed two or more medications in the first trimester. The impact of this on the unborn child is not well understood, as two of our researchers explain further in this journal, and expert advice on medication use in pregnancy is often not available. Maternal Medicine Networks were commissioned in 2021 in England in a bid to provide this expertise but provision and access varies widely.

Our interview study found that specialist maternity care is often fragmented, with women receiving conflicting advice from different specialists. We interviewed 57 women and 51 healthcare professionals, and key points included:

- Women with long-term health conditions and professionals recognised that it takes a team to avoid inconsistent care and communication, for example, medication management.
- Often, women were required to take a care navigation role to link up their healthcare providers.
- Women described mixed experiences regarding care for their multiple identities and the whole person.
- Postnatally, women and professionals recognised a downgrade in care, particularly for women's long-term health conditions.
- Some professionals detailed the importance of engaging with women's knowledge, and recognising their own professional boundaries of expertise.

- Many participants described difficulties in providing informational continuity and subsequent impacts on care. Specifically, the setup of care systems made it difficult for everyone to access necessary information, especially when care involved multiple sites.

We expect more papers to be published from the interview data, including one on pre-conception care which has recently been submitted. There are links to all our publications on the MuM-PreDiCT website, and this will be updated and maintained for at least another year.

We developed a core outcome set to help guide future research into pregnancy and multimorbidity by informing researchers what outcomes are important and should be measured as a minimum in all future studies. Use of this outcome set also enables better comparison of relevant studies. Researchers, parents and health professionals were all involved in developing the initial list and then narrowing it down to 11 outcomes, five for the mother (maternal death, severe maternal morbidity, change in existing long-term conditions [physical and mental], quality and experience of care and development of new mental health conditions) and six for the baby (survival of baby, gestational age at birth, neurodevelopmental conditions/impairment, quality of life, birth weight and separation of baby from mother for health care needs).

We also used the MuM-PreDiCT datasets to develop deep learning and Artificial Intelligence methods to study the long-term implications of pregnancy complications, leading to improvements to a model used to predict cardiovascular disease, and also to look at how certain conditions ‘cluster’ potentially leading to an increase in miscarriage. Our parent advisory group engaged in vigorous debate about this with researcher Christopher Yau. They generally felt that data that could contribute to preventative medicine was helpful, but also expressed concern that prediction models could limit their access to things such as health insurance. They pointed out that models such as this cannot predict the severity of a condition or its impact on everyday life, and that for some people they could create greater anxiety.

What has become increasingly clear to us is how much more work there is to do in this area. Team members are working on a proposal for funding to test a maternity care bundle for women with multimorbidity, which builds on some of our findings, and we are working with several charities and organisations in a bid to improve information for both parents and health professionals. Parent Advisory Group members have also raised questions that we were unable to address with the data available to us, such as the potential impact of over-the-counter medications (especially when combined with prescription medication), the interaction of multimorbidity with fertility problems and treatments, and the provision of information for transgender parents.

A huge thank you to everyone who has contributed to the MuM-PreDiCT project, including 4M Mentor Mothers, LGBT Mummies, Yorkshire and the Humber Maternity City of Sanctuary, Mothers for Mothers, Maternal Mental Health Alliance, NCT and Starting Well in West Bromwich. Your experiences of maternity care have played a vital part in shaping this research and will hopefully lead to lasting improvements in care pathways.

Communicating Risk in Pregnancy: Supporting Women with Multiple Long Term Health Conditions

by Sally Darby



Author Bio: Sally is a mother of two girls. She is visually impaired and lives with MS. She is the founder of Mums Like Us, a network for disabled mothers and a MuM-PreDiCT parent advisory group member.

The experience of pregnancy and of navigating maternity services can feel daunting and isolating. This is particularly true for women with multiple long term health conditions (MLTC). Many disabled women struggle to find community or support from others who have similar experiences. In 2016 I set up an online community aiming to allow disabled women to support each other through fertility, pregnancy and motherhood. The community is called Mums Like Us and consists of 1500 members on Facebook primarily, but not exclusively, from the UK. I myself have been a frequent and consistent patient over many years since being diagnosed with a severe visual impairment and then Multiple Sclerosis. My interactions with health professionals have generally been very positive but in my experience this is not the case for many women with MLTC.

A particular problem faced by these women is that there is little or no research or clinical guidance on the combination of two or more health conditions with pregnancy, birth and early parenthood. Many women will have to make multiple decisions during their pregnancy journeys, about their care and that of their baby. These decisions will be significantly informed by risk. This means that women may have to carry more of the burden of estimating risks and decision making than they feel equipped for. Drawing on my own experience, plus contributions from Mums Like Us members, I want to examine the purpose and practices of risk communication within this context, considering what

types of risks are commonly discussed, how women interpret these communications, and the tools professionals can use to present risks meaningfully and compassionately. While some women may prefer not to confront the risks unless they arise, it is common for women and their families to want to feel prepared, to know the risks in advance and to feel empowered in shared decision making.¹ When women with MLTC become pregnant, they may already be well versed in the risks and complications that might await them. The journey towards starting a family could have begun with a conversation about risk, be this with a medical professional or a partner. From my own experience I recall discussing risks at length with my husband, specialist nurse team and then my consultants, all before I decided to try and get pregnant. I had many questions about risks to my own health and that of my baby. Effective risk communication can help to ensure women are well-informed and able to make choices that align with their values, expectations, and medical realities.

For women with MLTC, decisions about becoming pregnant or continuing a pregnancy can carry heightened stakes. The aim of effective risk communication is not to sway a woman's decision, but to empower her to make informed choices based on balanced, relevant information.

Risk communication is therefore an ethical as well as a clinical process. Best practice risk communication should be tailored to the individual woman and her evolving needs. For women with MLTC, particularly for those facing complex pregnancies, misinterpreting or misunderstanding risk can lead to anxiety or distrust.

Women with MLTC face a wide array of risks both pre-conception and during pregnancy. These risks can include fertility complications, medication that may harm the pregnant woman or the fetus, worsening of existing conditions and the impact of childbirth on overall health. Many women with MLTC may also face a higher likelihood of pregnancy complications like preeclampsia, gestational diabetes, preterm birth, and miscarriage. For the mother, there may be increased risks of flare-ups in pre-existing autoimmune conditions or worsening of mental health.

Medical professionals need to clearly communicate how a woman's individual health profile might interact with these general risks. For example, during pregnancy I had to decide if the risk was greater for me to continue on medication which held a risk to the fetus, or not, which held risks for my health. This had to be a shared decision between me and my medical professionals where we not only assessed the risks but balanced them against one another.

Risk communication is not received in a vacuum. Each woman's interpretation will be shaped by her previous experience, emotional state and individual diagnosis. For some, clear communication fosters confidence. Understanding that a 10% risk of a complication still means a 90% chance of no complication can be reassuring. Others may focus on the worst-case outcomes. A woman with health anxiety or past traumatic medical experiences might perceive even low-probability risks as inevitable. Health conditions themselves can influence interpretation. For example, women with depression may experience greater anxiety leading them to focus on risk; those with ADHD might struggle to follow complex numerical explanations, and chronic pain patients may be more focused on potential suffering or loss of control than statistical probabilities. Understanding this interpretive process allows clinicians to tailor their language, clarify misconceptions, and offer emotional support as well as providing much needed information.

Personal experience and anecdotal evidence suggest that risk is often communicated in one of two ways. The first is numerical/ probability based communication that involves presenting statistical data percentages, ratios, or probabilities. For example: "There is a 20% chance of preterm delivery." The second is contextual/ real world communication framing risk in terms of real-life examples, comparisons, or storytelling. For example: "This risk is slightly higher than what we see in the general population, but many women with your condition go on to have healthy pregnancies."

Both models have their merits and limitations. The numerical model is clear and evidence based but may not be easily understood by all. The contextual model offers relatability and empathy but can lack precision if not done carefully. Often, the best communication strategies integrate both.

By using verbal explanation, written information or pictorial aids, medical professionals can deliver information about risk in a more patient friendly way. For example, explaining numbers in plain language. Instead of "a 10% risk," saying "1 in 10 women in your situation may experience this." Infographics can show levels of risk in a less intimidating and more digestible form and providing take home leaflets or digital resources allows women to revisit the data in their own time and away from the potential stresses of a clinical environment. Regardless of how risk is communicated, it is crucial that it is combined with appropriate emotional support and guidance, either from the medical professional where possible or from external services.

Health professionals can also contextualise the risk, which may offer reassurance to the individual woman. For example, if a person's risk is twice as high as that of the general population, the risk is perceived as high by the patient, whereas adding that the risk to the general population is only 2% puts it in a more useful perspective. It can also be helpful to contextualise individual risk by comparing her to other women. For example, a nurse telling someone that they have cared for 20 other women who have had successful pregnancies whilst living with their health condition could be of significant reassurance. It can be helpful for health professionals to describe the spectrum of outcomes. Rather than presenting a single risk percentage, discussing the range of possible outcomes and what each might mean in practical terms helps women weigh not just the probability but the severity of potential scenarios.

I posted a question on the MumsLikeUs Facebook group, asking if anyone would be willing to share their thoughts and experiences regarding risk and how it should be communicated. Bethany (not her real name) shared her experiences with me. She described a very contextual and honest approach. She said, "I have weakness in my left leg up to paralysis. I have POTS [Postural Orthostatic Tachycardia Syndrome], FND [Functional Neurological Disorder], and ME [Myalgic Encephalomyelitis - also known as Chronic Fatigue Syndrome]. I was worried being pregnant would affect my ability to walk and that my heart would struggle." She shared her concerns firstly with her midwife and then with a consultant. "The consultant didn't know what would happen to me but said from what she had seen, some people made a temporary improvement while pregnant."

Bethany appreciated honesty and transparency as well as the fact that the consultant had made the effort to research her conditions. Despite the consultant being unable to give statistical information, she found this reassuring. During childbirth she was concerned about how pain relief might interact with her health conditions. Again, the doctors were unable to give numerical risks. She continues, "The entire time I was in control. I had choice, but maybe too much. I wanted to be led a bit more... I felt supported but we were clear - it was unknown."

This testimony raises an interesting question about how health professionals can communicate risk when the data to support it is unknown. Without statistics to rely on they have only the contextual model available to them. For women with MLTC this may be a common issue. For example the professional might know the risks for a patient with ME but not who also has FND and POTS. In these situations, women may have to carry more of the burden of the decision making than they would have liked. Shared planning, whereby as comprehensive a risk profile as possible is provided, will support her with this.

Clare (not her real name) had a very different experience. She told me: “for me it was more reassuring when I read about the absolute risks of something vs the relative risks.”

Clare found it difficult when “doctors will tell you the relative risk without telling you that the baseline risk is very low and even if it’s ten times more likely it’s still very unlikely.”

Clare highlighted that risk described as higher than the average must, therefore, be communicated alongside the data for the general population. She went on to describe feeling that communication sometimes lacked compassion and sensitivity; “[they] tell you that you’re higher risk for things you can’t change or do anything about, which felt quite blaming.” Clare also felt her autonomy over her birth choices was diminished, “I was told I wouldn’t be allowed to use the midwifery led birth centre because I was too high risk.” This neither quantified her risk level nor contextualised it, which, for Clare, was unhelpful. As mentioned earlier, risk communication best practice allows patients to make informed choices but should not be used to dictate those choices to her.

Clare had concerns during her pregnancy about her risk of miscarriage. She was repeatedly told this was ‘very unlikely.’ At 23 weeks gestation, she was admitted to hospital for an emergency cesarean section, at which point she was given numerical risk communication. As she describes it, “Fortunately he stayed in a bit longer but the rest of the pregnancy was horrendous and every time someone told me a statistical risk I just zoned out because what did it matter how unlikely something was if someone still had to be the unlucky 10, 5, 1, 0.1%?” This experience has left Clare feeling that she can’t trust statistics. She, like many others, think risk should be assessed and used together with women to create holistic pregnancy and birth plans.

Both case studies demonstrate the importance of tailoring risk communication to the individual. Effective communication of risk to pregnant women with MLTC must be balanced, neither minimising nor exaggerating potential outcomes. It must be bespoke, considering each woman’s health literacy, emotional state, and diagnosis. It is vital that risk is communicated clearly and honestly whilst maintaining compassion and empathy.

To avoid misinterpretation, clinicians should check understanding frequently, provide opportunities for questions, and offer further resources for the woman to look at in her own time. Involving women in decision making doesn’t mean burdening them with every possibility, but guiding them through a process of informed, supported choice.

The NHS GPs, consultants, midwives, healthcare assistants and countless others have supported me through the loss of my sight, independence and mobility. They have been there as I lost both my parents and welcomed both my children. The work health

professionals do to support us all throughout our lives is invaluable. Compassion and care runs deeply through this work. We all know how stretched crucial health services are. I feel enormously lucky and grateful to have experienced risk communication in the ways I have described in this article.

Readers may also want to look at: [Communicating benefits, risks and uncertainties](#), a guide from the [Patient Information Forum](#) that highlights a range of approaches and tools for unbiased communication of benefits, risks and uncertainties to patients.

¹ Editor's note: 'Shared decision-making' is a term used a lot in healthcare. It is intended to convey the idea that the mother should be involved in discussions about her care and that her preferences should inform those discussions. The term is misleading though. Legally, it is the mother (the patient) alone who makes every decision. This is because her consent is required for any and every aspect of her care from allowing an examination or agreeing to a scan, to accepting the offer of a procedure or a medication, and she is free to decline. She may not realise this or even want this, but she alone is the sole decision-maker. Therefore, in AIMS we use the term 'supported decision-making', and we have this [position paper](#) explaining why we think this distinction is so important.

The Medication Dilemma in Pregnancy: Balancing Efficacy and Safety

by Dr Megha Singh, [MuM-PreDiCT](#) programme manager, and Dr Jingya Wang, epidemiologist, University of Birmingham



Author Bio: Dr Megha Singh is a Research Fellow at the Institute of Applied Health Sciences, University of Birmingham. She trained as a medical doctor and completed a Master's in Public Health, gaining extensive experience in maternal and reproductive health research across the UK, India, and South Africa. Megha has contributed to projects supporting the development of healthcare professionals and the translation of research into practice. In her current role, she works with colleagues to deliver research that improves understanding of maternal long term health conditions and their influence on pregnancy pathways and care trajectories.

Dr Jingya Wang is a Senior Research Fellow specialising in clinical epidemiology and pharmacoepidemiology, currently working on the MuMPreDiCT project.

Introduction

Pregnancy represents a unique physiological state that necessitates careful consideration of both maternal well-being and fetal development. A particularly complex challenge in this context is the use of medications. On the one hand, untreated maternal health conditions can result in serious complications for both the pregnant person and the developing baby; on the other, certain medications may cross the placental barrier and affect the baby. Because pregnancy is a unique physiological state, the short- and long-term effects of drug use on both maternal and child health

remain incompletely understood. This article discusses the core components of this dilemma, the clinical scenarios in which it commonly arises, the frameworks available to support clinical decision-making, and future directions for improving care.

1. Why is medication use in pregnancy so complex?

Medication use in pregnancy is particularly complex because of several overlapping factors. Pregnancy induces major physiological changes that alter the way medicines are absorbed, distributed, metabolised, and eliminated, including increased blood volume, enhanced renal clearance, and changes in liver enzyme activity, which may necessitate dose adjustments. Yet most medicines are not tested in pregnant populations, making it difficult to predict the pharmacokinetics¹ in this setting. At the same time, polypharmacy² is increasingly common among women of reproductive age, driven in part by chronic illness, older maternal age, and multimorbidity (having two or more co-existing medical conditions), and to some extent by the medicalisation of conditions that, rightly or wrongly, were previously framed as part of the human condition.³ This raises important questions about whether specific medicines are linked to adverse maternal or infant health outcomes.⁴ Research is further constrained by ethical and legal considerations: pregnant women have historically been excluded from clinical trials due to concerns about fetal safety, leaving clinicians reliant on observational studies, case reports, and post-marketing surveillance to guide prescribing decisions.^{5, 6}

Another layer of complexity arises from the potential risks to fetal development. Medications can cross the placenta, and exposure during the first trimester, when organs are forming, can be especially harmful. Some drugs are well-recognised teratogens (drugs that can cause congenital anomalies⁷), while others may affect fetal growth, neurodevelopment, or increase the risk of miscarriage or stillbirth. However, not treating maternal illness may carry equal or greater risks.^{8, 9}

These challenges play out in several common clinical scenarios. Mental health disorders such as depression and anxiety are common during pregnancy, and selective serotonin reuptake inhibitors (SSRIs - a class of antidepressants) like fluoxetine are associated with a number of potential risks, including neonatal adaptation syndrome¹⁰ and, rarely, persistent pulmonary hypertension of the newborn.¹¹ However, untreated maternal depression increases risks of poor antenatal care, substance misuse, preterm birth, and maternal suicide. Fluoxetine is one of the most extensively studied SSRIs, with overall evidence supporting its use when benefits outweigh risks.^{12, 13} Hypertension, including chronic hypertension and pre-eclampsia, is a leading cause of maternal and perinatal complications. Antihypertensives such as labetalol and methyldopa are generally considered safe, whereas angiotensin-converting enzyme inhibitors and angiotensin receptor blockers are contraindicated due to links with fetal

renal and skeletal abnormalities. Early adjustment of therapy, ideally before conception, is recommended.¹⁴

Epilepsy poses another dilemma: seizures increase risks of trauma, hypoxia, and miscarriage, but some antiepileptic drugs, particularly valproate, are strongly linked to neural tube defects and impaired cognitive outcomes. Using safer options, such as lamotrigine, at the lowest effective dose and supplementing with high-dose folic acid is the preferred strategy.^{15, 16}

Autoimmune diseases such as systemic lupus erythematosus, rheumatoid arthritis, and inflammatory bowel disease often require ongoing treatment. While teratogenic immunosuppressants such as methotrexate and mycophenolate should be avoided, other agents like hydroxychloroquine, azathioprine, and low-dose corticosteroids are considered safe under medical supervision. Disease control before and during pregnancy is crucial, as active disease itself increases risks of pre-eclampsia and preterm birth.¹⁷ Infections are also common, as pregnancy alters immune function. Here, careful drug choice is essential: tetracyclines (a class of antibiotics) are avoided due to adverse effects on fetal bone and teeth development, whereas penicillins and cephalosporins (both types of antibiotics) are widely considered safe.¹⁸

Clinical decisions regarding the prescribing of medication in pregnancy must therefore be guided by a thorough assessment of the potential benefits to the mother against possible risks to the fetus, in discussion with the mother, who will make the final decision on its use.¹⁹

2. Improving information on medication in pregnancy

Over the past decade, several initiatives have sought to improve the safety of medication use in pregnancy. In the US, the FDA²⁰ (Food and Drug Administration), replaced the outdated pregnancy letter categories with the Pregnancy and Lactation Labeling Rule (PLLR), which provides structured risk summaries and clinical guidance.²¹ In Europe and the UK, regulators introduced stricter risk minimisation for teratogens, such as valproate, through pregnancy prevention programmes.²² Open-access teratology information services, including [UKTIS](#)/Best Use of Medicines in Pregnancy ([BUMPS](#)) and [MotherToBaby](#), now provide evidence-based safety summaries for both clinicians and patients.^{23, 24} Professional societies such as the American College of Obstetricians and Gynecologists (ACOG) have issued condition-specific guidelines, for example on perinatal mental health, emphasising the importance of balancing medication risks with the consequences of untreated illness.²⁵ At the research level, international methodological standards have been established for pharmacoepidemiology²⁶ in pregnancy,²⁷ and large population-based studies have clarified risks of commonly used medicines, such as the association between late-pregnancy SSRI exposure and persistent pulmonary hypertension of the

newborn.²⁸ Public health programmes like CDC's *Treating for Two* further integrate research, policy, and communication to support safer prescribing.²⁹

3. MuM-PreDiCT's contribution

The MuM-PreDiCT team studied medicine use in pregnancy to understand how common it is for women to take several medicines at once (polypharmacy), what factors make this more likely, and whether certain medicines are linked to pregnancy or baby health problems.

A review of previous studies found that between 5% and 62% of pregnant women are prescribed two or more medicines, but little is known about how this affects women with multiple health conditions or their babies.³⁰ A qualitative study revealed women with multiple health conditions in pregnancy often received conflicting or inconsistent medication advice, leading to mistrust, fear, and the need to search for information themselves. Healthcare professionals acknowledged that clearer preconception counselling and better-coordinated, team-based care could reduce confusion and improve women's confidence in medication decisions.³¹

Using GP records from over 800,000 UK pregnancies (2000–2019), researchers found that about 1 in 4 women took two or more medicines in the first trimester, rising to over 1 in 2 across the whole pregnancy. The most common prescriptions were antibiotics, painkillers, and treatments for infections, as well as combinations for long-term conditions like asthma and depression. Women were more likely to be prescribed multiple medicines if they were younger or older, had a high BMI, smoked, had multiple health problems, came from ethnic minority backgrounds, had several previous pregnancies, or lived in more deprived areas.³²

A separate study (not yet published) has used records from over 1.5 million pregnancies (2000–2022) to systematically examine links between over 600 medicines and 36 health outcomes for mothers and babies during pregnancy (e.g. miscarriage, pre-eclampsia), the perinatal period (e.g. preterm birth, small for gestational age), and the postpartum period (e.g. postnatal mental illness, neonatal congenital anomalies). Out of over 88,000 comparisons, about 2,800 possible signals were found — meaning a medicine and outcome occurred together more often than expected. These findings don't prove cause and effect but point to medicines that need more safety research.

In short: taking multiple medicines during pregnancy is common and increasing, especially among women with health problems or certain social factors. While many medicines are necessary and safe, more research is needed to fully understand the risks and benefits for mothers and babies

4. Further work needed

Clinical decision-making around medication use in pregnancy must be guided by a careful risk–benefit analysis, weighing maternal health needs against possible fetal risks, while also recognising that not treating maternal illness can lead to more serious adverse outcomes.³³ Ensuring pregnant individuals receive balanced, comprehensible information and that their preferences are central to treatment choices is critical.³⁴ In practice, this requires clear communication and patient-centred counselling rather than reliance on rigid categorisation systems.

In more complex cases, a multidisciplinary approach is essential. Collaboration between general practitioners, obstetricians, maternal medicine specialists, psychiatrists, neurologists, and pharmacists helps optimise care where both maternal and fetal outcomes are at stake—for example, in epilepsy, severe mental illness, or autoimmune conditions.³⁵ Looking ahead, progress will depend on ethically including pregnant individuals in research, strengthening real-world evidence from linked datasets³⁶, and embedding structured communication tools³⁷ into clinical care. Ultimately, a patient-centred, evidence-informed, and team-based approach remains key to navigating the medication dilemma in pregnancy.³⁸

Conclusion

The safe use of medications during pregnancy is a complex but essential aspect of maternal healthcare. Clinicians must weigh the potential risks of pharmacological treatment against the dangers of untreated illness, often in the context of limited evidence. Ethical inclusion of pregnant individuals in research, better data collection, and enhanced communication between clinicians and patients are essential steps toward improving decision-making in this area. A patient-centred, multidisciplinary, and evidence-informed approach remains key to navigating the medication dilemma in pregnancy.

Readers may also want to look at these AIMS information pages:

- [Medications in pregnancy](#)
- [Medications and breastfeeding](#)

- 1 Pharmacokinetics is the process by which (or the study of how) the body interacts with administered substances for the entire duration of exposure
- 2 Editor's note: Polypharmacy is the regular use of multiple medications by a single person, often due to having several health conditions.
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- [36](#) Editor's note: Real-world evidence is clinical evidence about the benefits or risks of a medical product, derived from analyzing data collected from routine patient care, not controlled clinical trials.
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Am I on a different path to everyone else? Will I be a mummy?

by Mary Smith



Author Bio: I am Mary, I am 42 years old and mum to 2 precious girls. I am an NHS patient pro at this point and eternally grateful to them for saving my life and for giving me my 2 girls.

From a young age, my dream was to be a mother—at one point fantasising about having five kids! Growing up with nine siblings, that didn't seem ridiculous. But, deep down, I always had a feeling that motherhood wouldn't be straightforward for me.

I got my first period at 12 and endured excruciating pain, which only got worse over time. Despite being prescribed stronger painkillers by doctors, I was often bedridden.

At the age of 29 I had a short but intensive period of serious ill health with symptoms of some sort of bowel issue, and was referred to a colorectal clinic. The consultant was confused by me being there. Based on my history, endometriosis was suggested and so he referred me to a gynaecology colleague. Sadly, before this line of enquiry could be followed up, I became acutely unwell and presented at A&E where this very colorectal surgeon was the receiving surgeon on shift! Fate!! I was hospitalised and had an emergency sub-total colectomy (part of the colon removed) resulting in an ileostomy (a surgical procedure that brings the end of the small intestine out through an opening in the abdomen), without which I would have died.

I cancelled my upcoming wedding and spent 7 weeks in hospital, including my 30th birthday. My mental health plummeted. There had been a large endometrial stricture in my bowel and I was finally diagnosed with endometriosis - 17 years after my first period. What came first, ulcerative colitis or endometriosis? My surgeon felt that endo was more likely given my history of symptoms.

I came off the pill to try for a baby, but this resulted in such severe period pains that I ended up in A&E most months requiring intravenous morphine. I tried to carry on as normal, worried I would lose my job. I was referred to a gynaecologist who specialised in endometriosis and was referred for IVF.¹ She insisted on writing a letter to request my employer support me with flexible working each month. It was discovered I had a hydrosalpinx (fluid blockage in the fallopian tubes) and so came my second surgery - two weeks after my wedding. We managed my symptoms up until the wedding with me again living off painkillers.

My lovely consultant operated, trying hard to preserve access to my right ovary for IVF after it became apparent that my left ovary was not an option. Not long afterwards, I began having kidney issues, discovering that scar tissue had damaged both ureters. My left kidney function had dropped to 5% and was causing more harm in than out and so I had a third surgery, to remove my kidney. My right kidney slowly healed and now functions relatively normally although I remain at risk of kidney issues for the rest of my life.

The time finally came to embark on IVF, but tests revealed I had an incredibly low egg count, believed to be due to surgeries, and so I was very bluntly asked if I had any sisters. When I advised I had 7, the fertility consultant gleefully asked if I could ask them for egg donation. This completely threw me! Not only was I facing IVF, but I was also unable to biologically conceive my own baby!! How could I possibly ask a sister to donate eggs?! I vividly remember thinking “It is not like asking to borrow £10!”. I had confided in only one of my sisters about IVF and so after this devastating appointment we went to see her, inconsolable. She offered to be our egg donor without hesitation and so our first angel showed us her wings. She had 2 children of her own, was not looking to have any more and in her eyes felt she lost an egg every month naturally and so why not put some of them to good use!

IVF was physically, emotionally and mentally draining and I felt immense guilt at what my sister went through. Five beautiful embryos were created and one was implanted five days later. After another ten days we discovered I was finally pregnant!

I could not celebrate. So many what ifs and the terror of miscarrying. It remained a secret until 14 weeks, only telling immediate family. It was a high-risk pregnancy and so

began the multiple hospital appointments. My 20-week scan revealed placenta previa and so the initial plan for a vaginal delivery was no longer an option. The biggest concern during pregnancy was the risk of bleeding due to placenta previa. However, my kidney was struggling without anyone knowing or realising. At 35 weeks I had a minor bleed. Blood tests revealed that my kidney was struggling and to this day I am convinced that this was my body's way of looking out for my kidney. I had a planned c-section at 37 weeks. Initially all seemed to be well but sadly, at 12 hours old, my daughter started having choking episodes and showing signs of infection and so she was moved to NICU (neonatal intensive care unit). Thankfully, after a week in neonatal, we were both discharged home.

I struggled with postnatal anxiety and as a result struggled to switch off and sleep. I went to the GP and saw a locum who advised that “the first 6 weeks of having a baby are hell on earth for anyone” and sent me on my way.

It wasn't a great surprise that I ended up in A&E that evening and was prescribed sedatives to support sleep. This is not the motherhood that I had envisaged and so desperately hoped and prayed for!! I look back on this time with such sadness.

Three years later we embarked on IVF again. It was even less straightforward this time and took five attempts and another sister donating eggs. Life was on hold for 4 years, with boundless energy and money thrown at every attempt, sadness and anger after each failed attempt. I felt such injustice. My daughter was desperate for a sibling and talked about this often. During this time, I also underwent further major surgery, including an ovary being removed, and so I was put into early menopause. The symptoms were debilitating until commencing HRT, which has been life-changing.

My life was a never-ending merry-go-round of hospital appointments, fertility appointments, surgery, recovering from surgery, and putting a brave face on, never allowing anyone to know the full impact this had on me, telling myself over and over that it would all be worth it once I had another child. I could not allow myself the thought that there may not be another child. A fifth embryo transfer resulted in pregnancy but yet again I could not celebrate it, tell anyone, too scared to even think too hard about it. We told my daughter at 16 weeks; she was the first to find out, but this filled me with such anxiety. What if the pregnancy did not work out and I dashed her hopes and

dreams that had finally been fulfilled!! At 22 weeks it became apparent that I had placenta previa again and was advised the pregnancy could not go beyond 36 weeks.

One of my consultants advised there was a risk the placenta would embed in the uterus resulting in a hysterectomy. This was checked every few weeks and thankfully was not the case.

A close eye was kept on my kidney, learning from my first pregnancy, and at 24 weeks, I was admitted for an urgent MRI which revealed hydronephrosis (a condition of the urinary tract where one or both kidneys swell) and so I was faced with a choice of two difficult and complex interventions. I could have stents which would have to be put in under general anaesthetic and run the risk of not working or damaging the ureter and in turn my remaining kidney. The second option was to have a nephrostomy (a tube that lets urine drain from the kidney through an opening in the skin on the back) which could be fitted under sedation. I had had stents before without issue and so if not pregnant then this would have absolutely been my choice, but I was told a general anaesthetic carried a risk of premature labour. I asked for this risk to be quantified and explained further, only to be told no one knew – my team had never had a patient in this position and so I was left to make the decision. In addition, Urology was not based in the same hospital as Maternity and so all communication with the urology consultant was done via a phone call.

One of the midwives on the ward went out of her way to help, going away and researching both options and printing out paperwork for me to read. She also told the urologist that I would not be giving a decision that night and I needed time to think and sleep on it. The next day I spoke to one of my consultants and told her I felt it was unfair that I had been left to make this decision myself without full information. She apologised and agreed she should be helping me to decide; we talked it through, and it appeared that the nephrostomy would give me the better chance at getting to 36 weeks and, although invasive, had evidence of successfully helping with hydronephrosis. The procedure was very difficult both physically and mentally to deal with, including some complications and a rare kidney infection which required intravenous antibiotics plus multiple other hospital visits and home monitoring due to having a higher risk of pre-eclampsia.

During one hospital admission I was advised I had to give birth under general anaesthetic as I would be having a vertical incision, much more invasive and bigger recovery than a standard c-section. I was devastated. I had had experience of this type of surgery twice before and knew what recovery entailed, now with the addition of a premature baby to look after. Surgery was scheduled for 34 weeks, 2 weeks earlier than

expected, due to diary management and consultants from two hospitals being required, also due to the worry that something would go wrong and so to prevent emergency surgery. I was not going to be able to have skin to skin contact with my daughter, or check that she was ok. I was inconsolable. I felt huge guilt that it was my fault that she was being born early, especially if she was unwell as a result.

I was reassured that babies generally do well at 34 weeks. One of my consultants recognised the mental toll this was taking and so referred me to the MNPI team (Maternity & Neonatal Psychological Interventions). We had limited time to work together before the birth and so focused on creating a birth plan - something I could not have imagined. It specified: the need for my own room where possible; baby would be introduced to me (albeit I would be unaware) before being treated; my husband would stay with baby, which meant I would need another birthing partner to be with me in recovery; bonding squares; and for my husband to have skin to skin if possible. I am happy to report that all were fulfilled, although I am still sad that I remember very little of the first five days of my daughter's life. The only clear memories I have are being taken to see her and being annoyed and frustrated that I could barely keep my eyes open, as well as vividly remembering the nephrostomy being removed which was extremely painful and a story for another day!

I saw my community midwife for all standard appointments but as I was consultant led; it sometimes felt this was a bit of a tick box. However, she was wonderfully empathetic and in fact gave the heads up that I may struggle to produce enough breast milk given I was having major surgery and was on HRT. So she gave me information regarding a medicine to increase supply should it be required. This was never mentioned in hospital, and so she gave me the confidence to ask for this and it was approved, much to people's surprise.

Despite the complexities and trauma of this pregnancy, I am incredibly lucky to have had two wonderful consultants who held my hand along the way and ensured they saw me for all appointments except one! They admitted they had not dealt with such kidney issues before and so ensured they called on the appropriate expertise. I had a debrief phone call a few months afterwards to ensure I was happy with all that happened and to see if I had any questions, which is not something I expected but really appreciated.

I had 2 very different pregnancies and very complex journeys to becoming a mother, neither of which I would wish on anyone. There are undoubtedly additional complexities for women with 2 or more health conditions and the burden that falls on women in such circumstances can be phenomenal. I felt like a walking set of medical notes, worrying whether I had provided the correct information. Although well meaning, it was also

difficult to listen to people comment on my “very complicated medical history”, “oh wow, you have been through lots”. I am well aware, I have lived through it all! However, I am here and still fighting and I have no doubt in my mind that I had a more positive 2nd pregnancy due in part to my ability to advocate more fully for myself.

To those reading this and going through similar, please do not think you are alone. It is indeed a lonely journey but there are things you can do to take control and make the experience a more positive one.

- Find people to celebrate with
- Don't feel obligated to let people know when you are due (I constantly felt like I would say my due date and then follow up with “oh but she will be early”)
- Don't be afraid to ask questions, questions and more questions.
- Don't be afraid to take some time to consider things and think things through.
- Write your questions down before appointments so that you have just as much input in appointments.
- Don't be afraid to ask for appointments to be amalgamated to save time, money and stress on multiple appointments.
- Ask your consultants about whether peer support is available.
- DO NOT BLAME YOURSELF! I cannot stress this enough. You are doing an amazing job, keep doing what you are doing and just take things a day at a time
- Look for support groups for specific specialities. This really helped me with regards to the nephrostomy.
- You CAN have a birth plan, even if you are having surgery.
- Enjoy every little snuggle and breathe that baby in.
- Know that you did everything that you could.
- It IS ok to have bad days, to struggle, to be upset. Most people do, whether they show it or not!
- Believe in yourself.

¹ Editor's note: IVF stands for in vitro fertilisation is the process where the egg is harvested from the mother or a donor and fertilised by sperm in a laboratory. The fertilised egg is then implanted into the mother's womb. The Latin words 'in vitro' translate as 'in glass'.

Motherhood - Am I on a different path?

by Jennifer Pearce



Author Bio: Jennifer lives in Surrey with her husband and son. Jennifer is a Chartered Management Accountant, and member of the Chartered Management institute.

Image [Mother and Child by Mary Cassatt](#)

A few days before my 21st birthday I was told by the hospital that due to my reduced lung capacity of 22%, caused by severe scoliosis and asthma, that having a baby would likely be impossible. Wham - those few words turned my whole world upside down. I'd always dreamed of being a mummy surrounded by lots of children - a house full of noise, fun, laughter and complete joy, but as I closed the hospital consulting room door that dream vanished. A sunny day had turned to the blackest day - what was my path now? What was my purpose now? I walked slowly out of the hospital, and I sat in a coffee shop crying, tears running down my face, sitting amongst strangers watching the world go by and mummies talking to their children. Time seemed to stand still as I sat holding tightly onto a hot chocolate - a warm drink meant to bring comfort and sugar for the shock - how wrong can they be. I'm not quite sure how long I sat there for, and the next few days were a blur, but one thing I did know was that I was on a different path to my friends, colleagues, family - or so I thought.

Following this news, I set the focus for my 20s on my career and on having fun with my friends - taking life day by day and not planning or thinking to the future. It was the only way to survive. Block it out, don't think about it, and never compare. I was never envious of others as I wanted the best for everyone - something I think others found hard to understand. Everyone has a different path and this was mine. I packed a lot in, holidays, concerts, day trips and gaining professional qualifications in accounting and

leadership. Throughout this time I did not seek help from counselling or friends, but my faith carried me through - something that still holds me strong.

My 30s were different. My friends were meeting boyfriends, turning to marriage and having beautiful babies - it was then that the news from my darkest day hit me again. Like before, I didn't speak to anyone. I didn't know anyone with my condition, 'nobody was like me' - it was very hard; it was a lonely time. I had no desire whatsoever to find a boyfriend; what was the point - didn't every man want a child? Wasn't marriage meant to equal a baby? So, what was my path?

A turning point took a huge leap of faith in humankind to maybe think I was worth something to find love.... and through my faith I found love in my now husband. We married knowing that having a baby could not be part of our plans. Sometime in our marriage, the hospital words 'having a baby would likely be impossible' kept appearing - was there a glimmer of hope? It was something we had to explore with professionals. I could not take unknown risks.

After a consultation appointment with the 'best' professor, a glimmer of hope appeared - it wasn't a clear cut decision as there were risks: we didn't know how many weeks I could carry for; it hadn't been done before - but I felt my lung function results didn't reflect what I could do. The decision was grey - not a yes or no, but support if we wanted to try. That was a breakthrough.

The next weeks and months weren't easy - this would be the biggest decision we had to make. I kept thinking, was I being selfish for wanting to be a mummy - what about if I couldn't carry for long - what would be the outcome for the baby? Finally, we both agreed the risk was worth it and if I could do it, maybe other women could become mummies too - and a path to motherhood could be real.

My pregnancy took place during the height of the pandemic - not only was I trying, like every else, to cope with a health emergency, I was also coping with a risky pregnancy - and until 16 weeks in silence from family and friends. We took the decision to hold off telling people until we were comfortable and strong enough to answer the questions. The pregnancy was risky so even to answer the normal questions was hard. "When is your baby due?" was tricky to answer and sometimes upsetting. We had no idea how many weeks I could carry for, but I was determined to get past 32 weeks for the health of our baby. We made it. 34 weeks and 4 days...every day counted. Although when I arrived at the hospital, I was so incredibly breathless; I remember the doctors saying: "Do you know your lips are blue?"

There were times when I couldn't even go to the hospital for the normal or extra scans due to the pandemic, which was very hard. It felt at times as if my health was coming first, which was difficult. A special doctor from the hospital even came to my house (on

the doorstep due to COVID) and dropped off blood pressure instruments to keep track of my health. I also had to wear a 'watch' which monitored my oxygen levels and sent data to the hospital. Throughout, I put all my trust in the amazing professors and doctors to keep my baby and me safe. I felt so secure all the way through my journey and it was the best decision. I had an amazing team of medical professionals looking after me - I was so incredibly lucky.

The birth of my baby was a planned caesarean. I always knew it was going to be and I also knew my baby would be premature. I didn't have a birthing plan - I was just focused on keeping COVID-safe and on my breathing so I could carry my baby for as long as I could. That was the ultimate goal. That would give my baby the best outcome for life. It did mean that I could not be with my baby for those first precious hours - the skin to skin - the moment every mummy dreams about. I was very weak after the general anaesthetic, my oxygen saturations were low, which meant I was unable to meet my beautiful baby boy for two days - that was incredibly hard and even now I still find it upsetting that my condition denied me that special moment, but I had a lovely knitted square that smelled of me that was given to my baby. That was a comfort as well as my husband being with our baby. I knew my baby and I had a lifetime of memories to make - so I needed to be strong both mentally and physically at this time.

With the most amazing professors and doctors a little girl's dream of becoming a mummy became a reality. My disability didn't define me. Instead, I had made a pathway to motherhood for me and many more. But it wasn't me who had done this - it wasn't my determination, my ability to take the risk or bravery. Instead it was the outstanding experts, specialists and the dedication of professors and doctors who gave me the greatest gift of all. They made our story. They are our story and this is something we will never be complacent about.

To show our gratitude we named our child after St Thomas' hospital. This is why stories like ours should be shared - to show the brilliance of the NHS and everyone who works there and to help ensure the NHS continues to break barriers and create miracles.

Just Baby, Me and Multimorbidity: Where Did All the Care Go?

By Dr Etomby Namme



Author Bio: Etomby Namme is a Clinical Research and Sickle Cell Advocate. Dr Etomby Namme, shares her personal experience of perinatal care, with a call to action for better postnatal care for all women.

I was born with [Sickle Cell Anaemia](#). My parents didn't know it at the time, but after a couple of years of back-and-forth hospital trips with their baby, the diagnosis came, and I have been lucky enough to grow up knowing about my condition and how to manage it. One of the things I always "knew" or thought I knew, was that people with Sickle Cell Disease aren't likely to be able to have babies successfully, if they even make it to fertile age at all. So as a young teenager turning into a young lady, talking and dreaming about her future with her friends, I asked one of my best friends to be a surrogate for me because I so badly wanted to have children and knew that I would, one way or another.

Despite the many doctors over the years as I reached the age of fertility, who warned me of the dangers of getting pregnant with Sickle Cell Disease; despite their many lectures about needing to stop Hydroxyurea (the only drug that brought me some symptomatic stability from the age of 14); despite the risks, I felt in my heart a yearning to be pregnant and carry my own child.

That yearning became a reality, and aside from my Booking Visit, when the Maternity Nurse asked me how long I have had this genetic condition that I was born with... I was swiftly transferred to consultant led care and managed very closely. I was fortunate enough to live right next to a tertiary hospital that had both my haematology services and Obstetric services as well as the other speciality services which monitor me for

other conditions. They quickly formed a Multidisciplinary team (MDT) that met regularly to review my case and scheduled my appointments on the same day as much as possible to reduce the burden of frequent hospital visits not only for monitoring the pregnancy but managing the effects of my condition. They kept a close eye on my health and managed my numerous hospital admissions whether for a Sickle Cell Crisis, respiratory review for asthma or for overnight monitoring due to reduced foetal movement. I had heard so many harrowing stories that I was so grateful to be in this supportive environment. The Specialist Sickle Cell nurses were my point of contact, and they did a phenomenal job of liaising with the other specialist teams, including maternity services, whenever I called them with issues.

Unfortunately, my little boy was born prematurely at 35 weeks via emergency caesarean, but I truly believe the reason we got as far as 35 weeks is because of the great work done by the MDT and the way they were able to communicate and liaise with each other to devise a comprehensive care plan.

After the birth, he was whisked off to the Neonatal intensive Care unit (NICU) and I still required blood transfusions and IV morphine, fluids and oxygen to manage the Sickle Cell crisis that had led to his early appearance. Eventually I was wheeled down on my bed to the NICU to hold my baby for the first time and could not stop crying as I was wheeled back up to my own hospital bed where I somehow had to start expressing colostrum and begin a milk expression routine. This ultimately hampered my own recovery as it meant I had to refuse opiate, and being on a 4 hourly expression routine was of course not conducive for sleep and healing. I also had the added stress of trying to express while separated from my baby with nothing but the blanket he was first wrapped in and a picture to try and trigger the natural hormones that would facilitate the milk letdown and engorge my breasts. Suffice to say the engorgement never came. I was nevertheless determined to give him the 2 ml of milk I could express to be added to his tube feed.

While in hospital, I would organise with family to take me down to the NICU in a wheelchair or beg any member of staff who was free to wheel me down to the NICU so I could try to start breastfeeding, which I so desperately wanted to do. He was being tube fed, so had no drive to feed and hadn't developed a good suckle so it was not going well. I looked to the NICU nurses for advice and was met with responses of "try not to stress, fed is best". Not satisfied with that, I managed to search for breastfeeding support services in the local area and to my surprise found there was a service in the very same maternity hospital just 4 floors up from the NICU. I made arrangements myself and went

to seek their advice and thankfully they had some for me which very much helped. It left me wondering however, why I wasn't signposted to them by the NICU nurses. Did they not know about them?

I began to wonder why I felt so alone and overwhelmed. Why did I have to ask if the hospital had a breastfeeding pump I could borrow? Why did I have to beg to be wheeled down to the NICU? Why couldn't my baby be brought up to my room since he wasn't on any ventilation? Why did I feel like I had to figure it all out by myself?

I was in the maternity hospital so I wasn't getting the regular review and care I would get for my Sickle Cell Crisis on the Haematology ward, but because I was being treated for a Sickle Cell crisis in a side room with the advice provided to the postnatal ward by the Haematology team, I wasn't being treated like a postnatal mother either. What happened to that wonderful MDT management? What happened to all the support? Where did that feeling of being cared for go?

When I was finally discharged and my baby and I were home, I was contacted by our local health visitor for our first visit and looked forward to getting some advice and support with managing my health conditions along with now being a single mother. The health visitor showed up for our first visit with her trainee in tow and I was happy to see them and go through things with them. But it very quickly became obvious that she knew nothing about my underlying health conditions as she asked nothing about my physical recovery or pain management and when I offered this information, she had little advice but lots of sympathy.

I had been given no advice as to when to restart my regular medications and didn't have a Haematology follow up booked for 3 months so as I was breastfeeding, I chose to stay off medications. Thankfully I had family support, but they also had other responsibilities, and I didn't want to be a burden on anyone. My mum stayed for the first couple of months and was a Godsend but after she left, I wondered every time I gritted through the pain of a crisis, whether I should go into hospital; what would happen to my baby if I was admitted urgently and no family members could get to me in time? Would the baby stay with me? Would we be separated? Would people think I was an unfit parent being a single mother constantly going into hospital and not being able to look after him? I cried as he cried for milk and my stressed, in-pain body gave him none, and finally gave in to formula feeding though he suckled constantly for comfort (both mine and his). In those 3 months before my first postnatal Haematology review, I felt I had been abandoned. The birth had taken place, the MDT disbanded and I was on my own,

with a community team that was ill equipped to support me. How did all that good, coordinated care dissolve so quickly?

The reality is my experience is only a small part of a much wider problem of disjointed care for many women with multimorbidity, particularly as they go through maternity care. *“Lost in the System: Responsibilisation and Burden for Women With Multiple Long-Term Health Conditions During Pregnancy”* by Stephanie J. Hanley, et al¹; is a compilation of qualitative data collected from women with multiple health conditions about their perinatal experience, and from the healthcare providers who manage them. Many of the women spoke about a deterioration in their own care and a much greater focus on the baby, describing exactly the burden of responsibility I myself went through and speaking to the desperate need for more cohesive care:

“Once you have a baby the focus completely shifts, it's like you're love-bombed when you're pregnant, and then when the baby comes it just drops like a hot rock.”- (W26, Ankylosing spondylitis, fibromyalgia, 5 months postpartum)

Another participant; a health visitor herself, described how a 6-week routine postnatal check with her general practitioner was focused solely on the baby with no attention towards her health conditions or birth

“They checked baby, but ... not me. So, from my experience as a health visitor, I know most mothers receive phone calls anyway, but I just thought maybe for me it will be different because of my health conditions and how much blood I had lost. But the fact that they didn't was quite poor.”- (W10, Endometriosis, polycystic ovary syndrome, anaemia, 5 months postpartum)

Healthcare providers themselves recognise the gaping hole in maternal care when it comes to the postnatal period, with some on the study describing it as, “falling off a conveyer belt”. Like many other women, I experienced a stark difference between the excellent coordinated antenatal care and what felt like crash landing in a nowhere zone of care. This highlighted to me, not just the fact that good multidisciplinary care is highly effective, necessary and entirely possible, but also that simple policies and multiagency communications need to be put in place to make this a reality in the postnatal period.

One healthcare provider in the study described a lack of postnatal care funding as an issue where the ‘job is done’ if the mother and baby simply survive. Another shared concerns about a lack of specialist postnatal follow up:

“I guess the intensity through pregnancy is probably quite high, and then I think they fall off the conveyer belt at the end, baby is born....You hope somebody picks them up, because the teams that look after them during pregnancy, the cardiac teams for example, don't always look after them post-pregnancy. So, some of them will, but not all of them, because the gastro consultants, the cardiology consultants that manage them in the pregnancy have their own cohort of patients, they don't always manage that condition outside of pregnancy.” - (S11, Consultant in Obstetrics & Gynaecology)

Currently, postnatal care often focuses narrowly on the baby's health with minimal focus and support around the mother's wider needs, which does not adequately support women in the postnatal period. Women are tasked with managing their own care navigation, linking up their different teams and coordinating their care themselves, whilst also trying to manage the health of their baby who may also have complications as a result of being born prematurely; as is often the case with multimorbid pregnancies.

I can't imagine how women dealing with postpartum depression, or any other mental health issues, or those with lack of family support, are able to get through this when I myself, armed with knowledge and family support, still struggled incredibly. In fact, I know that sadly some women DON'T make it through the postnatal period, with the MBRRACE-UK report highlighting that 40% of maternal deaths in the post-natal period were due to mental-health related problems.²

Having now gone through medical training myself, I have seen the difference simple strategies like 'Hospital Passports' and SBAR (Situation, Background, Assessment, Recommendation) handovers to community care can make. A similar 'Perinatal Passport', providing real-time access to the mother, with information about her medical condition and strategies for times of ill health or symptom exacerbation, along with the baby's information, is essential for effective and safe interprofessional communication. This allows for more cohesive management and supports the implementation of a personalised, MDT-led care plan, even in areas where services are often dispersed. This information not only equips health visitors and community professionals to ask the right questions, reducing the risk of complications being missed, but empowers the mother to discuss her needs, ask for help and feel supported so that both she and her newborn can thrive. Currently, [Badger Notes](#) are used by many trusts in this way. These should be adopted across the UK.

Postnatal care needs to value the mother's health alongside the baby, particularly in the well recognised 'Fourth Trimester'. We need to draw from current working models of MDT antenatal care and apply and extend those principles into the community where postnatal care is largely housed.

Policy makers and clinicians must recognise that **birth is not the end of care - it's the beginning of the next phase of the perinatal period.**

¹ Hanley, S.J., McCann, S., Lee, S.I., Vowles, Z., Plachcinski, R., Nirantharakumar, K., Black, M., Locock, L. and Taylor, B. (2024), Lost in the System: Responsibilisation and Burden for Women With Multiple Long-Term Health Conditions During Pregnancy. *Health Expectations*, 27: e14104. <https://doi.org/10.1111/hex.14104>

² Allison Felker, Roshni Patel, Rohit Kotnis, Sara Kenyon, Marian Knight (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care Compiled Report - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2020-22. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2024. ISBN: 978-1-0687913-0-7

Maternal Medicine Networks

by Natalie Whyte



Author Bio: Natalie Whyte is a mother, bereaved parent, former MNVP lead and Service User regional representative for the Midlands, a member of the MuM-PreDiCT Parent Advisory Group. Natalie is extremely passionate about amplifying the voices of those who use maternity services including work force and student midwives. NHS service and overall maternity improvements across the community and cross sectors remain integral to the ongoing work of Natalie.

[Maternal Medicine Networks](#) were commissioned by NHS England in 2021 following MBRRACE reports showing that progress to reduce the rate of maternal death nationally has stalled. In 2016-18, ‘indirect’ causes of maternal death – such as cardiac and neurological disease, and sepsis – continued to outweigh ‘direct’ causes. More than two thirds of women who died had pre-existing physical or mental health problems. In 2016-18, 23% of deaths were attributed to cardiac disease alone, and 13% occurred in women with epilepsy.

Many of these deaths could potentially be avoided by early referral to a multidisciplinary team of physicians, obstetricians, midwives, nurses, psychiatrists and other specialists with specific training and experience in the care of medical diseases in pregnancy. The Maternal Medicine Network service specification also emphasises that midwifery is a key component, and that the network will also need to engage with all those who might provide part of the care pathway such as health visitors, social workers, ambulance trusts, mental health teams, and the voluntary sector.

The aims of the service are:

- To provide advice and planned care for women with pre-existing medical conditions, before, during and after pregnancy – ensuring equitable access, excellent experience and optimal outcomes for all communities served by the service.

- To provide advice and planned intrapartum and postpartum care for women with medical conditions that arise during pregnancy.
- To provide local clinical leadership on the identification, referral and management of women with medical conditions, including reviewing training, clinical guidelines and referral pathways for all staff in contact with pregnant women across the footprint.
- To reduce inequities in pregnancy outcomes relating to medical complexity across all demographics.

There is much to be welcomed in the service specification, however a lack of ringfenced funding and other challenges have led to variation in the implementation and development of the service across NHS regions.

This article offers a reflective account of my role as a service user within the Maternal Medicine Network and draws on my personal experience as a woman who has experienced long term health conditions, adverse pregnancy outcomes and participated in research as a patient voice representative.

My engagement within the *West Midlands Maternal Medicine Network* maternity and neonatal services is driven by a deep-seated commitment to improving outcomes, equity, and experiences for all who use perinatal care. As an educator by profession and a perinatal health advocate, my work is more than a career, it is deeply rooted in my mission for service improvement, true co-production, and advocacy.

Between pregnancies I was dealing with fibroids and a cancer diagnosis, and during pregnancy I developed high blood pressure, pre-eclampsia, HELLP syndrome and anxiety after my pregnancy loss. At 34 weeks I went into premature labour after being discharged from hospital after a short stay due to pre-eclampsia. At that time my care was not joined up; there was no continuity of care. After receiving conflicting advice I was discharged and a few days later my baby was stillborn.

My lived experience has informed my understanding of the need for inclusive, culturally competent, and trauma-informed approaches within Maternal Medicine Networks, and I have developed a profound understanding of the emotional, clinical, and systemic challenges, behavioural relationships and inequalities faced by women navigating complex pregnancies. For women from the global majority these challenges are often even greater due to cultural barriers and cultural stigmas. As a bereaved parent, I am particularly committed to ensuring that provisions for those who experience pregnancy or baby loss are embedded throughout maternity care. Bereavement support must extend beyond immediate care to include emotional, psychological and practical

individualised support for both parents and siblings. Through advocacy, education, and collaboration with service providers, I aim to contribute to systems where compassionate care is a consistent standard, not a matter of circumstance.

Women with multiple long-term conditions face difficult and often complex challenges during pregnancy, birth, and the postnatal period. This includes uncertainties carried on beyond pregnancy, as sometimes conditions get worse after the stress on the body. Their care requires coordinated, multidisciplinary approaches that address physical, psychological, and social needs. Even with the acknowledgement of the importance and benefit of personalised care, many women with MLTCs have a lack of joined up care. It is essential to have a well-integrated Maternal Medicine Network where the patient voice has helped to shape the pathway and is embedded within the core framework.

The loss of my baby prompted me to become involved with the Leicester Maternity and Neonatal Voices Partnership (MNVP) and I chaired this group for two years. I then became the regional service user voice representative for maternity for the Midlands and so became involved with the Maternal Medicine Network. These positions have afforded me the opportunity to gain valuable experience in gathering and triangulating parent feedback to present to NHS trust leadership, ensuring that service user experience directly informs the development, implementation and evaluation of perinatal services.

The inclusion of patient and public perspectives helps to contextualise data and the impact of change. I am particularly proud of some engagement work we did on perinatal mental health pathways, where I collaborated with multidisciplinary teams to identify gaps in care delivery and was able to advocate for holistic approaches that prioritise continuity, psychological safety, and early intervention. This work reinforces the importance of embedding service user engagement as a vital element for the future of Maternal Medicine Networks across the UK.

As an educator by background, I decided to utilise my skillset by teaching sessions for student midwives on the importance of the patient voice. This consistently highlights that these sessions deepen their understanding of the human impact of care decisions and foster empathy within clinical encounters. Embedding lived experience in midwifery education bridges the gap between theory and practice, reinforcing the importance of respectful, individualised care for women with long-term conditions.

My personal experience as a service user voice representative on the *West Midlands Maternal Medicine Network* has been both deeply rewarding and profoundly

educational. This role provided me with a unique opportunity to collaborate as part of the multidisciplinary team, gaining insight into the complexities of women with long term conditions or arising conditions in pregnancy, and the commitments involved in delivering safe, high-quality maternal care.

The frustrating issue was the travel aspect where patients would have to travel far for their care and sometimes cross local government and hospital trust boundaries. With the current financial climate, it is clear to see that this could negatively impact upon the care of those that live in deprivation. At the time when I was working closely with the *West Midlands Maternal Medicine Network* there was no financial support given for the increased hospital attendance. In the current economic climate this could really pose a high risk for women accessing the services of the Maternal Medicine Network.

As part of my involvement, I conducted the 15 Steps Challenge, an activity that enabled me to observe the Maternal Medicine Network clinics from a service user's perspective and offer constructive feedback aimed at improving the patient experience journey. I was also invited to test software designed to support the management of the Maternal Medicine Network, contributing patient insights to help ensure that the system is accessible, efficient, and fit for purpose. As an active member of the West Midlands board, I was able to establish regional meetings to raise awareness of the Maternal Medicine Network among service users and the West Midlands Regional Team. These meetings aimed to foster dialogue, share best practices, and promote collaborative engagement across the region. It has been a privilege to help shape a system that listens to and acts upon the voices of those it serves. It would be great for Maternal Medicine Networks to implement the *Patient Voice Framework* that I created. **See**

Figure 1.1

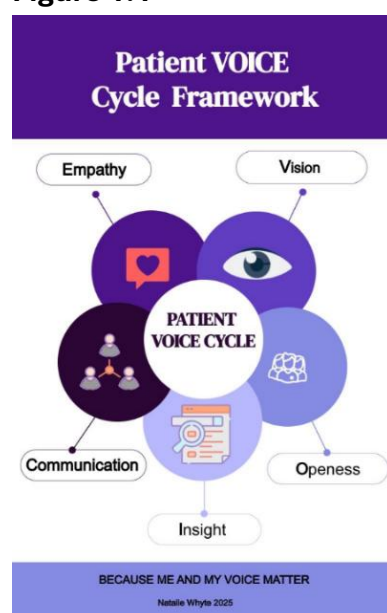


Figure 1.1

The implementation of this *Patient Voice Framework* in all Maternal Medicine Networks across the United Kingdom would allow for us to have a standardised model that will be beneficial to all that use the service and provide the medical interventions.

I was also given the opportunity to attend a service user voice event in Leeds in 2023, where I heard about the MuM-PreDiCT project and was invited to join the parent and public involvement group. This has been a life-changing experience where I have had the chance to be a part of life-changing research. The group has highlighted the need for consistent communication between clinicians and personalised care along with compassionate emotional support for women throughout their maternity journey. I understand that work is ongoing to evaluate the rollout of [Maternal Medicine Networks](#) across the country and I am looking forward to reading more about progress on this.

Questions/actions for [Maternity Voices Partnership \(MVP\)](#) leads and birth activists to consider

1. Find the website for your local Maternal Medicine Network (MMN), contact the project manager or Maternal Medicine lead midwife.
2. Consider setting up information sessions for the MMN lead midwife and obstetrician to talk to local families and health professionals.
3. Look into including MMN clinics in your regular feedback collection visits and conducting a 15 Steps audit of the clinics – will your MNVP fund time for this?
4. Ask about financial and/or transport support for women attending MMN clinics.
5. Ask women using the MMN about their experience of moving from maternity care to standard care after the birth.
6. If you are invited to join the MMN or regional board as a service user representative, check arrangements for paying you for your time, travel expenses and childcare.

Mental Health Matters

By Sara Javid



Author Bio: Sara lives in West Yorkshire and has started a charity which supports mums and mums to be and supports the local perinatal mental health team.

Before I became pregnant, my mental health was already fragile. I had lived with severe anxiety and depression for years and had undertaken talking therapies on a longer basis at least twice. I also had a diagnosis of rheumatoid arthritis (RA), which I was left to self-manage. In order to support myself I took a holistic approach to treatment, I was incredibly physically fit and active daily, I ate well and I managed my sleep hygiene proactively. I am a huge advocate of mental health and encourage people to talk about their worries and also to explore support available to help counter the stigma.

In 2016 I was very excited to find that I was expecting my first baby. I was naturally very maternal and with my physical fitness I hoped that I would be able to manage pregnancy very well. Unfortunately, pregnancy really side swept me. All my usual holistic interventions were paling against the rollercoaster of hormonal fluctuations. As this was my first pregnancy, everything was new. Every week and stage was a learning curve and as every pregnancy is so unique, I was not always able to take learning from friends and colleagues and their experiences, past or present. During the second trimester I had to wear a pelvic girdle belt daily to support my hips and the pain intensified as the baby grew, leading to more pressure on my hips and lower back. I already experienced deep pain in my hips and back due to RA, and I was told by both the GP and the midwife that taking pain killers may pose a risk to the baby and it was my choice if I wanted to use anti-inflammatory medication whilst pregnant. Without any clear guidance, and not wishing to hurt the baby, I really felt I had no choice but to live with pain until the baby was born. I only realised the impact of what the mother ingests,

and how it [transfers into breastmilk](#), after the baby was born – somehow this eluded me as a concept, but I wonder if this should be introduced at some point so that first-time mothers can plan for the longer term.

From the second trimester onwards, despite all my planning and desire to challenge my own emotional decline, daily pain, along with existing and enduring mental health issues, made pregnancy a very lonely place. Pain in movement restricted my ability to do things and thus it became a vicious circle feeding the loneliness.

Antenatal appointments focused almost entirely on the physical aspects of pregnancy. While midwives sometimes asked, “How are you feeling in yourself?” it never felt like there was space for a real answer. If I hinted at my worries, the response was often to reassure me briefly and move on. My mental health felt invisible, as if it didn’t matter or didn’t belong in the conversation about maternity care.

Working fulltime meant I wasn’t able to listen to my body’s cues to rest or sleep. I knew a baby was coming so I had something to look forward to, a goal, a deadline to reach and my body and mind could return to its previous state where I could manage things more directly and have control of my symptoms. I don’t know if I am alone with such naivete as a first-time mum because now, on reflection, I realise that having the baby is only the start of tiredness and hard work. Things never go back to as they were before. I worry for others who have more severe mental illness than me, and with more challenges in their social circumstances, as the baby’s arrival and being a new mum can often lead to more acute symptoms, especially if there is little support.

During the birth, I would use the word ‘care’ very lightly in response to the treatment I received from midwives. I was left alone for a long time; my birthing plan wasn’t mentioned or considered. I was, however, given pain relief when asked. I stopped dilating, and no one came in to speak with me or update me until 4 hours had passed, which triggered their routine check to examine my cervix. Following the birth, I needed a few stitches and I was entirely depleted. I can’t remember why, but it was decided to stitch my tears without any local anaesthesia and my partner was advised to hold me down during the process. My memories of my first labour are not pleasant at all.

After my baby arrived, things became much worse. Following the birth, the postnatal support was minimal. I had one visit from the midwife and the minimum from the health visitor as I didn’t fit into the priority population for ongoing support. I had imagined that

professionals might be more attuned to postnatal mental health, but the opposite was true in my experience. Once the physical checks were done, I felt dropped. The reality of caring for a newborn while struggling with anxiety and little social support was crushing. I felt more isolated than I had ever been. The days blurred into nights, and I often felt paralysed by exhaustion and dread. Health visitors asked the questions they were supposed to, but when I admitted I was struggling, I was told I was “just tired” or “all new mums feel like this.”

My pain was normalised and minimised.

I struggled to breastfeed, I didn't recognise my post birth body which now stood at 14 stone and eventually, when she had learned to latch on, my baby would stay on the breast for up to 3 hours. This led to back and shoulder pain and I was still healing from the birth. I did pressurise myself to prioritise breastmilk and when I tried to pump, I would achieve an ounce of milk from 40 minutes of expressing. In the end, after two months of trying, I relented and supplemented with formula leading eventually to formula only. Either decision is the right decision for mothers, but some support may have helped me with my personal ambitions to continue breastfeeding. It left me feeling like a failure.

I had a baby who didn't enjoy napping but I learned that walks helped her to sleep. Throughout the seasons that first year, I would walk her in the pram, which, although it helped her to nap, meant that I was more exhausted. She woke at regular intervals throughout the night and it was difficult to settle her to sleep again. She would have bouts of colic and every usual illness, milestone and response was new but deeply stressful.

Unfortunately, living with enduring mental health issues lowers your overall resilience and although I tried my best it never felt enough. I was often weepy, I was consumed by fear: fear that something would go wrong, fear that I wasn't good enough to be a mother, fear that I would collapse under the pressure, that I would accidentally harm the baby. The combination of exhaustion and anxiety led to mistakes and absent mindedness. On one occasion, I left my changing bag by the car as I was taking the baby, the pram and the car seat indoors, and later realised someone had taken it with all my baby's new records and documents all enclosed.

Limited income restricted choices in what I could do even though I heard so many positive stories from others about the Sure Start centres, there were very few play groups available to take my daughter to where I might have been able to make friends with people who were going through similar stages with their baby's development.

As the months passed, the isolation grew. I didn't have family nearby or close friends to check in on me, and I felt like I was going through pregnancy and motherhood inside a

bubble. The NHS messaging about support for perinatal mental health didn't translate into what I experienced in reality. Services felt fragmented and disconnected from my actual needs. What I needed was time, listening, continuity of care, and someone to take my anxiety seriously. What I got was a tick-box exercise. I don't think I realised [the perinatal service](#) existed until my baby turned one year old and at that point I was ineligible. It has since extended its eligibility to two years post-partum.

My broken sleep made all my symptoms worse, the GP continued to suggest that this was normal and to self-manage my RA via the over-the-counter medications. In response to my emotional wellbeing I was dismissed as not "unwell enough" to warrant intervention, but also that this was normal, "all new mums are like this". My thoughts often led to suicidal ideas sometimes with such intense urgency to do something final. I was offered anti-depressants at almost every appointment, but for me, this wasn't my choice of treatment.

The hardest part was the invisibility — being seen as a mother who ticked the boxes of feeding, changing, and keeping her baby safe, while inside I was falling apart. There was no recognition of how severely anxiety can impact both mother and child, no effort to see beyond the surface. I noticed how the entire perinatal journey focuses entirely on the new baby. The mother's health is rarely a central consideration – unless of course the pregnancy leads to clinical issues.

Even today, everyday situations other people seem to take in their stride can feel overwhelming to me. Looking back, the lack of social support around me was fundamental to my isolation. I wish I had enjoyed my maternity leave; my poor mental health continued into the early years of childhood for my daughter. I was eventually referred to endocrinologists, and other specialists for further investigations. When all avenues were explored it led to a referral to the chronic fatigue clinic which essentially focused on management.

Mental health services are in crisis, but earlier interventions could provide impactful and life changing support and treatment. Providing integrated services that look at the whole person and their circumstances, offering holistic care and ensuring there is good communication with primary care, could be transformative for people like me. It could completely transform our quality of life, and our skills as parents, nurturing and supporting children to have their healthiest start so they can develop optimally and ultimately become active citizens in our society. We all know about the importance of the first 1000 days, how can we improve services, so they are not so siloed and fragmented but provide continuous joined up care that actually listens to the mother?

Providing timely tailored care will ultimately benefit the patient and the health system and our communities as a whole.

Maternity care co-ordination for women with two or more long-term health conditions (MLTC): The need for joined up care

by Zoe Vowles



Author Bio: Zoë Vowles is a midwife and NIHR Doctoral Clinical Academic Fellow at Guy's and St Thomas's NHS Foundation Trust/King's College London. Her PhD is a mixed methods study exploring how pregnant and postnatal women with two or more long-term health conditions use health services and experience midwifery care, as part of multi-disciplinary maternity care.

Background

The MuM-PreDiCT study has found the number of women experiencing pregnancy with two or more long-term health conditions (known as multiple long-term conditions) is around 20%.¹ Confidential enquiries and reviews into deaths of women during or after pregnancy in the UK consistently find that women with pre-existing physical or mental health conditions, and those with multiple challenges or complexities, are more likely to die, experience serious illness and have poorer experiences of care during pregnancy and the postnatal period.^{2,3}

It is increasingly recognised that people living with multiple long-term conditions (MLTC) have distinct needs in healthcare and their care should consider these.⁴ The National Institute for Health and Care Excellence guidelines on the management of care for people with MLTC recommend an approach to care that focuses on the individual's needs and preferences; improving quality of life through reducing treatment burden and unplanned care; and ensuring co-ordination of care across different services.⁵

Pregnant women who are living with MLTC have specific needs that demand a multi-disciplinary team and care that may span both physical and mental health specialities, and require care across hospital sites and trusts.⁶ Providing joined up care which does not place a burden on women and their families can be challenging as care is traditionally focused on single conditions and separates physical and mental health.

This approach may detract from providing holistic woman-centred care which impacts upon women's satisfaction with care and outcomes. The time, cost, and work required for women to access appointments with many different services and healthcare professionals, and look after their health, can result in the burden impacting their life and wellbeing.^{7, 8}

What did we find in MuM-PreDiCT about experiences and care of women with MLTC?

Within MuM-PreDiCT we undertook a study to understand the experiences and care of women with MLTC during pregnancy and after birth. Interviews were conducted with 57 women who were pregnant or had a baby within the last two years with MLTC, and with 51 staff who provided maternity care for those with MLTC.⁹ Five themes were developed: (1) Need for teamwork across different health professionals; (2) Need for care coordinator; (3) Acknowledgement of multiple identities of women with MLTC in the perinatal period; (4) Acknowledgement of boundaries and limits of expertise; and (5) Need for improved information sharing and continuity. The full article is available [here](#).

At times, the interviews highlighted a lack of, and need for, greater teamwork, involving the woman as a partner to provide more holistic, person-centred care, and a need for consistent information to support decisions around medication. A lack of continuity and co-ordination of care resulted in a significant burden of responsibility on women to share information with, and co-ordinate their care between different professionals.

Input from a specialist such as obstetric physicians, specialist midwives or obstetricians improved this, however a lack of a designated coordinating professional in maternity was noted. Women felt there was little recognition of their different identities as a pregnant woman, new mother and someone with multiple health conditions or how their conditions and being pregnant would impact them. Women described a need for greater access to midwifery care to support birth planning and infant feeding choices.⁹ Care was often fragmented and focused on individual conditions. Experiences of postnatal care were particularly poor with a lack of continued co-ordination, specialist input and continuity of care and follow up for pre-existing health conditions in the postnatal period. Midwifery care which offers appropriate expertise in managing women's health conditions as part of a multi-disciplinary team was valued. Women also valued their expertise about their health conditions being recognised and health professionals being honest about the limitations of their knowledge and expertise when appropriate. Challenges in informational continuity, particularly when women were receiving care across sites and organisations were described which impacted upon coordination of care and required the woman to communicate with different teams and

providers.⁹ The MuM-PreDiCT study developed a longlist of care components from the interviews with women and staff which were explored and refined during four co-production workshops. A potential care bundle of key components was developed to improve care, support and outcomes for pregnant and postnatal women with MLTC. The bundle, which focuses on continuity, coordination, consistency and communication will be refined and tested in future research.

What does other evidence show?

Evidence reviews looking at continuity of midwifery care models find a lack of literature on use of these models for women with complexity such as MLTC.^{10, 11} A systematic review exploring the association between having MLTC before pregnancy and poor maternal outcomes found a focus on single chronic conditions instead of an approach which recognises and actively considers MLTC.¹² Midwives were seen to be a core part of the multi-disciplinary team for women with MLTC with opportunities to support perinatal mental health, reduce health inequalities, provide leadership and enhance continuity and coordination of care.¹³

Changing Maternity Landscape

There have been changes in maternity care which impact on the co-ordination of care. The role of General Practitioners (GPs) in maternity care has changed with GPs less likely to have a role in routine antenatal care.¹⁴ However, GPs continue to have an important role in holistic care of women with medical or mental health conditions.¹⁵ There is a need for improved communication, collaboration and effective information sharing with GPs, particularly in the postnatal period when GPs resume responsibility for care and ongoing management of long-term health conditions.^{16, 17} One such enterprise is [the GPCPC](#) (GPs Championing Perinatal Care), which is a network of UK General Practitioners (GPs), who have volunteered their time to work collaboratively on quality improvement in the field of perinatal care in primary care.

[Maternal Medicine Networks](#) have been established in England to streamline care and improve outcomes for women with pre-existing medical conditions, or those with medical conditions identified during pregnancy or in the postnatal period. The networks are responsible for ensuring women receive personalised, specialist care before, during and after pregnancy with care managed by an experienced multi-disciplinary team where appropriate.¹⁸

The importance of continuity and co-ordination of care

Effective co-ordination of care has been identified as an essential aspect of care in other settings where care involves a multi-disciplinary team such as in cancer care.¹⁹ Co-ordinating clinical care has been identified as a key aspect of ensuring the right care for people with MLTC.²⁰ Nurse-led care coordination has been found to be effective in other specialities.²¹ Research undertaken in Denmark compared a midwife-coordinated maternity care intervention with Standard Care for women with chronic health conditions, which included those with multiple health conditions. They found that, overall, women in the midwife-coordinated group were more satisfied with their care, although it did not change the length of their hospital stay.²²

Maternity care policy has called for greater continuity of care, however this has been challenging to implement.²³ [Continuity of care](#)²⁴ includes a number of aspects such as the relationships women have with their clinical teams or care providers often known as ‘relational continuity’; coordination of care; and continuity of information between different parts of the health system.²⁵ These are important for all women but particularly those with MLTC to avoid disjointed and fragmented care where multiple professionals, hospitals or trusts may be involved in their care. Continuity and coordination of care are global priorities to ensure health services meet people’s needs, particularly those with MLTC.^{26, 27} Women with chronic medical conditions have described a need for greater continuity in their maternity care.⁶ There is extensive literature suggesting midwifery continuity of care models and co-ordination of care can improve the quality of care and outcomes for women and babies.^{28, 29, 30, 31} However, previous studies focused on low-risk women. Further research is needed to understand the impact of MLTC on maternal health, improve care and make care more women-centred for those with MLTC.¹² [My PhD](#) exploring use of healthcare and experiences of midwifery care among pregnant women with MLTC aims to address this evidence gap.

The role of the midwife in care of women with MLTC

Midwives have a key role in the multi-disciplinary team, ensuring joined up care with obstetric and specialist services to meet women’s needs. The MuM-PreDiCT study⁹ found midwives were described as supporting co-ordination and holistic multidisciplinary team-care, particularly for women with medical, mental health and social complexities. Women valued care from midwives, particularly accessing information about breastfeeding, which they struggled to access from other professionals. Despite this, women didn’t always have access to midwifery care during pregnancy and midwives sometimes lacked the appropriate experience and expertise. Although women with MLTC often need specialist care, which may be from an

obstetrician, obstetric physician or other specialists or professionals, they also should have access to the holistic care offered by midwives. The recent World Health Organization Global Position Paper on [transitioning to midwifery models of care](#) described the importance of a collaborative interdisciplinary approach to care provided by midwives working in partnership with general or specialist medical practitioners and other members of the team to provide seamless and comprehensive care.³²

Conclusion

Women with MLTC require care that is holistic and personalised to their individual needs and circumstances. Improved continuity and collaboration between different professionals and providers are required with an emphasis on postnatal care where experiences are particularly poor.

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Conflicting advice for pregnant women with multiple long-term conditions

By Siang Ing Lee, researcher, and Ngawai Moss, lay co-investigator



Author Bio: Siang Ing Lee is from Malaysia and completed her medical school and academic foundation training in the West Midlands. She then completed her GP training as an ACF with the University of Nottingham. She is interested in health data science research.

Ngawai Moss is a dedicated women's health advocate whose interest in research was sparked by her participation in several studies during pregnancy. Her passion for safer maternity care stems from her lived experiences as a woman with epilepsy during pregnancy.

What information do women with multiple long-term conditions need about pregnancy?

Information needs

When it comes to pregnancy, key questions for women with multiple long-term conditions centre on how their health conditions and treatments might affect them and their baby. For example, women may want to know whether they are at risk of adverse pregnancy or birth outcomes; whether their conditions are likely to worsen with pregnancy; or whether pregnancy may trigger new health conditions. They are particularly concerned about medication safety in pregnancy and breastfeeding, as well as the potential risks for their babies.^{1, 2}

Making informed decisions

Having this information can help women to make informed decisions on whether to have a pregnancy, their birth plans, and how to manage their medications with confidence. This means not only whether to continue or stop treatment, but also whether dose adjustments may be needed at different points during pregnancy (e.g. by trimester), postnatally and in the breastfeeding period.²

Communication

How the information is communicated is important. Healthcare professionals recognise that women may experience not only guilt but also anxiety. Even when outcomes are positive, women still carry the weight of responsibility throughout pregnancy, worrying about potential adverse child outcomes while physically carrying the pregnancy, managing their long-term conditions and the medications they require.

Framing information

It is therefore important to frame discussions in terms of both benefit and risk,³ not just risk, enabling women to make decisions that balance their own health needs with outcomes for their baby. This means providing enough information to help women mentally prepare for possible adverse outcomes,¹ without allowing the narrative of adverse risks to dominate their pregnancy.⁴

Professional knowledge gaps

Some health care professionals felt they lack the required knowledge and experience to provide preconception counselling for women with multiple long-term conditions.^{1,5} Women's preferred source of information is the clinical specialist for their long-term conditions. Where their information needs are not met, women have to turn to online information sources, and social media.¹ Where evidence is limited, clear signposting to trusted sources (e.g. national registers, charities, or specialist organisations) can help women who have not already found these groups, access reliable information and peer support.

Impact of conflicting advice

Conflicting advice arises not only between different types of healthcare professionals but also within the same professional groups, reflecting variation in knowledge, experience, and confidence. A UK national survey found healthcare professionals often took a precautionary approach for prescribing in pregnancy, resulting in variation from national prescribing guidance and conflicting professional opinion. This led to maternal anxiety and women needing to negotiate complex and distressing pathways to obtain the medications they need. For example, a woman with severe hyperemesis gravidarum⁶ was prescribed an antiemetic by a GP, but this was questioned by another

GP; while another reported distress when the pharmacist would not fulfil the antidepressant prescription from her GP.⁷

In MuM-PreDiCT's interview study, pregnant women with multiple long-term conditions reported that conflicting medication advice was common and described searching for information themselves. Healthcare professionals acknowledged how this impacts women's trust and recognised that it makes later decisions about changing medication harder. Where women have been initially advised against a medication during pregnancy, the seed of doubt is planted, and is often difficult to undo.²

Abruptly stopping medication during pregnancy or breastfeeding can have serious consequences for women with some long-term conditions, such as epilepsy and severe mental illness. The MBRRACE national maternal death review highlights that sudden discontinuation of treatment can endanger maternal health and, in turn, compromise outcomes for the baby.⁸

Why is there conflicting advice?

Lack of evidence and guidance

There is a substantial lack of clinical trial evidence for medication in pregnancy in general; pregnant women are traditionally not included in clinical trials due to ethical concerns.⁹ With the lack of evidence and guidance for multiple long-term conditions and polypharmacy in pregnancy, it is unsurprising that healthcare professionals feel the lack of knowledge and experience in providing preconception counselling, especially for complex cases.

Fragmented care and communication barriers

Pregnant women with multiple long-term conditions are often under the care of multiple healthcare teams, including their obstetric team and condition-specific specialists. Experience of fragmented care is a common theme, with women having to be the messenger relaying information between the healthcare professionals. Limited access to shared healthcare information (often due to different record systems) across organisations hinders coordinated care and timely information sharing.^{4, 5}

Siloed advice and its impact

Where healthcare teams work in silos, they provide advice focused on their professional area of expertise, without a holistic consideration of how their treatment plan may impact another. In these circumstances, women experienced conflicting and not mutually attuned advice from multiple specialists. Without a clear connection between the advice given, women are having to draw their own conclusions, leaving them feeling worried and insecure.⁴

What can be done differently?

Support for healthcare professionals

Ensuring healthcare professionals who look after pregnant women with multiple long-term conditions have easy access to up-to-date guidelines and adequate support from maternity specialists, such as the Maternal Medicine Networks, is crucial.

Preconception support

Early preconception counselling helps women understand their condition, optimise their health, and mitigate potential problems. It also provides reassurance about what may happen, what to look out for, and helps strengthen women's ability to advocate for their own care.

Consistency and balanced counselling

When counselling women with multiple long-term conditions on medication safety in pregnancy, healthcare professionals emphasised the importance of having a balanced discussion with women. It is critical that women understand the impact of their untreated long-term conditions on the outcome of their baby,⁵ alongside information on how their medication may affect fetal development. Consistent messages across the care team, and acknowledging uncertainty, helps build trust and helps women make informed choices.

Personalised care planning

To address the fragmented care experienced by pregnant women with multiple long-term conditions, we need a designated coordinating professional who can offer continuity and oversight of care, connect providers, pool expertise, and provide someone that a woman can trust.⁵ Developing personalised care plans, shared between all providers, ensures that advice is aligned and centred on the woman's priorities.

Promoting research

Finally, promoting opportunities for women with multiple long-term conditions to take part in research is essential. Without their inclusion, evidence gaps will remain, and uncertainty in clinical practice will continue. International efforts, such as the new International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) guidelines currently in development, are an important step towards requiring the inclusion of pregnant women in clinical trials.¹⁰ These changes signal progress, but healthcare systems must ensure that women are aware of and supported to access research opportunities. Research also needs to be embedded into routine maternity care so that participation is not seen as unusual or stigmatised. As new studies are developed, women should be routinely

offered the chance to take part. This requires healthcare professionals to have the confidence and understanding to explain why inclusion matters, and for healthcare organisations to integrate research into everyday practice in ways that help women feel comfortable and supported to participate.

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Women with Multiple Long-term Health Conditions in Pregnancy and Travel-Related Barriers to Quality Care

By Pavithra Harshani Warnakulasooriya and Mairead Black



Author Bio: Mairead Black is a Reader and Honorary Consultant Obstetrician at the University of Aberdeen.

Pavithra Harshani Warnakulasooriya is an Honorary Research Fellow at the Foresterhill Campus and Hospital, University of Aberdeen.

Access to safe, timely, and coordinated maternity care is a cornerstone of healthy pregnancy outcomes. Yet, for many women, particularly those with pre-existing multiple long-term conditions (MLTCs, otherwise referred to as multimorbidity), geographic, socioeconomic, and systemic barriers can create substantial challenges in receiving adequate care. In high-income countries, centralisation of maternity services has often been implemented to improve clinical safety and ensure access to specialist staff. While this model may enhance neonatal outcomes in high-volume centres, it can inadvertently increase travel distances for women who require frequent and multidisciplinary care, disproportionately affecting those with complex health needs.¹

Evidence from multiple settings demonstrates that travel distance is more than a logistical concern; it has potential to influence maternal and neonatal outcomes, exacerbate psychosocial stress, and compound existing inequities. Longer journeys to hospitals are associated with increased risks of babies being born before reaching the hospital, delayed interventions, and poorer adherence to antenatal care. Vulnerable populations, including first-time mothers, women living in rural or deprived areas, and those with MLTCs, face compounded risks, as structural factors such as urban deprivation, limited transport options and fragmented care pathways intersect with the challenges of distance (Malouf *et al.*, 2020a).²

This article examines the impact of travel barriers on perinatal outcomes and maternal well-being, drawing on quantitative population-based studies and qualitative research from a range of high-income countries, including the UK and the Netherlands. By

synthesising evidence on neonatal mortality, maternal morbidity, service centralisation and lived experiences of women with complex health needs, the review highlights how geographic access, systemic inequities, and fragmented care intersect to shape pregnancy outcomes. The findings underscore the need for policy approaches and service models that address travel-related barriers, provide equitable access to specialist care and support person-centred pathways for high-risk populations.

A qualitative study of pregnancy care of women with MLTCs revealed that care was often fragmented, insufficiently individualised and managed by clinicians with limited expertise in pregnancy care. These systemic gaps contributed to negative outcomes, including heightened psychological distress (Hanley *et al.*, 2024).³

A major theme emerging from the lived experiences of these women is the burden of “responsibilities”, where women must act as the primary coordinators of their care, navigating between primary care, speciality services, and maternity teams.³ Many described feeling isolated, overwhelmed, and unsupported by disjointed care systems. When healthcare teams failed to communicate or lacked a unified plan, women were left with the task of reconciling conflicting clinical advice, often at the expense of their confidence and well-being. This burden became even greater when access to care was affected by geographical constraints.

Travel is a critical but often underestimated barrier in the maternity care of women with complex needs. Malouf *et al.* (2020)² systematically reviewed 31 studies from high-income countries with universal healthcare coverage. They found that longer travel times and distances to obstetric units were associated with a higher incidence of babies born before arrival. This is a clinically significant event that may be linked to increased perinatal and neonatal mortality. Although the evidence was less conclusive for other maternal and neonatal outcomes, the review identified travel delays as a plausible risk factor for adverse outcomes, particularly in emergencies (Malouf *et al.*, 2020).²

Further, recent evidence from Northern Ireland underscores how structural inequalities, including geographic and socioeconomic disparities, intersect with maternal multimorbidity. To assess the prevalence and patterns of pre-existing multimorbidity in pregnancy in Northern Ireland, Kent *et al.* (2025)⁴ found that women from the most deprived areas had higher rates of multimorbidity and obesity (obesity being a marker for an increased incidence of multimorbidity) and were more likely to live in rural or intermediate settlements. These women may face compounded barriers in accessing timely and coordinated maternity care, with the [Northern Ireland multiple deprivation measure](#) explicitly recognising “access to services” as a domain of deprivation. Such findings highlight how travel-related challenges are not uniformly distributed but are shaped by where women live, their socioeconomic status, and their health complexity

(Kent *et al.*, 2025).⁴ The centralisation of maternity care services as a strategy, intended to improve clinical safety and consultant cover (the ready availability of a consultant on site), has led to the closure of smaller, local obstetrics units and a shift toward larger regional facilities. While this model may enhance access to specialist care for some, it disproportionately affects women with MLTCs who require frequent and multidisciplinary input. The need to travel greater distances for specialised services can be especially burdensome for those already managing comorbidities, disability, or psychological distress (Hanley *et al.*, 2024; Malouf *et al.*, 2020).^{3, 2}

Moreover, travel exacerbates emotional stress when it delays timely access to critical services. In Hanley's qualitative study, several women described feeling like a 'ticking time bomb' due to the absence of coordinated care early in pregnancy. Many reported that care only became cohesive after they were referred to distant specialist centres. The emotional toll of travelling to unfamiliar hospitals, often after previous traumatic births, contributed to feelings of mistrust, fear, and disempowerment (Hanley *et al.*, 2024).³

The potential association between travel time to maternity services and adverse birth outcomes is further supported by a population-based study in Wales analysing data from 412,827 singleton births (1995–2009) by Paranjothy *et al.* (2014).⁵ The study found that for every 15-minute increase in travel time to the birth hospital, there was a statistically significant increase in the risk of early and late neonatal death.⁶ Specifically, early neonatal deaths occurred in 0.4% of births closest to the hospital compared with 0.5% for those furthest away. In comparison, late neonatal deaths occurred in 0.2% of births closest to the hospital versus 0.3% furthest from the hospital. Evidence regarding intrapartum stillbirth was inconclusive, showing no clear pattern. Importantly, the study distinguished between travel time to the birth hospital and proximity to the nearest maternity unit. While longer travel to the birth hospital was linked to poorer outcomes, proximity to the nearest hospital alone did not show a significant association with overall adverse outcomes, suggesting that outcomes may depend more on the quality of neonatal transfer systems than on geographic access alone (Paranjothy *et al.*, 2014).⁵ This aligns with Malouf *et al.*'s (2020)² systematic review, which emphasised the importance of timely transfers in reducing risks associated with centralisation. Subgroup analyses revealed that vulnerable groups—especially first-time mothers—were most affected. Longer travel times were linked to higher risks of intrapartum stillbirth and early neonatal death, underscoring the compounded risks faced by women with limited childbirth experience. This is consistent with Hanley *et al.*'s (2024)³ observations that fragmented care can increase stress for high-risk groups. The Welsh study concluded that while centralisation does not inherently worsen outcomes, equitable access depends on robust neonatal transport services and localised resuscitation capabilities (Paranjothy *et al.*, 2014).⁵ This is consistent with the findings

of Kent *et al.* (2025),⁴ who noted that geographic deprivation, especially among women with multiple health conditions in rural or deprived areas, can exacerbate risks.

The association between travel barriers and adverse perinatal outcomes is well-documented in high-income countries with different healthcare systems. In the Netherlands, where many low-risk pregnancies begin with planned home births, Ravelli *et al.* (2011)⁷ found that term pregnancies with travel times of 20 minutes or more to a hospital faced a small but statistically significant increased risk of intrapartum or early neonatal death. For example, early neonatal deaths occurred in 0.3% of births closest to the hospital compared with 0.5% of those furthest away, and deaths within the first 24 hours were notably higher among those living further from hospitals. These risks were even greater for women whose pregnancies shifted from low- to high-risk during labour, highlighting the dangers of delayed access to emergency care. Similarly, Paranjothy *et al.* (2014)⁶ reported that longer travel times in Wales were associated with higher neonatal mortality, though strong neonatal transfer systems helped reduce the impact of geographic distance. Both studies support Malouf *et al.*'s (2020)² systematic review, which showed that longer distances to obstetric units increased the likelihood of babies being born before reaching the hospital, which is a key indicator of limited healthcare access. The Dutch study highlighted how structural factors, such as living in rural areas, can intensify the risks associated with travel. Hanley *et al.* (2024)³ further demonstrated the psychological stress and complications faced by women with multiple health conditions when care pathways are fragmented. Together, this evidence shows that travel time is more than a logistical concern; it is a critical factor in ensuring equitable perinatal outcomes, particularly for high-risk populations such as women with MLTCs. The evidence calls for tailored solutions in both centralised and decentralised maternity systems.

Pilkington *et al.* (2014)⁸ analysed 3.1 million births in France (2001–2008) to examine the impact of maternity unit closures and travel distances on perinatal mortality in France. Contrary to expectations, adjusted models revealed no significant association between distance to the nearest maternity unit and stillbirth or neonatal mortality rates, except for rare out-of-hospital births. However, women living 45 km or more from the hospital had substantially higher rates of complications and adverse birth outcomes than those living closer, 1.5% compared with 0.4%; but interestingly, the highest neonatal mortality rates were observed among women living very close to maternity units (less than 5km), where around 0.6% of newborn babies died.

This paradox is thought to result from concentrations of urban deprivation, including higher unemployment and larger immigrant populations, which independently contribute to poorer outcomes. This aligns with Grzybowski, Stoll and Kornelsen's (2011)⁹ findings in rural Canada but contrasts with Ravelli *et al.*'s (2011)⁷ Dutch cohort, highlighting how structural inequities (socioeconomic deprivation, access barriers for

marginalised groups) often outweigh geographic distance as determinants of perinatal risk. The Pilkington study challenges assumptions that centralisation improves outcomes, highlighting the need for more targeted interventions in high-risk urban areas as a priority instead. This conclusion resonated with those who stated that person-centred care models address systemic fragmentation (Pilkington *et al.*, 2014).⁸

Koller *et al.*, (2024)¹⁰ in Germany showed that of all births, 53.1% occurred in perinatal centres, and 7.3% in regional hospitals with less than 500 births per year. The travel distance to higher level perinatal centres¹¹ (L1 and L2) was slightly longer (16.0 km) than to the other hospitals (11.2 km). Mothers who chose the closest hospital travelled an average distance of 9.1 km, while women who chose a more distant hospital (n=95,475, 48.9%) travelled an average of 22.1 km. These scholars highlighted the influence of geographic distance on hospital choice for childbirth, with women in rural areas facing longer travel distances to access perinatal centres. The study underscores that while many women prioritise proximity, those in remote regions must travel significantly farther, potentially compromising timely access to specialised care.

Cantarutti *et al.* (2025)¹² in Lombardy, Italy, examined the impact of hospital maternity unit volumes (the number of babies born each year in each unit) and road travel distance on neonatal outcomes, revealing critical insights into how travel barriers may indirectly affect maternal care. While the primary focus was neonatal outcomes, the study found that longer travel distances were associated with lower adherence to antenatal care,¹³ a key determinant of maternal health. Specifically, women travelling ≥ 15 km to hospitals had reduced adherence, which could delay the detection and management of pregnancy complications, particularly for those with multimorbidity. Although the study did not directly link road travel distance to adverse maternal outcomes, the disruption in antenatal care continuity underscores how geographic barriers may exacerbate risks for high-risk pregnancies by limiting timely access to preventive and specialised care. These findings align with broader evidence that centralising maternity services, while beneficial for neonatal outcomes in high-volume centres, may inadvertently strain maternal health systems by imposing travel burdens on vulnerable populations.

The study by Kornelsen and Grzybowski (2004)¹⁴ highlights the profound physical, emotional, and financial burdens on women in remote British Columbia communities, who must travel long distances to give birth due to the lack of local maternity services. Their qualitative research reveals that forced evacuation to referral centres creates significant psychosocial stress, particularly for indigenous women who experience cultural dislocation from traditional community-based birthing practices. Women reported anxiety from being separated from family support systems, with mothers especially distressed about leaving older children behind. The financial costs of extended stays in referral communities, including uncovered expenses for food,

communication, and childcare, compounded this stress, while non-indigenous women faced additional inequities in travel reimbursement. These travel-related burdens were linked to health effects, including increased smoking, loss of appetite, loneliness, worry, anxiety. The study underscores how systemic healthcare service centralisation disproportionately affects rural women, creating a cascade of negative consequences that extend beyond clinical outcomes to include cultural erosion and community fragmentation.

The impact of service centralisation on rural populations in Canada is starkly illustrated by Grzybowski, Stoll and Kornelsen (2011), who analysed 49,402 singleton births in rural British Columbia (2000–2004). Their study revealed a threefold increase in perinatal mortality for women living >4 hours from maternity services with caesarean capability, alongside elevated NICU admissions (179 days per 1,000 births for those 2–4 hours away vs. 42 days for urban counterparts). Notably, logistical challenges such as unplanned out-of-hospital deliveries and inductions to mitigate travel burdens disproportionately affected rural women, particularly indigenous and socioeconomically vulnerable groups.

These findings align with Ravelli *et al.* (2011)⁷ and Pilkington *et al.* (2014)⁸ in demonstrating how distance exacerbates structural inequities and health disparities, particularly for vulnerable populations managing complex pregnancies or multimorbidity in resource-limited settings. These studies highlight the need to weigh the costs of service closures (additional NICU expenditures, psychosocial stress) against purported efficiencies of centralisation, advocating for context-sensitive maternity care models in remote regions. Addressing these barriers requires systemic improvements in service distribution and targeted support, such as travel subsidies, community-based care options, and culturally appropriate services that reduce the need for disruptive relocations during pregnancy.

The themes that emerged from the studies include:

- **Time away from Work** - Frequent medical appointments and travel time disrupts employment, resulting in loss of income or use of unpaid leave, which can be especially detrimental for women in insecure or low-paid work.
- **Childcare Responsibilities** - Arranging childcare for existing children to allow travel and attendance at maternity care or specialist appointments adds emotional and financial strain; especially for single parents or those without extended family support.
- **Cost of Transport** - Travel to distant hospitals or specialist centres incurs out-of-pocket expenses for fuel, public transport, parking, and sometimes overnight

stays. These costs disproportionately affect low-income families and those in rural areas.

- Limited **Access to Public Transport** - In remote or underserved areas, inadequate transport options reduce timely access to emergency and routine care, contributing to missed appointments and fragmented antenatal care.
- Emotional **Deprivation and Isolation** - Long journeys to unfamiliar hospitals, often after traumatic past experiences, intensify feelings of fear, disempowerment, and stress; especially in the absence of a clear, coordinated care plan.
- Delayed **or Disrupted Care** - Centralised services mean that women with complex needs must travel further for multidisciplinary care, which has been linked to complications due to delays in diagnosis, referral, or intervention.

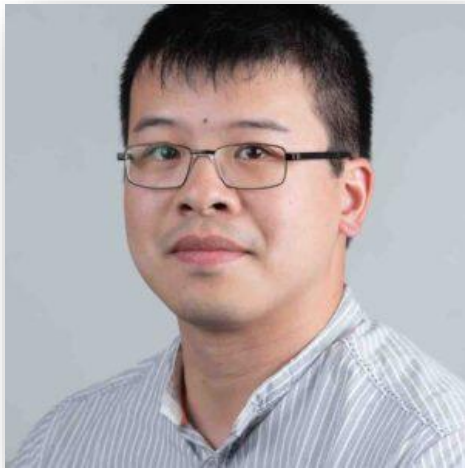


Travel is not just a logistical inconvenience for women with multimorbidity during pregnancy; it is a structural barrier with measurable effects on access, safety, and outcomes. When layered onto a backdrop of fragmented service delivery, the impact of travel further limits these women's ability to receive equitable, high-quality, person-centred care. Addressing this issue will require re-evaluating how maternity services are distributed and integrated, particularly for those managing complex needs across wide geographies.

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 - 10 Koller, D. et al. (2024) 'Choosing a maternity hospital: a matter of travel distance or quality of care?', *Research in Health Services & Regions*, 3(1), pp. 1–8. doi:10.1007/s43999-024-00041-1. <https://link.springer.com/article/10.1007/s43999-024-00041-1>
 - 11 Editor's note: In the Koller study, the level of care available in different maternity hospitals was categorized in levels L1 to LVI (1-6), with L1 representing the highest level of care to L6 with the least provision of care.
 - 12 Cantarutti, A. et al. (2025) 'Assessing the Impact of Distance Travelled and Birth Volumes of Hospital Maternity Units on Newborn Outcomes: Population-Based Cohort Study', *JMIR Public Health and Surveillance*, 11. doi:10.2196/58944. <https://publichealth.jmir.org/2025/1/e58944>
 - 13 Editor's note: The term 'adherence to antenatal care' is defined, in the study cited, in terms of the mother's compliance with the hospital's schedule of appointments, scans and tests. Antenatal 'surveillance' may be a more accurate word than 'care' in this respect.
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Women, Pregnancy and Artificial Intelligence: Opportunities and Cautions in the Age of Digital Maternity

By Christopher Yau, Nuffield Department for Women's & Reproductive Health, University of Oxford on behalf of the MUM-PREDICT and OPTIMAL Consortiums



Author Bio: Christopher Yau is Professor of Artificial Intelligence based at the Big Data Institute in Oxford working across the Nuffield Department of Women's and Reproductive Health and the Nuffield Department of Population Health.

The MUM-PREDICT¹ consortium is a team of experts in Data Science, Obstetrics, Psychological Medicine, Primary Care, and Public Health working alongside women with experience of having two or more health conditions that presented before pregnancy. Supported by the Medical Research Council (MRC), our consortium sought to conduct research to improve care for pregnant women with two or more long-term health conditions. In parallel, a number of the team members were also supported by the National Institute for Health Research (NIHR) to conduct research into how artificial intelligence - or AI - could be used to improve our understanding of multiple long-term conditions in the general population for a project called OPTIMAL. In this article, I will discuss the context and background to the two projects and the AI technologies that have emerged from our research.

What is artificial intelligence?

AI has rapidly entered into our daily lives and discussions of the implications of new AI technologies are now in the mainstream of public thought. At its simplest, AI refers to computer systems that are able to mimic human reasoning and creativity. These could be chatbots that respond to questions in a natural, human-like way. It could be software that can produce photorealistic images and videos, based on nothing more than a

simple command such as “create a photo of a family on a beach”. More recently, it has become possible to set up AI “agents” to act as personal assistants to manage our diaries, book transport or even order flowers to be delivered for loved ones on special occasions. AI systems are also working behind the scenes to, for example, scan financial transactions to identify potential fraudulent activity. These new uses of AI have arisen due to a cluster of advances within the last 10-15 years. These include the development of bigger and more powerful computers that can support more substantial computer models that contain and process vast amounts of information and knowledge.

It is therefore unsurprising that the health system has also taken a keen interest in AI. Advocates suggest that AI can offer solutions to support earlier detection of health conditions, reduce workloads on staff, and help to drive efficiencies and standardise care. For example, using AI to read and interpret ultrasound scans and fetal heart rate monitoring during labour could produce more consistent, “objective”² readings, reducing variability amongst different human operators, minimising human error, or to flag potential problems more quickly. However, there are still relatively few AI tools in widespread use within the National Health Service due to the lack of long-term evidence for the efficacy of these AI tools, lack of computing facilities and regulatory barriers.

Artificial intelligence for studying Multiple Long-Term Conditions

One area where AI is gaining traction is in predicting health risks. AI algorithms can now scan through thousands of health records, test results, and other data to estimate who is more likely to develop conditions such as pre-eclampsia, gestational diabetes, or experience pre-term labour. These “risk prediction models” can support clinicians to provide more tailored care and give expectant mothers a better understanding of their own personal risks rather than an average risk which is applicable over the wider population. This is particularly important when we consider women entering pregnancy with multiple long-term conditions (MLTCs).

More than ever, maternity services are caring for women with layered health needs that do not fit neatly into standard pathways. Around one in five pregnant women in the UK now lives with two or more long-term health conditions—whether physical, such as diabetes or asthma, or mental, such as anxiety or depression. These women may be more likely to encounter complications during pregnancy, birth, or the postnatal period³ (Lee et. al. (2023), but standard risk prediction models, and traditional care pathways, often struggle to capture the nuance of their needs. For example, pregnancy-related complications and reproductive factors are associated with an increased risk of cardiovascular disease (CVD) later in life. The QRISK®-3 is a well established risk prediction tool that can be used to identify individuals at a higher risk of developing

cardiovascular disease. It has been well tested and validated on the general population. However, QRISK®-3 does not make use of pregnancy-related factors (e.g. gestational hypertension, preeclampsia, miscarriage) which might change a women’s individual risk for CVD. In MUM-PREDICT, we created a modification of the QRISK-3 model to include pregnancy factors which gave improved predictions.⁴

Research on maternal health during pregnancy has historically focused on individual diseases rather than the co-existence of multiple long-term conditions. In MUM-PREDICT, we examined anonymised general practice (GP) data for 242,678 pregnant women with multiple long-term conditions and found 33,646 unique combinations of health conditions amongst this group. Some combinations were much more common than others but there existed a wide variety of patterns of health conditions. In order to further study so many patterns, it was necessary to develop our own AI algorithms to summarise and determine which of the 33,646 combinations of MLTCs were most important or representative (Figure 1).

Our AI algorithm - called “mmVAE”⁵ - enabled us to find sixty-six “clusters” - groups of individuals who have similar combinations of two or more health conditions - which were present in at least 1% of the women studied. Eight of these clusters involved different combinations of the seven of the most prevalent health conditions found in pregnant women with MLTCs (depression, anxiety, allergic rhinoconjunctivitis, asthma, migraine, irritable bowel syndrome and mental health conditions). Some involved well-known conditions, such as endometriosis, while others involved combinations of rare health conditions, whose existence could only be identified through assembling a large number of pregnancy related data. Our work also showed that different clusters were associated with different risks of miscarriage, and understanding these patterns could support clinicians to devise more specific approaches to the care offered when presented with complex presentations.

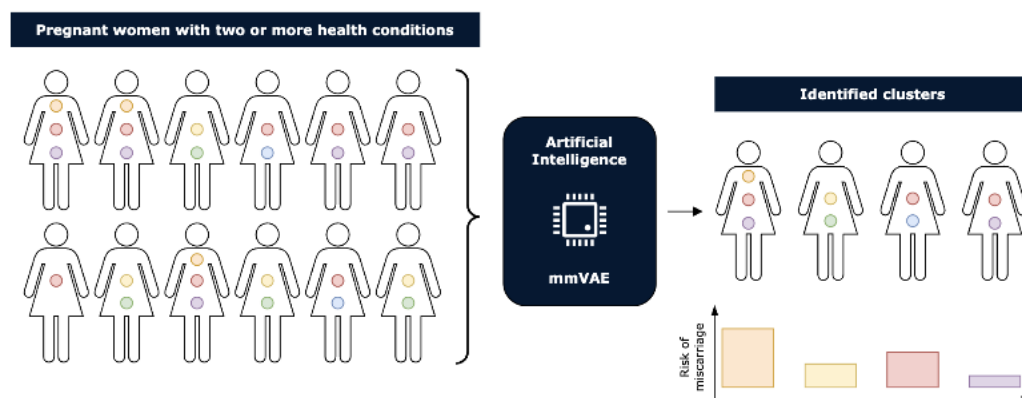


Figure 1: Clustering women with two or more health conditions during pregnancy. Artificial intelligence can be used to identify groups of women with similar health

conditions in order to assess their group's risk of complications such as miscarriage.

Chatting with patient data

Scanning health records using AI to find useful patterns can therefore be highly informative, but it is not very interactive for clinicians or patients. Recent advances in AI for language processing have given rise to Large Language Models (or LLMs). These offer a more accessible gateway for healthcare professionals and the public alike to access health information. For example, some healthcare providers are experimenting with AI-driven chatbots and digital assistants to support pregnant women outside of appointments. These tools can answer basic questions, give reminders, or offer symptom checkers. For some women - especially those with limited access to care - they may be particularly helpful.

LLMs are trained to analyse sequences of words, identify patterns and predict what the next words should be. By learning from massive quantities of text (usually from the internet), LLMs can identify the rules of language such as syntax and grammar, and apply these to understand and also form long passages of realistic text. This has given rise to software, like ChatGPT, that can respond in human-like ways to natural language questioning including medical issues, since these AI applications have extensively scanned the published medical literature. Recent surveys suggest many GPs are already using LLMs to support their work.⁶

Despite their increasingly widespread use, most Large Language Models are actually not approved for medical use or for providing advice about medical matters. For example, an LLM might provide guidance on whether it is safe to take certain medications during pregnancy, but this advice may not reflect individual risks and should never replace consultation with a qualified healthcare professional. Some LLMs actively resist responding to medical queries, while others provide qualified information, stating that they are sharing evidence-based information and providing an interpretation of published population statistics.

The reason why caution must be applied when using Large Language Models for medical purposes is that they have a number of limitations. The responses they generate can contain “hallucinations”. This is information that an LLM has synthesised from what it has learnt, but is actually factually incorrect. For instance, an LLM might incorrectly claim that a common over-the-counter medication is completely safe in all trimesters of pregnancy, when in reality it may pose risks during the first trimester. Responses can also be biased. LLMs may be skewed toward certain perspectives or ideas because they are more prominent in the literature they have been trained on, rather than reflecting actual consensus or individual variability. For example, advice about dietary supplements or natural remedies during pregnancy might

disproportionately reflect sources that promote alternative medicine, even if the majority of clinical guidelines do not support their use. This makes LLMs vulnerable to large volumes of medically-unverified information available on the internet.⁷

When answering complex questions, the reasoning capabilities of LLMs can break down. An LLM may misunderstand a question, or the chain of thought may become confused. In a recent study, researchers found that ChatGPT could provide the correct response to questions such as “what are the symptoms of pre-eclampsia” approximately 70% of the time. However, when the questions required more reasoning, such as deciding on the best course of action for a pregnant woman showing signs of placental abruption, its performance significantly declined, with only 50% of the questions answered correctly.⁸

Keeping data distant

Nonetheless, the potential of LLMs is enormous and considerable research is taking place to make LLMs safer for health-related applications. However, the developers of LLMs can be limited in what they can accomplish. Published medical literature only contains summaries of the key findings from scientific and clinical studies. They do not contain the original individual-level patient data that may have been used to obtain those study results. This limits the detail with which LLMs can report risks. This may be a good thing. LLMs can be very powerful and have the capacity to absorb entire databases of health records - this means they could “memorise” patient data. Once memorised, the possibility exists that the entirety of that record could then be revealed, if the correct question is asked of it, and the individual's privacy violated, even if steps to anonymise the information have been taken. For this reason, many health data providers are putting in place explicit instructions to disallow the use of LLMs for processing of individual-level patient data.

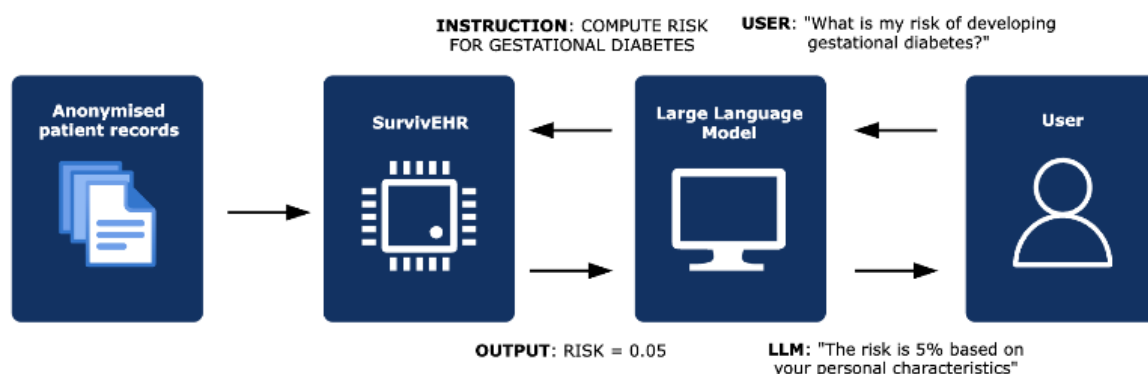


Figure 2: Separating data from Large Language Models with SurvivEHR. Large Language Models can interact with SurvivEHR to obtain answers to health risk questions posed by a user. SurvivEHR uses patient record information to provide

risk levels. The Large Language Model does not interact with the patient records directly.

However, rather than allowing LLMs direct access to patient records, we could instead provide an intermediary - a computer program that is able to see the patient records and can provide LLMs with specific person-specific health risk information. Within the OPTIMAL consortium we developed “SurvivEHR” (pronounced ‘survivor’), an AI tool that allows us to compute the risk of individuals acquiring up to 80 different health conditions, by learning from patterns it has seen in 23 million patients and their anonymised GP records. In future, Large Language Models could interface with SurvivEHR to get accurate patient-derived risk predictions based on solid evidence, but without being directly exposed to the health records and the privacy and data security concerns that arise (Figure 2).

What next?

The pace of AI advancement has been astonishing and the work of the MUM-PREDICT and OPTIMAL consortiums represents just the beginning of what AI can accomplish in maternal healthcare. Moving forward, several key priorities must guide our efforts: rigorous validation of AI tools in diverse populations, ongoing monitoring for bias and fairness, robust privacy protection measures, and meaningful involvement of women and families in the development process. Healthcare providers, researchers, and policymakers must work together to create frameworks that harness AI's potential while safeguarding against its risks. Most importantly, we must ensure that the voices and experiences of women - particularly those with multiple long-term conditions - remain at the centre of these technological advances. Only through this collaborative approach can we build an AI-enhanced healthcare system that truly serves the needs of all women during one of the most important periods of their lives.

Finally, if you are reading this you might be wondering what all this means for you right now. The short answer is: not much has changed yet, but there is reason to be both hopeful and cautious about what is coming. Many AI tools that can be specifically used for medical purposes are still being developed and tested and most people will not encounter them just yet in a routine healthcare setting. However, when these medical AI technologies do become widely available, we can expect that they will make care more tailored to specific situations. Instead of hearing about risks based on all pregnant women, you might get information that considers your particular combination of conditions - whether that's asthma and migraines, or diabetes and anxiety. In the interim, there is no harm in safely experimenting with AI technologies but just be aware of its limitations and check with an appropriate healthcare professional before taking any actions.

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Personalising Women's Care as a Midwife

By Fedwa Harrak



Author Bio: Fedwa Harrak is an independent midwife and mother of four, living and working in London. You can connect with her on Instagram [@midwifefedwa](https://www.instagram.com/midwifefedwa)

Hi, I'm Fedwa—a midwife and mother of four. My journey through motherhood has shaped my passion for empowering women, advocating for their choices, and supporting them through pregnancy, birth, and beyond.

I believe that no two women or families are the same. Each pregnancy carries its own story, challenges, and dreams. That is why my philosophy of care centres around personalisation, safety, and positive experiences.

Through my private midwifery services, I provide women with holistic, individualised support—whether that is navigating medical needs, respecting choices such as declining interventions, or supporting options like vaginal birth after caesarean (VBAC) at home.

What Does Personalised Care Mean?

Personalised care in midwifery entails treating women as people, rather than cases. Guidelines and recommendations are vital, but they should never be used to replace a woman's voice.

It is about:

- Listening deeply to each woman's concerns.

- Respecting autonomy, even when decisions differ from medical advice.
- Balancing safety and empowerment through open, honest discussions.
- Providing continuity so trust builds over time.
- Tailoring support for women with extra needs.

When women feel heard, they are more confident, more relaxed, and more likely to have a positive birth experience.

Case Story 1: Gestational Diabetes and Anxiety

Let us take Sara (not her real name). During her pregnancy, she developed gestational diabetes. She also struggled with anxiety, which worsened during hospital appointments and blood sugar monitoring.

Sara was crying and feeling overwhelmed when we first met. She was apprehensive about controlling her diet, monitoring her blood sugar, and the potential need for insulin, and she was afraid of harming her unborn child.

I put her first, listening to her concerns, acknowledging her emotions, and dissecting the information into digestible chunks rather than concentrating solely on her clinical outcomes. Together, we investigated:

- How gestational diabetes affects her and her unborn child.
- How minor lifestyle adjustments could have a significant impact.
- Techniques for controlling anxiety including mindfulness and breathing techniques.
- The services provided by the prenatal mental health team, diabetic nurse, and dietitian.

Sara gained confidence in her ability to manage her illness over time. Rather than being something to be afraid of, she began to view her blood sugar monitoring as a means of safeguarding her child. She proudly and confidently reported her improvement at every visit.

A crucial medical result was that she and the baby were both healthy at the time of the birth. Equally significant, Sara experienced empowerment, support, and being heard.

Key takeaway:

In order to foster confident, safe, and happy birth experiences, holistic midwifery care recognises the woman behind the diagnosis and addresses her physical and her emotional welfare.

Case Story 2: Group B Strep and Declining Antibiotics

Let's take Aisha (not her real name). In her second pregnancy, she tested positive for Group B Streptococcus (GBS).

UK guidelines recommend intravenous antibiotics in labour to reduce the risk of infection in the newborn. Aisha had concerns—she had reacted badly to antibiotics in the past and was worried about the impact on her baby's microbiome.

Instead of dismissing her fears, we talked openly. Together, we explored:

- The risks of GBS transmission.
- The benefits and side effects of antibiotics.
- Alternatives, like enhanced newborn monitoring.
- Safety plans if the baby became unwell.

Aisha chose to decline antibiotics but agreed to close monitoring of her newborn. Her baby remained well, and most importantly Aisha felt respected and empowered in her decision.

Key takeaway:

Personalised care is not about pushing one path. It is about ensuring women make informed, supported decisions.

Case Story 3: VBAC at Home

Now, let us look at Maria (not her real name). Her first baby was born via emergency caesarean. For her second birth, she wanted a home VBAC.

Hospital guidelines recommended birth in a consultant-led unit, but Maria's first hospital experience was traumatic. She longed for a calmer, more empowering birth at home.

Together, we:

- Reviewed VBAC success rates and risks.
- Created a clear birth plan, including transfer criteria.
- Liaised with local maternity services for emergency backup.
- Prepared her and her partner for both home birth and the possibility of hospital transfer.

The result? A safe and powerful home birth experience that Maria described as “healing” and “transformative.”

Key takeaway:

Even in higher-risk situations, women deserve support to birth where they feel safest—with robust plans in place.

Case Story 4: Autism Spectrum Disorder and Type 1 Diabetes

Let us take Elizabeth (not her real name). Elizabeth was diagnosed with Type 1 Diabetes Mellitus and Autism Spectrum Disorder (ASD). She was enthusiastic about becoming a mother, but she found the many facets of pregnancy and hospital care to be overwhelming, as this was her first pregnancy.

Elizabeth reported experiencing challenges in managing unfamiliar environments, bright lighting, and numerous staff interactions. She was also concerned about the potential dangers to her baby and the maintenance of her blood sugar levels. She seemed apprehensive and withdrawn during her initial appointment, speaking softly and avoiding eye contact.

I prioritised the development of trust and the assurance that she felt secure and understood. I modified my communication style by employing straightforward, unambiguous language and allowing her time to process the information. I always provided a clear explanation of the next steps and refrained from abruptly touching her or altering my routine. Together, we explored:

- How diabetes and pregnancy interact, and how we could keep her and the baby safe.
- Practical steps to maintain blood sugar control and prevent complications.
- Strategies to reduce sensory overload during appointments (quiet rooms, dim lighting, fewer interruptions).
- Support available from the diabetic specialist nurse, perinatal mental health team, and autism liaison nurse.

Elizabeth gradually gained confidence in her ability to self-manage her health. She found it beneficial to receive concise written summaries following each appointment, as it facilitated her introspection and future planning. We established a low-stimulation, tranquil environment during labour, which enabled her to maintain a sense of control and concentration.

Elizabeth gave birth to a healthy baby. She later shared that she felt “heard, respected, and safe” — words that reflected how person-centred, compassionate care can make a lasting impact.

Key takeaway:

In order to provide support to neurodivergent women in maternity care, it is necessary to acknowledge their distinctive sensory, emotional, and communication requirements, rather than solely their medical conditions. Trust,

empowerment, and positive birth experiences are promoted by compassionate, personalised care.

Respecting Women's Autonomy

All the above women's journeys highlight an essential truth: personalised care only works when women's autonomy is respected.

When autonomy is denied, women may feel powerless or even traumatised. When autonomy is supported, trust grows, leading to safer, more positive outcomes. As midwives, our role is not to control women's choices but to walk alongside them, offering evidence, guidance, and reassurance.

Caring for Women with Extra Needs

Personalisation also means adapting care for women with additional needs, such as:

- Disabilities requiring physical adjustments in pregnancy or birth.
- Mental health conditions, where continuity and reassurance are vital.
- Cultural or religious considerations, like modesty, diet, or family involvement.
- Social challenges, such as housing insecurity or domestic violence.
-

Balancing Safety and Choice

Personalising care is not about ignoring medical advice. It is about:

- Consent: Exploring risks, benefits, and alternatives, and supporting the mother's decision.
- Transparency: being honest about what we know and do not know.
- Collaboration: working with obstetricians, paediatricians, and others.
- Empowerment: reminding women the final decision is theirs.

This balance is where true midwifery care shines, science meets humanity, and safety meets respect.

The Emotional Impact of Personalised Care

When women feel respected and empowered in birth, the benefits reach far beyond the delivery room. The results are:

- Lower risk of postnatal depression.
- Stronger mother-baby bonding.
- Higher breastfeeding confidence.
- Greater self-esteem and resilience.

Conversely, when women feel coerced or unheard, the emotional wounds can last for years.

That is why personalised care is not optional, it is essential.

Final Thought

Personalised care in midwifery means recognising every woman's story, values, and choices. It means:

- Supporting women who decline interventions like antibiotics.
- Respecting those who choose home birth, even when their situation, as with a VBAC, requires additional considerations.
- Adapting care for those with additional needs.
- Considering safety as a product of respect for maternal autonomy because safety lies in the trust a mother has in a midwife who is truly 'with her'.

As a midwife and mother of four, I believe every woman deserves to be seen, heard, and respected. Personalised care can create a birth journey that feels safe, empowering and positive - for the mother and for her baby.

Further information about personalised care:

- NHS (2021) [Personalised care and support planning guidance: Guidance for local maternity systems](#)
- NHS video (2021) [Personalised Care and Support Planning in Maternity Services](#).
- [Free training courses](#) in personalised care - suitable for all health and care professionals, regardless of profession or seniority. Provided by the Personalised Care Institute.

¹ Cumberlege J. (2018) The importance of personalisation and choice in maternity care. NHS England. <https://www.england.nhs.uk/blog/the-importance-of-personalisation-and-choice-in-maternity-care/>

Midwifery matters: what does it mean to be committed to midwifery, and why is midwifery so important?

By Claire Feeley and Jo Dagustun



Author Bio: Claire Feeley - Qualifying as a midwife in 2011, earning an MSc in 2015, and a PhD in 2019, Claire has worked clinically in all areas of midwifery, in all settings, and across different organisations, across all birthplace settings – specialising in physiological birth across the risk spectrum, water immersion, advocacy and change implementation. Claire's primary research focus has been on the sociocultural-political components of maternity care provision including access, engagement and care delivery. Claire has published numerous peer-reviewed articles, two monographs, professional articles, book chapters, in addition to presenting nationally and internationally. Now a Senior Lecturer and researcher at King's College London and a freelance consultant, Claire can be contacted at www.clairefeeley.com

Jo Dagustun - Jo Dagustun, mum of four, has been an AIMS Volunteer since 2017. Jo is a geographer and civil servant by background, and wrote a PhD on women's birth experiences (Learning to birth, mastering the social practice of birth: conceptualising women as skilful and knowledgeable agents). As well as working with others to understand and improve maternity services in the UK, Jo enjoys tutoring on [The Brilliant Club's](#) free to access [Scholars Programme](#) and spending time by the sea.

Jo

The text I share with you below has been written by a midwife called Claire Feeley. Claire is a midwife, currently working as a senior lecturer and academic researcher at Kings College London (KCL). At a time when many are questioning the value of midwifery in the UK, Claire's words are testament to the benefits that humanised and properly

practised midwifery can bring. Midwives are the key professionals in this endeavour. Claire's reflections on her experiences, which underpin her own commitment to midwifery, are poignant and deeply personal. But their importance stretches beyond the personal. I believe that Claire offers her important insights into why midwifery matters, preferably within a relational (or midwifery [continuity of carer](#)) model of care.

Claire's reflections showcase how sensitive midwifery can play a vital role in supporting women to appreciate our own worth and power, and to build our lives in ways previously unimaginable. As such, good midwifery acts as a poorly recognised enabler of wellbeing and equity. Thank you Claire, for agreeing to share your reflections here, and for the work that you continue to do for women, babies and their families. Thank you to every midwife who is sticking with it, despite the public debate which is often intensely hostile to the role of midwives. Thank you to every other healthcare professional who is seeking to deliver high levels of midwifery care (which is not just restricted to midwives). Midwifery is a precious activity, and multi-professional teams are much-the-poorer without it, unable to deliver some of the key outcomes that Claire describes so well. But let's hear from Claire, in her own words.



Claire

My commitment to midwifery is not a professional project because I need to keep my job; I'm bright, have transferrable skills and literally could be doing many other things with my time right now. BUT I'm here, holding a line to protect midwifery as a mother FIRST AND FOREMOST.

I was 23 when I was pregnant (planned and wanted) and had a hard, tough exterior borne of a multitude of childhood trauma. Then I met my midwife, a real midwife, who quite simply supported me, trusted me and my decisions, she started to melt my tough exterior.

I went into labour and had a (different) wonderful midwife come to my home, she didn't insist on vaginal examinations and let me just labour in the way I needed to. Then my antenatal 'continuity of carer' midwife rearranged her day to come and be with me. Long story short, despite a baby on board who was facing 'the wrong way' (OP, or occiput posterior), a mini meltdown and a quick efficient transfer to hospital (with said midwife with me the whole time), I birthed my gorgeous son ALL BY MYSELF.

Beyond the empowerment, the joy, the exultant feeling of how brilliant my body was to grow and birth my baby, something else magickal happened. Unbeknownst to me, this birth, more importantly this MIDWIFERY care, based on trust for the first time in my life, helped me overcome my significant childhood trauma and healed me in ways I could

never have expected or known possible. The longer term implications are too much to describe in this post.

But when I say birth can be life-changing and transformative, I have this first hand experience of something so beyond simply pushing a baby out of my vagina. I also believe that, even if I'd needed an intervention, the love, support and trust imbued by my midwives would still have resulted in this transformative effect. That I had both great care and the birth I wanted happened, gave a double whammy of something out of this world, and that something guides my work everyday.

I want everyone to feel loved and cherished, listened to and supported during pregnancy, birth and that vital postnatal period - and I do believe authentic midwifery is the vehicle that is most likely to drive this possibility.

Mum first, midwife second, researcher third. We need to hang on and save midwifery, it's never been so important ❤️ ❤️ ❤️ ❤️ ❤️ ❤️

AIMS comment

When Jo read this piece by Claire, she was certain that it needed to be published in a less ephemeral space than facebook, and she took action to bring it to you here - thank you Jo! Perhaps you have your own story to tell of why midwifery matters. If so, please get in touch (with alex.smith@aims.org.uk), to explore further whether you might wish to share it with our Journal readers.

Yes, many of us also have stories to tell about where individual midwives have not lived up to our expectations, sometimes with devastating results. For AIMS, these stories are also an incredibly important resource. Paying close attention to these will help ensure that the delivery of midwifery in the NHS truly serves everyone well. Women, babies and families, everywhere, no matter what turns the maternity journey takes, deserve no less.

Complex needs, complex solutions: Reflections on the launch of the MBRRACE report 2025

By Nadia Higson



Attending the launch of the latest MBRRACE¹ report [Saving Lives, Improving Mothers' Care 2025 - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2021-23](#) was always going to be a depressing experience. This year it was made even more so by the inclusion of a series of case studies of mothers with complex needs who died after failures to provide holistic care and support. This article is intended to offer a summary of the report and some of the presentations given on the day, as well as a brief AIMS commentary. According to the report, for almost half (45%) of the women that died “better care might have improved the outcome” and for suicides it was as high as two-thirds (64%). Better care might also have made a difference to about a third (30%) of those who suffered serious health problems.

The issue of support for women with complex needs is thrown into sharp relief by the finding that out of the 643 women who died during or up to one year after pregnancy in the UK and Ireland, 583 (91%) faced multiple challenges.

Overall the maternal death rate in 2021-23 showed little change compared to the periods covering the pandemic ((2018-20, 2019-21, 2020-22) once deaths from Covid are excluded. However, the rate of late maternal deaths (those occurring between six weeks and one year after the end of pregnancy) continued to increase and were significantly higher in 2021-23 compared to 2018-20. Maternal suicide was the leading cause of late maternal deaths. This or ‘other psychiatric causes’ (such as drug and alcohol abuse) accounted for over a third (34%) of the total.

AIMS Comment: This highlights the importance of mental health and social support for mothers beyond the immediate post-natal period.

Inequalities persist: now closer to 2xmore Black mothers²

Also concerning is the finding that inequalities in health outcomes persist many years after MBRRACE first identified them. The gap between ethnic groups appears to have narrowed, partly because of an increase in the mortality rate for white mothers. The rate for Black women has declined, but they are still over twice as likely as white women to die in pregnancy or up to a year after the birth.

Mothers who live in the most deprived areas are almost twice as likely to die as those from the least deprived areas.

AIMS Comment: Whilst it is appalling to see that inequalities remain, it is important to note that the outcome gap for Black mothers seems to have narrowed since the launch of the eye-catching and influential 5XMore campaign.

Needs of women with complex challenges

The MBRRACE team identified a number of important lessons from the cases they reviewed. They included the need for better pre-pregnancy counselling to enable appropriate support to be offered. The report notes that this should mean not only counselling on physical health issues, but the full range of ‘risk factors’ including social or mental health issues. Social risk factors, including financial need and housing, need to be assessed and documented in a standardised way. There should then be an urgent referral pathway so that women with high risk medical conditions or complex social circumstances can be seen by specialists early in their pregnancy.

Another important issue identified by the MBRRACE assessors was the lack of joined up care following discharge to primary care (GPs, health visitors etc). Recommendations include ensuring that discharge notes highlight any medical, mental health or social conditions that require ongoing support from primary care, and having “a clear postnatal plan for multidisciplinary care”. There also needs to be a system for information sharing across all the services involved in a woman’s care.

AIMS comment: While improved pre-pregnancy counselling (ideally for all women) is a laudable aim, such a system would depend on women seeking and receiving care both before they become pregnant and during early pregnancy. This may be challenging for those at most need from their social circumstances and/or with an unplanned

pregnancy. We note that the National Maternity and Perinatal Audit (NMPA)'s recent [State of the Nation report](#) for 2023 reported that "In 2023, 1 in 4 (26.7%) women and birthing people attended their first (booking) appointment with a midwife after 10+0 weeks of gestation". Potentially the Government's plan for Neighbourhood Health Services will help by making care more accessible.

Identifying more of those at risk will increase the demand for specialist support services. This will have implications for staffing and service organisation that need to be addressed if timely support is to be available.

AIMS questions whether the length of appointments with community midwives are sufficient for a full exploration of complex social issues. And will women feel sufficient trust in their midwives to reveal issues such as domestic abuse, childhood sexual abuse, sexual violence, drug and alcohol problems or mental health issues? We know from our Helpline that some women worry that disclosure of issues such as previous mental health problems will lead to unwanted involvement with children's services. Offering [Continuity of Carer](#), enabling the development of a trusting relationship, might help to overcome these problems.

Key points from the launch meeting

The launch meeting included short presentations highlighting a number of areas of concern. There are too many to cover in detail but we outline some of these here. [Slide presentations](#) for these and other topics are available on the MBRRACE website.

Care of women with social care involvement

Kirsty Kitchen (Birth Companions) and Kaat De Backer (King's College London) Over the period 2014-22 **one third of the women who died were known to social services**. Their suicide rate was 20% compared with 9% for those without social services involvement. They had commonly suffered baby loss, often due to the baby being taken into care. Although there were examples of good care, too often care fell short. In particular, these women need a one-stop shop for appointments and better support postnatally, especially after a baby has been taken into care.

The charity [Birth Companions](#) is helping to co-design a national pathway for health and social care in the first 1000 days.

AIMS Comment: We recall that the recent report published by the [Maternal Mental Health Alliance](#) revealed that only 27% (11/41) of Maternal Mental Health Services are

supporting women who have lost custody of their babies due to safeguarding concerns (see the [Birth Activists Briefing: Maternal Mental Health Service Progress Report](#)). There is clearly a pressing need for improvement in the support offered to mothers in this situation.

We hope the involvement of Birth Companions, a well-informed charity, will help to deliver an improved pathway, and that this will be implemented effectively across the UK.

Social complexities and safeguarding

Anita Banerjee and Sophie Russell (MBRRACE Assessors)

In the period 2021-23, 14 women died as the result of homicide in the UK. All but one of these were murdered by their partner or former partner. **Six of them had reported domestic abuse.**

The concern is that even when a woman discloses issues such as domestic abuse to one agency the information is often not shared with others involved in her care. There needs to be a UK-wide process for identifying, recording and urgent referral of women who are at higher risk due to these factors. Risks should be assessed at every appointment.

AIMS comment: Again, this is a laudable aim, but requires both a relationship of trust between a woman and her carers, sufficient time for risks to be “assessed at every appointment” and also for an updated action plan to be discussed and agreed where necessary.

Mental Health

Andrew Cairns (MBRRACE Assessor)

Key issues in the deaths of mothers with mental health issues, we were told, were lack of information on discharge to primary care and lack of multi-disciplinary involvement after birth. It was argued that GPs need to know about conditions that need ongoing care, including mental health, and safeguarding concerns.

The MBRRACE report recommends that “specialist perinatal mental health teams undertake a leadership role for the care of pregnant or recently pregnant women with mental health conditions even if women are not accepted for care under their services. This should include a risk assessment, provision of advice and guidance, oversight for

joint care planning and support to ensure rapid onward referral into other appropriate mental health services.”

AIMS comment: Although Maternal Mental Health Services have been put in place across most of England many are struggling to cope with the demand. This results in a postcode lottery in whether a woman is assessed as qualifying for support. The waiting time just for assessment can be up to six months in some areas (See [Birth Activists Briefing: Maternal Mental Health Service Progress Report](#)).

Whilst giving specialist perinatal mental health teams a leadership role for all mothers with mental health needs could be helpful, will already over-stretched services have the capacity to take on this additional role?

Birth Trauma

Steve Cantellow, (MBRRACE Assessor)

As AIMS knows all too well, perceived loss of control and unmet expectations during labour and birth can contribute to postnatal depression. Physical consequences such as pelvic floor damage can also have an impact on psychological wellbeing. We were glad to see the emphasis in this presentation on the need to support women’s decision-making.

It was also good to hear the recognition that physical recovery after birth is not necessarily accompanied by psychological recovery. Mothers who have suffered severe health problems need follow-up and a structured assessment of their mental health.

AIMS comment: This will also require proper handover to primary care and the resources to follow up mothers’ mental wellbeing beyond the six-week check-up.

Conclusion

The annual MBRRACE report continues to play an invaluable role in identifying the causes of maternal deaths and the care failings that too often contribute to these. AIMS is mindful that the mothers who die from suicide or other psychiatric issues are only the tip of the iceberg. How many more are struggling with lack of support for their mental health, addiction or domestic abuse in the year after giving birth?

Much of the recent focus on the maternity services, such as the recently announced National Maternity review, has rightly emphasised failings in hospital care. The MBRRACE report makes it clear that there are also serious short-comings in antenatal care, immediate post-natal care, and longer-term support for new mothers. We hope

that in time the development of Neighbourhood Health Services providing community-based care, and greater investment in perinatal mental health services will start to address these problems.

AIMS has long campaigned for [Continuity of Carer](#) to be the standard for all mothers, so we were pleased to learn at this meeting that Scotland is making progress towards having Continuity of Carer for all by the end of March 2026. We believe that Continuity of Carer is essential to address the needs of mothers affected by multiple disadvantages. It would be helpful for MBRRACE to include an analysis in future reports of how many of the mothers who died had continuity of midwifery care.

¹ MBRRACE stands for: Mothers and Babies Reducing Risk through Audits and Confidential Enquires

² This way of expressing the statistic that maternal death is twice as high for Black mothers as it is for white mothers, stems from a campaign called [5 X More](#) that started at a point of time (only a few years ago) when this was the shocking disparity. This short [BBC video](#) explores this anomaly.

Birth Activists Briefing: NMPA State of the Nation Report for 2023

By The AIMS Campaigns Team

In September 2025, the [National Maternity and Perinatal Audit \(NMPA\)](#) belatedly published their '[State of the Nation Report](#)' for 2023. This covers births in England, Wales and Scotland, but not Northern Ireland. On Thursday 13th November they published a '[snapshot report](#)' on induction of labour. This uses the same data but goes into greater depth about maternal characteristics and outcomes in pregnancies where labour was induced.

In this briefing note, we highlight these reports' key findings and raise some queries/suggestions for further exploration.

The State of the Nation report

The full report includes the audit's key findings and recommendations. It includes a section of the 'key results at a glance' which is worth reading - a good effort has been made to ensure that it is easy to read.

The report includes data for:

- 520 643 births across 120 Trusts in England
- 45 316 across 14 Boards in Scotland
- 26 635 across 7 Boards in Wales
- Total 592 594

The report, meant to be annual, has repeatedly been delayed due to "[u]nforeseen delays in the supply of this data from NHS England". The most recent report before this one was for births in 2017/18, published in 2022. NMPA now plans to fill in results for the intervening years, but hasn't said when this will happen. The gap in the data means that it isn't possible to look at recent trends.

More up-to-date maternity statistics and the historic trends for some measures are available in the national reports for [England](#) , [Wales](#) and [Scotland](#) .However, these do not include all the measures that NMPA reports. See our previous [Birth Activists Briefing: The latest UK Maternity Statistics: where to find them and what they can tell you](#) for more about what the different reports include.

A set of [summary results tables](#) is available as a separate document. You can also explore the [Trust/Board level data](#) for each measure included in the State of the Nation report (site level data for 2023 is not yet available). You can also compare the figures

from different Trusts and Boards for each [measure](#). This provides some more detailed breakdowns of various indicators, for example by parity (number of previous births) or gestation (weeks of pregnancy at birth). It compares these with the national average and shows whether the figure is higher or lower than the expected range.

Note that data for individual Trusts and Boards are not the actual figures. NMPA applies a statistical ‘case-mix adjustment’ ” in order to make meaningful and fair comparisons between trusts/boards with different patient populations”. This adjusts for factors outside the control of a maternity service such as the mix of ages in their population. This gives a better measure of the performance of the different services.

There are some variations between the three nations, but overall the picture is similar. So for this briefing we are focusing on the overall figures for Great Britain.

Characteristics

Ethnic mix - Three quarters (73%) of those who gave birth in 2023 in Great Britain were white, 15% Asian, 6% Black, 3% mixed and 3% other.

Socio-economic status a quarter (25%) were from the most deprived section of the population (defined as the most deprived 20% of areas by [Index of Multiple Deprivation](#)) and 22% from the next most deprived.

The report notes that compared to the total population, those that gave birth were more likely to be from ethnic minorities and the more deprived groups.

Age groups - The majority (61%) were aged between 25 and 34, a fifth (20%) between 35 and 39, and just under 5% over 40.

BMI - About two-fifths (42%) were in what is classed as the ‘healthy range’ for BMI (18.5 - 24.5 kg/m²). A fifth (22%) would have been classed as obese (over 30 kg/m²) and 4% as severely obese (over 40 kg/m²) using the BMI approach. A small number (just under 3%) would have been considered underweight (under 18.5 kg/m²).

As the increasing medicalisation of birth is often attributed to birthing women being older or having a higher BMI than in the past it would be interesting to see how these rates have changed over time. Unfortunately they were not included in previous NMPA reports.

First and subsequent births - Just under half were first births (45.8%) and 31% followed a previous caesarean.

Medical conditions - Pre-eclampsia affected about 3% of pregnancies, placental disorders 1.4% and ‘amniotic fluid abnormalities’ 3.5%. 12% of the women who gave birth in this period had pre-existing diabetes and just under 1% pre-existing hypertension (high blood pressure).

Mode and timing of birth

The report does not include data about the type of birthplace (e.g. Freestanding Birth Centre, Alongside Birth Centre, Homebirth or obstetric unit (OU)). This means that the impact of reduced access to out of OU birthing options is not visible in the data.

Induction - The average induction rate was 33.9%. This is similar to the latest figures in the national data sets for England, Scotland and Wales.

However, the range between different maternity care providers was very wide. The lowest rate reported was 12% and the highest was 46.8%. As that may include a small number of very high or very low figures, NMPA also reports the interquartile range. This is the spread of the middle half of the results. Even using this the range is wide: 29.6 - 39%.

For first pregnancies the induction rate was 39.7% and for those who had birthed before it was 28.9%.

The snapshot audit of induction discussed below gives more detail of how induction rates and outcomes such as mode of birth vary between different groups of women.

Preterm birth (birth before 37 weeks of pregnancy) accounted for 6.3% of the total. Of these, 43.9% occurred spontaneously and 56.1% were iatrogenic (due to medical intervention). Again there was a wide spread of both spontaneous and iatrogenic pre-term birth rates. The authors comment that this may be partly because different units offer different levels of neonatal care, but they don't think that can be the whole explanation. The proportion of pre-term births that followed a spontaneous onset of labour was much higher in Scotland (73.0%) than in England (40.9%) or Wales (46.3%). It would be interesting to understand the reasons for iatrogenic pre-term birth and why practice seems to be so different in Scotland.

Mode of birth - Compared with the previous report for 2018/19 the vaginal birth rate has fallen significantly (49.4% versus 60% previously.) Both planned and unplanned caesareans were up. Planned caesarean accounted for 16.4% of births versus 12.1% in 2018/19. Unplanned caesareans accounted for 23.1% versus 15.5%.

Caesarean rates are also reported for three of the '[Robson Groups](#)'. These are categories based on things like the number of previous births, whether the baby is head down and whether labour started spontaneously.

For Robson Group 1 (first pregnancy, single head down baby, after 37 weeks of pregnancy and spontaneous labour) the caesarean rate was 18%.

For Robson Group 2 (as Group 1 but with induction or planned caesarean) the rate was 56.0%. Frustratingly, because they are grouped together, we cannot tell for sure how many of these were planned caesareans and how many were unplanned caesareans

following an induction. However, the detailed data shows that the planned caesarean rate for all first babies at term is only 10.8%. Also, the snapshot audit of induction of labour (see below) showed an unplanned caesarean rate for first-time mothers having an induction of over 40%. This suggests that the high caesarean rate for Robson Group 2 must be largely driven by inductions that end in unplanned caesareans. (However, note that the measure of induction in the State of the Nation report is based on single births between 37+0 and 42+6 weeks gestation, but the snapshot report includes births from 24+0 weeks. This means that the figures in the two reports cannot be compared directly.)

These are the average figures but there was variation between providers for Robson Groups 1 and 2.

Over 80% of Robson Group 5 (second or more pregnancy, single head down baby, after 37 weeks of pregnancy, one or more previous caesarean births), had another caesarean birth.

Vaginal Births After Caesarean (VBACs) are in decline. The report says that only about a quarter (25.8%) of those 'eligible for a VBAC tried for one in 2023 compared with two-fifths (40.0%) in 2016/17, and 38.0% in 2018/19. It's not clear how they are defining 'eligible'. Is that all women with a previous caesarean or only those considered 'suitable' for VBAC by their doctor?

The VBAC success rate has also fallen, from 60.7% in 2018/19 to 52.4% in 2023. As a result only 14.2% of those who had a previous caesarean had a VBAC. The range is from 11.9% to 16.7%. The authors comment that "the variation may be reflective of counselling, consideration of obstetric history and individual informed decision-making." AIMS wonders how women are being counselled about the risks and benefits of their options for birth after a caesarean. Are carers becoming more risk averse and more likely to recommend a planned caesarean, or switch to a caesarean during a VBAC labour?

Other maternal outcomes

Perineal damage - Episiotomies were given in almost a quarter of vaginal births (24.4%). This seems very high compared to the vaginal births that were assisted with instruments (11.1%). It implies that about one in eight spontaneous vaginal births without instruments involved an episiotomy.

The rates of 3rd or 4th degree tears "has remained similar to previous reports" at just over 3%. This suggests that the OASI (Obstetric Anal Sphincter Injury) care bundle, designed to reduce obstetric anal sphincter injuries, has not had a noticeable impact. The bundle was piloted in 16 units in 2017/18, with an evaluation published in 2020. It

has since been rolled out elsewhere, despite limited evidence of benefit and a number of concerns [AIMS Commentary: the OASI care bundle debate | AIMS](#)

Other - Severe blood loss (over 1.5 litres) affected about 3% of women, and 3% were readmitted to hospital within 42 days of the birth.

Outcomes for babies

Three measures reflecting the care of newborn babies are reported.

Baby's condition at birth - 1.45% of babies had an Apgar score (an assessment of wellbeing) under seven at five minutes of age, showing that the vast majority of babies are born in good condition. The percentage of babies with an Apgar score of under seven at five minutes of age was slightly higher after induction - see below.

Skin-to-skin contact & breastfeeding - In England, just under three-quarters of babies (73.4%) had skin-to-skin contact within the first hour after birth. Slightly fewer (72.6%) had any breastmilk at their first feed but there was insufficient data to report breastfeeding rates at discharge. Figures for skin-to-skin contact are not available for Scotland or Wales, but breastfeeding initiation rates were lower than in England: Scotland 63.1% and Wales 65.8%.

Recommendations

The authors make a number of recommendations including:

- National and local level initiatives and campaigns should be targeted at improving rates of timely pregnancy booking. It's good to see that the stakeholders they say should develop these initiatives include "women and birthing people and their families".
- Government health departments should incorporate the impact of the changing trends in maternity care and outcomes when reviewing and planning maternity services.
- Maternity care commissioners and maternity networks should use the evidence of variation in care processes and outcomes identified in this report, and the results for their local populations, when working with their constituent units to identify opportunities for improvements in service provision and clinical practice.

There are also recommendations about reviewing the data definitions and the descriptions of care processes and outcomes, and optimising data quality.

Induction of Labour Snapshot Audit

As explained above, this is based on the same data as the 'State of the Nation' report, again with case-mix adjustment, but includes a deeper dive into maternal characteristics and outcomes for mothers who had their labours induced. It covers all mothers expecting a single baby who underwent induction as long as the labour was expected to result in the birth of a live baby.

Confusingly, the authors define induction of labour as “the process of artificially starting labour by the softening and opening of the cervix and/or breaking the amniotic membranes” - seeming to exclude the use of oxytocin - but then list oxytocin infusion as one of the methods used for induction. They do not mention the use of membrane sweeps.

Variation between Trusts and Boards

We already knew about the wide variation in induction rates from previous 'State of the Nation' reports as well as the latest one. This more detailed report shows that there is also a huge spread in the rates of unplanned caesarean births. Induction rates varied from 16% to 42% with a mean of 32%. Unplanned caesareans following induction varied from 18% to 45% with a mean of 30%, and 40% of Trusts and Boards had unplanned caesarean rates following induction that were higher or lower than the expected range.

It would be very interesting to know whether there is a correlation between the induction rate at a unit and its rate of unplanned caesareans. It should not be difficult for NMPA to carry out such an analysis.

An audit such as this can only tell us what was happening, not why, but as the data has been adjusted for clinical and demographic characteristics, it seems likely that at least in part the variation reflects differences in policy and practice. One of the recommendations of the report is that “Maternity care commissioners should undertake a structured review to identify the drivers of practice variation in IOL care within their networks, such as clinical culture, local policies and protocols and clinical leadership, to target a reduction in unwarranted variation in IOL care processes and outcomes.” AIMS feels that, whilst this may be helpful, if carried out with sufficiently robust challenge of local policies and practices, we would like to see a large-scale research project to examine when the offer of induction is and is not appropriate. We note that the second question on the Royal College of Midwives list of the top ten research priorities [Research Prioritisation Project - Royal College of Midwives](#) was “What are the appropriate reasons for Induction of labour? What are the short and long term maternal and baby outcomes associated with it? How should this be communicated to women and birthing parents and their informed consent gained?” This shows how important this issue is to both women and midwives.

What is an unsuccessful induction?

The report notes that “IOL was recorded as unsuccessful for 6% of women and birthing people”. However it’s hard to know how accurate this is since they also note the lack of a standardised definition, and that there could be problems with data coding and completeness. The authors note that “the literature agrees that concluding an IOL has been unsuccessful should not occur before oxytocin is administered” but in clinical practice it is often recorded as unsuccessful before this. They also note that a ‘successful’ induction could still be followed by an unplanned caesarean later in labour. Would women class this as a success?

AIMS thinks that ideally the data should reflect what proportion of labours start, and what proportion progress to a vaginal birth after a) cervical ripening alone b) breaking of the waters (with or without cervical ripening) and c) after oxytocin administration.

Variation in mode of birth

The report includes a chart showing how a mother’s chances of having an unplanned caesarean after an induction vary according to her age, ethnic group, level of deprivation (as measured by the [Index of Multiple Deprivation](#)), pregnancy history and gestational age at birth. It is not easy to read what the mean figures on these charts are and it’s frustrating that despite a suggestion from AIMS at the draft stage, NMPA have not included the mean rates in the text. The figures below are estimated by eye.

First time mothers have a very high chance of an unplanned caesarean (over 40%) but for those who had birthed before without a caesarean the rate was only just over 10%. In contrast, almost half of mothers being induced after a previous caesarean had an unplanned caesarean.

Of particular concern is the finding of yet another disparity in outcomes for different ethnic groups. Compared to white mothers, those from all other ethnic groups were more likely to have an unplanned caesarean, and the rate was significantly higher for Black mothers (almost 40%) and Asian mothers.

Caesarean rates were also higher for mothers who gave birth before 37 or after 41 weeks of pregnancy, and increased with increasing age of the mother - as high as 40% for those aged 40 to 44, and almost 50% for those aged over 45.

It is clear that a mother’s characteristics make a difference to her chances of having an unplanned caesarean following induction of labour. Unfortunately, the report lacks detail that might help us understand the reasons for this. Are there underlying differences between the groups or is there a tendency for doctors to intervene more readily in what they regard as ‘higher risk’ labours?

Another of the report’s recommendations is for future versions of the maternity datasets to support recording of other factors “such as gestational age at induction, maternal decision-making, the indication, method(s) and duration of induction.” To this AIMS

would add the need for research on how factors such as the reason for the induction, the gestation at which it is done and the method of cervical ripening used affect the chances of failed induction, fetal distress and unplanned caesarean birth, for both first-time mothers and those that have birthed before.

Does induction increase or decrease the chance of an unplanned caesarean?

The authors quote the received wisdom that “Evidence from a systematic review, meta-analysis and randomised trial demonstrates that IOL is associated with a decreased likelihood of a caesarean birth, and does not increase the chance of giving birth with the use of instruments.”

AIMS questions whether the findings of randomised controlled trials are a good guide to what happens in the real world (See our Birth Information webpage [Induction and the chance of a caesarean: what's the evidence?](#)) and the NMPA's own data suggests otherwise. In this report the unplanned caesarean rate for first-time mothers having an induction is over 40% but the State of the Nation report says that for first-time mothers with a single baby in spontaneous labor (Robson Group 1) it was 18% - so it's more than twice as high after induction. It's frustrating that, despite AIMS' suggestion, NMPA have not included a comparison of outcomes in spontaneous and induced labours, though they presumably have the data to do this.

Outcomes for babies

The report also explores how maternal characteristics affect the baby's wellbeing, as measured by the chance of a baby having an Apgar score under seven at five minutes after birth.

In the State of the Nation report this was the case for 1.45% (about 15 in 1000) of all babies. In the Induction snapshot the average figure was 1.59% (16 in 1000). As with the induction and unplanned caesarean rates there was wide variation between Trusts and Boards. The rate was much higher in Scotland (2.53%) than in England (1.48%) with Wales in between (1.9%).

Babies born to Black mothers were more likely than those born to white mothers to have an Apgar score of under seven at five minutes following induction (about 2.5%). However, those from other ethnic groups were less likely to do so.

The report does not examine how these rates vary between babies born by caesarean or vaginally following induction.

Unanswered questions

The authors note that a number of key questions remain unanswered due to data being lacking or of poor quality. “These questions include:

- How often do women and birthing people decline IOL?
- What are the most common indications for induction of labour?
- Which methods of induction are most frequently used?
- What is the average duration from commencing induction to being transferred to a labour suite?
- What proportion of IOL are unsuccessful?”

AIMS would also like to see the data being available to answer these questions, to which we would add:

- How often are women pressured into accepting an unwanted induction?
- How many mothers opt for a planned caesarean rather than an induction?
- How do factors such as the reason for the induction, the gestation at which it is done and the method of cervical ripening used affect the chances of a) failed induction b) unplanned caesarean birth and c) low Apgar score, for both first-time mothers and those that have birthed before?
- How do the outcomes of failed induction, unplanned caesarean and low Apgar scores influence women’s satisfaction with their experience?
- Is there any correlation between the length of induction and/or the indication for induction and the chances of a caesarean or of a low Apgar score?
- Is there any correlation between failed inductions/unplanned caesareans and low Apgar scores?

We think that NMPA already has the data to answer further questions, and will ask them to look at further analysis to investigate:

- Do units with a higher induction rate also have a higher rate of unplanned caesareans following induction, and vice versa?
- How do outcomes such as unplanned caesarean rates and low Apgar scores differ between spontaneous and induced labours, for first time mothers and for those who have birthed before, with or without a previous caesarean?
- How do Apgar scores at five minutes differ between babies born vaginally and those born by caesarean following an induction?

Conclusions

The NMPA ‘State of the Nation’ report contains information on a range of important measures, including a number that are not available in other maternity statistics

publications. The authors have made commendable efforts to present the key figures in an accessible format, and the whole report is well worth a read.

It is unfortunate that the data is not as up-to-date as we would wish. This is the 'State of the Nation' as it was two years ago and things may well have changed. For a number of measures, more recent Trust level data is available for England in the [National Maternity Dashboard](#)

It's also unfortunate that gaps in publication make it harder to understand the trends. Hopefully the team will be able to fill these gaps before too long.

It is somewhat confusing that we have a variety of sources reporting national maternity statistics, that they include different measures, and that they are published with different timings and presented in different ways. There must surely be scope for streamlining this information and creating a single clear, accessible and up-to-date source for all the statistics that service providers, service users and birth activists need.

Meanwhile, AIMS has identified some specific queries which we will raise with the NMPA in our role as members of their Clinical Review Group.

The Induction of Labour Snapshot Audit adds some valuable detail to our picture of the variations in rates of induction and the outcomes for mothers and babies following induction. The authors note the lack of data and/or poor data quality that leaves some questions unanswered. AIMS hopes that their call for more extensive data to be collected will lead to action. Meanwhile, we feel that there is more that could usefully be done with the current data.

Key points worth noting include:

- These reports confirm the finding in other data sets that around a third of labours in Great Britain are being induced. The rate is even higher for first births, at around 40%.
- There is wide variation between providers in their induction rates, and to a lesser extent in their caesarean rates for Robson Groups 1 and 2.
- There is also wide variation in unplanned caesarean births and of babies with an Apgar score under seven at five minutes following induction of labour. Rates are particularly high for Black mothers.
- There is wide variation in both spontaneous and iatrogenic pre-term birth rates in different locations.
- VBAC rates - both the percentage of women planning a VBAC and for VBAC success - are declining despite there having been no change in the evidence base or the guidelines.

- There is no sign that the OASI care bundle is reducing injuries, several years after the roll-out began. It will be interesting to see whether this changes in coming years.

Questions to ask your local Trust or Board

- What differences in policy or practice might be driving their rate of inductions and the outcomes following induction if these differ from the national averages?
- Are women being provided with local information about the rates of unplanned caesareans and low Apgar scores that is specific to their own characteristics?
- What is your local VBAC rate? What proportion of women plan a VBAC and what proportion of these are successful? How are the benefits and risks of this being presented to women?

Highlighting the time volunteers give to research projects and what we feel we contribute.

By the AIMS Campaigns Team

How AIMS contributes as a Patient and Public Involvement partner

In addition to our own campaigning work, AIMS is often invited to act as a PPI (patient and public involvement partner) for external research and other projects. We feel that this is a tribute to our reputation as an informed and constructive lay voice in the maternity services improvement debate. In this article we outline some of the projects that our Campaigns Volunteers have contributed to recently. We are grateful to our Campaigns Team Volunteers who have given their time, knowledge and expertise to this important work.

The Renfrew Report

[Enabling Safe Quality Midwifery Services and Care In Northern Ireland](#)

In May 2023, Professor Mary Renfrew was commissioned by the Department of Health Northern Ireland to conduct an independent review of Maternity Services in Northern Ireland. Her report “Enabling Safe Quality Midwifery Services and Care in Northern Ireland” was published in October 2024.

AIMS volunteers attended a parliamentary event in May 2023 to discuss the current provision of maternity services in Northern Ireland and the need for a new Maternity Strategy. One of our volunteers also met with Professor Mary Renfrew online on 29th September to discuss how AIMS can best support this work and also highlight AIMS position papers on [Choice of Birthplace](#), [Continuity of Carer](#) and [Physiology-Informed Maternity Services](#). Following publication of the report, AIMS volunteers took part in a ‘Transforming Maternity Services Engagement Event’ in December 2024.

Timing: May 2023 - December 2024

Volunteer time given: 10 hours

The Birth Experience Study - UK (BES_t -UK)

[The Birth Experience Study - UK \(BES_t -UK\) | King's College London](#)

This study being run by a team at King’s College, London is the UK arm of an international investigation, originally developed in Australia. It aimed to explore, by means of a co-produced survey of maternity service users:

- The factors that contribute to a good or bad birth experience.

- The prevalence of birth trauma and obstetric violence.
- How different models of care impact women and birthing people's childbirth experiences

AIMS provided input on adapting the survey to make it appropriate for a UK audience. We also suggested ways to make the language more accessible to maternity service users.

Timing: February/March 2024

Volunteer time given: 3 hours

CHERISH project

[The Cherish Project | City St George's, University of London](#)

CHERISH is a programme development project by the Centre for Maternal and Child Health Research at City St Georges University. Its purpose was to carry out “the early work needed to co-design a personalised support package to improve outcomes for women and birthing people aiming for a spontaneous labour and birth.”

As members of the Stakeholder Advisory Network, AIMS provided feedback on the research team's proposals for phase 2 of the project. We also participated in a [World Cafe](#) event to identify what research would have the most impact for those aiming for spontaneous physiological labour, birth and recovery, and how this might effectively be co-designed.

Timing: January - July 2024

Volunteer time given: 8 hours



The RCM Research Prioritisation Project

[Research Prioritisation Project - Royal College of Midwives](#)

The aims of this project, run by the Royal College of Midwives (RCM), were to “discover the gaps in evidence across all areas of midwifery practice and maternity care and identify a top 10 research priorities will be championed by the RCM and other organisations to influence funders and policy makers.”

With a volunteer on the Steering Group, and as Project Partners, AIMS played a significant role in shaping the project, working with a range of other stakeholders, the RCM team and the James Lind Alliance. Our work included agreeing a scope that we felt was workable, while including the aspects of maternity and midwifery care that affect

service users. We helped design two surveys, the first to identify and the second to prioritise unanswered questions; we also helped to promote engagement with these through our Journal, newsletters and social media. A key activity was reviewing the potential research questions to ensure that these reflected accurately the responses to the first survey. Finally we helped to shortlist the questions for the prioritisation workshop, based on the responses to the second survey.

You can read more about the project in these AIMS Journal articles:

[Influencing the future of midwifery and maternity research | AIMS](#)

[Working together to influence the future of midwifery research | AIMS](#)

Timing: July 2023 - April 2025

Volunteer time given: 26 hours



This project, led by the University of Aberdeen, is developing a [decision aid](#) to support pregnant women to choose between planning vaginal or caesarean birth during antenatal discussions with health professionals.

As a PPI partner AIMS has provided detailed comments on the development of the decision aid, on infographic and associated videos from a user perspective, informed by our in-depth understanding of the research around vaginal and caesarean birth. We also assisted with the planning of workshops to gain feedback on the prototype decision aid from maternity service users, midwives and obstetricians.

Timing: April 2024 - present

Volunteer time given: 41 hours to date



Change NHS consultation

November 2024 - February 2025

Change NHS was the Government's consultation on ideas to inform the new 10-year plan for the NHS. AIMS participated in two ways. Firstly, a group of volunteers brainstormed ideas about what key improvements to the maternity services we would want included in the new 10-year Health Plan. These were compiled into an organisational submission [AIMS suggestions for the maternity services in the Government's 10-year Health Plan | AIMS](#).

What has the AIMS Campaigns Team been up to this quarter?

By the AIMS Campaigns Team

Published written outputs:

- 19th August: Peer review of [RCOG Good Practice Paper – Provision of Planned Caesarean Birth Services in the UK](#)
- 9th September: Stakeholder comments on the [NICE draft guideline Intrapartum Care](#): Waterbirth, second stage of labour
- 30th September: [AIMS comment on 'Fit for the Future'](#) the Government's 10-year plan for the NHS

Conferences and group meetings attended:

- August - October: various meetings of the National collective working group on the National Maternity review
- 2nd August: [Breastival NI](#), a unique, award-winning festival in Northern Ireland which supports, normalises and celebrates breastfeeding as part of everyday life.
- 9th September: [National Voices](#) meeting with Karin Smyth, Minister of State for Health and Social Care, on the 10-year plan for the NHS.
- 11th September: Launch of the MBRRACE-UK report [Saving Lives, Improving Mothers' Care 2025 - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2021-23](#)
- 25th September: [The National Maternity & Perinatal Audit \(NMPA\)](#) Clinical Review Group meeting
- 9th October: Launch of the MBRRACE-UK report [Perinatal Mortality Surveillance: UK perinatal deaths of babies born in 2023](#)
- 16th October: [NHS-E Maternity and Neonatal Programme \(MNP\) Stakeholder Council meeting](#).

Who we have been liaising with:

- 12th August: [Make Birth Better](#)'s new CEO Laura-Rose Thorogood attended part of the Campaign Steering Group meeting.

What we have been reading/listening to/watching:

- National Maternity and Perinatal Audit's (NMPA) 'State of the Nation' report, part of their [Clinical Audit Publications](#)
- MBRRACE [Saving Lives, Improving Mothers' Care 2025](#) and [Perinatal Mortality Surveillance report 2025](#)
- NMC [Principles for supporting women's choices in maternity care](#)

- UK Network of Professors in Midwifery and Maternal and Newborn Health [policy briefing](#)
- [Characteristics, outcomes, and maternity care experiences of women with children's social care involvement who subsequently died: national cohort study and confidential enquiry](#)
- [Fit for the Future: 10 Year Health Plan for England](#)
- UK Preconception Partnership's [Preconception care toolkit](#)
- [Disparities in Stillbirths in England: Analysis of A Population-Based Study of 1.3 Million Births](#)

Thanks to all the AIMS Campaigns Volunteers who have made this work possible. We are very keen to expand our campaigns team work, so please do get in touch with campaigns@aims.org.uk if you'd like to help!