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EVERY WEEK COUNTS

AUSTRALIAN Preterm Birth Prevention ALLIANCE

A joint collaboration between:

Australian Government Department of Health and Aged Care

WOMEN'S HEALTHCARE AUSTRALASIA

Institute *for* Healthcare Improvement

SCV Safer Care Victoria

Women and Babies Research Sydney

women & infants research foundation

Australia's world-first national program to safely reduce rates of preterm birth.

Contents

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Welcome to the 2023 edition of the Every Week Counts magazine

AUSTRALIAN Preterm Birth Prevention ALLIANCE

There are some things in which Australia leads the world and of which we should all be proud. One of these is discovering how to safely lower the rate of untimely and potentially harmful early birth.

Our leaders have come together across our eight states and territories to achieve a national goal of preventing preterm and early term birth. These leaders are from the fields of obstetric medicine, midwifery, child health, epidemiology, biostatistics and healthcare executive leadership – all in close collaboration with the growing and exciting field of improvement science and in partnership with professional consumer groups and First Nation advisors.

By definition, birth before 37 completed weeks of pregnancy is called preterm, and birth between 37 weeks and 38 weeks and six days is called early term. Over the last decade, we have come to learn the unborn baby's brain continues to mature until 39 weeks gestation and that much important development occurs in the days leading up to that age.

To safely prevent preterm and early term birth should be one of the highest priorities in healthcare for many reasons.

Preterm birth is the single greatest cause of death in young children and one of the major causes of lifelong disability. Eight per cent of Australians are born preterm and in First Nations people the rate is almost double. Early term birth carries risks of behavioural and learning problems at school age. Nearly one in three Australian babies are born in the 14-day early term period and that figure has been rising in recent years.

In the pages of this magazine, you can read about many of the organisations and people who have partnered in this joint goal. The program was initiated in Western Australia in 2014 with introduction

of a statewide package of seven clinical strategies. You can read about these seven strategies on page 5. In the first year of the program, the rate of preterm birth had been safely reduced by 7.6 per cent statewide and by 20 per cent in the major tertiary hospital. This success then resulted in funding from the National Health and Medical Research Council in Canberra, enabling the Australian Preterm Birth Prevention Alliance's launch in June 2018. This was a world-first national program. It has the single goal of safely lowering the rate of untimely early birth across our nation.

The national Alliance had rapid success in some parts of Australia but not all. Successful reductions in the rates of preterm and early term birth were quickly seen in the Australian Capital Territory and Tasmania but not in the larger states in eastern Australia. By 2020, it was evident that the clinical strategies were good but a new approach to implement them was required.

We chose to adopt the strategy of a breakthrough collaborative, involving intensive support for a number of participating hospitals. This relatively new methodology had been developed in Boston, US, with the technology and expertise promoted and made available by the Institute for Healthcare Improvement (IHI).

Central to the Australian program is the partnership with Women's Healthcare Australasia (WHA), which is a not-for-profit organisation based in Canberra that brings together healthcare outcome data from about 160 Australian hospitals for the purpose of improving healthcare delivery and results. You can read more about WHA on page 4. Together, the Australian Preterm Birth Prevention Alliance, WHA and IHI have now partnered with the nation's eight health departments, along with professional support from the relevant professional colleges. Substantial support, in terms of personnel and funding, has also been provided by Safer Care Victoria.

Funding to support and enrich the national program was then provided by a grant awarded to the Alliance in the 2021-22 Commonwealth Budget. Administration of the grant is through the Women and Infants Research Foundation.

Running the national collaborative is now well underway. Sixty-two Australian hospitals are participating, which together provide healthcare for the majority of medically complicated pregnancies across our nation. You can read more about the national collaborative on page 4 of this magazine.

Meanwhile, the Alliance continues to provide educational support across those hospitals and healthcare facilities that have not been included in the first round of the collaborative.

The outcome data from our hospitals, and the nation as a whole, are being watched closely. We are optimistic that the tremendous effort being made by so many will result in Australia being the world's first nation to strategically lower its rate of preterm and early term birth.

It is time for us to acknowledge and appreciate the many healthcare providers and consumer groups who are bringing this goal to successful outcomes. But most important are the pregnant women of Australia and your families. The national program has been designed specifically for you. Healthcare professionals are vital but are not the most important people in this story – it is you and your families. Your interest and commitment is bringing this national program to life, and it is all of us together who are making it such a success.

Thank you for your interest in reading this magazine. It has been written for you. On behalf of the many people who are contributing to this national program, I thank you for your interest and commitment. I hope you find reading this magazine informative and of use.

Professor John Newnham AM

Chair, Australian Preterm Birth Prevention Alliance, Every Week Counts National Preterm Birth Prevention Collaborative

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Preterm birth: **what you need to know**

Up to **10%** of births in Australia are preterm.

This figure is significantly higher in developing countries.

Worldwide
13.4 million babies
are born preterm each year.

More than **26,000** Australian babies are born preterm each year.

The rate of preterm birth for Aboriginal mothers is almost **DOUBLE** that of non-Aboriginal mothers.

In 2020, preterm birth was responsible for nearly **1 million deaths worldwide** – World Health Organization.

The annual cost of preterm birth to Australia is
$1.4 billion
More than $350 million is spent each year on those needing education assistance due to their early birth.

Preterm birth is the **leading cause of death and disability** in children up to five years of age in the developed world.

Preterm birth
is defined as birth before 37 and after 20 completed weeks of pregnancy.

TRIMESTER I | TRIMESTER II | TRIMESTER III | BIRTH

Discovering how to improve clinical care across the nation

A world-first initiative currently underway across Australia has the potential to benefit tens of thousands of families.

Called the Every Week Counts National Preterm Birth Prevention Collaborative, this program is supporting more than 60 Australian maternity hospitals to work together over the next 12 months on a powerful shared goal: to safely lower their rate of preterm and early term birth by 20 per cent.

Not all early births are preventable. Sometimes there are important reasons why a baby needs to be born earlier than 39 weeks gestation for their own wellbeing or that of their mother. But we now know there are ways to support more pregnancies to safely continue beyond 39 weeks, given all the health and educational benefits this brings to the child.

The Every Week Counts collaborative is helping service leaders and clinicians to adopt the Australian Preterm Birth Prevention Alliance's proven strategies for safely lowering rates of early birth at maternity hospitals across the country. It is being hosted by a partnership of four organisations.

Under the leadership of Australian Preterm Birth Prevention Alliance Chair, Professor John Newnham AM, the Alliance is providing the research leadership and clinical expertise.

Women's Healthcare Australasia (WHA) is bringing deep knowledge of the maternity care services, with 160 hospitals in its membership. For more than 30 years, WHA has been supporting maternity services to improve care and outcomes, collecting data from each hospital that is helping them to gauge the effects of their improvement efforts over time.

Thirdly, the Institute for Healthcare Improvement (IHI) is providing rich expertise in improvement science, coaching clinical teams in the tools and methods to ensure the changes they are making to safely reduce early birth are reliably implemented, targeted to the needs of women and their families, and sustainable in the long term.

Safer Care Victoria is the fourth partner, bringing many years of experience in using the IHI methodologies to improve maternity care and outcomes across its state in partnership with consumers and health services.

The collaborative is using the IHI's Breakthrough Series Collaborative model, which has been successful around the world in achieving significant improvement in patient care and outcomes in healthcare settings. This approach involves creating a package of evidence-based changes known to be effective in improving outcomes, then helping hospital teams to collect and share data to understand if changes they are making at each hospital are leading to better outcomes.

For the Every Week Counts collaborative, we have brought together consumers with lived experience of preterm birth, researchers, midwives, obstetricians, ultrasonographers, service leaders and improvement experts to help design the change package of evidence-based strategies that hospitals in the collaborative are using to reduce preterm and early term births.

The key elements of the change package include:

- Empowering women to make informed decisions about their care.
- Educating maternity care professionals about the benefits of birth at, or beyond, 39 weeks.
- Identifying women at risk of preterm birth during their mid-pregnancy ultrasound scan and ensuring they receive appropriate preventative care.
- Ensuring optimal timing of birth, so pregnancies continue to at least 39 weeks wherever safe to do so.

The Alliance has also partnered with the Stillbirth Centre of Research Excellence to ensure consistent and evidence-based advice is provided to women and maternity care professionals.

By design, collaboratives involve partnership with consumers. Women and their partners share powerful stories at each face-to-face learning session, which helps everyone involved to stay focused on why this work is so important.

Participating teams are partnering with consumers with lived experience of preterm or early term birth to design and deliver improvements within their hospitals. We have also created a consumer advisory group, which provides valuable advice to the leaders of the collaborative.

Partnership with Aboriginal and Torres Strait Islander health leaders is also a high priority. First Nations women and families experience preterm birth at more than twice the rate of non-Indigenous women. At our March 2023 Learning Session held in Melbourne, we heard from inspiring First Nations experts about strategies to improve both experiences and outcomes of maternity care for Aboriginal and Torres Strait Islander women, their families and communities.

Participating hospitals were also provided with a wealth of tools and resources to help them improve the cultural safety of their services.

But how does a collaborative work? It is, essentially, an all teach, all learn model. We regularly bring the hospital teams together in both face-to-face and virtual meetings to share their learnings about how to implement the agreed changes, with the support of both clinical and improvement experts. It is a rich exchange of ideas and knowledge involving the very biggest maternity hospitals with thousands of births, through to small rural services caring for a few hundred women a year.

The participating teams are regularly sharing data with each other on both their progress, and the outcomes they are achieving for women and babies. Although the services are different – serving their own unique communities – there is a lot they have in common. The collaborative gives people a structured way to identify how to improve their systems of care and women's experiences, as well as how to measure if the changes they are making are resulting in improved outcomes for babies. Being part of a national community of maternity services working together on the same problem at the same time is a powerful motivator.

Over the next 12 months, we will have a powerful dataset to tell the story about their successes with designing local solutions for improving care and outcomes for women and their babies. Early indications coming through in the data are very encouraging, suggesting improvements are already happening.
Watch this space!

Dr Barb Vernon
CEO, Women's and Children's Healthcare Australasia

Lisa McKenzie
Asia-Pacific
Vice President, Institute for Healthcare Improvement

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The key strategies to **prevent preterm and early term birth**

More than 26,000 Australian babies are born too soon each year.

New research discoveries have led to the development of key strategies to safely lower the rate of preterm and early term birth and are continuing to make pregnancies safer for women and their babies.

1. No pregnancy to be ended until at least 39 weeks unless there is obstetric or medical justification.
2. Measurement of the length of the cervix at all mid-pregnancy scans.
3. Use of natural vaginal progesterone (200mg each evening) if the length of cervix is less than 25mm.
4. If the length of the cervix continues to shorten despite progesterone treatment, consider surgical cerclage.
5. Use of vaginal progesterone if you have a prior history of spontaneous preterm birth.
6. Women who smoke should be identified and offered Quitline support.
7. To access continuity of care from a known midwife during pregnancy where possible.

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These interventions have been approved and endorsed by the Australian Preterm Birth Prevention Alliance.

Why you should know the length of your cervix at the mid-pregnancy scan

The cervix is the tissue that connects the uterus and vagina, holding the pregnancy in place.

A shortened cervix between 16 and 24 weeks of pregnancy is one of the best predictors for preterm birth. A short cervix in mid-pregnancy comes with no symptoms and you would not be aware.

Your cervix is routinely measured during your mid-pregnancy ultrasound examination. A transabdominal approach is the usual way to measure the cervix, which is relatively fast and straightforward.

However, there are times when a transvaginal (internal) scan is required. This may be because your cervix is less than 35mm on the transabdominal scan, it cannot be adequately imaged, or if more information is required.

This internal scan involves a thin ultrasound transducer (probe) being placed in your vagina, which improves the imaging of your cervix. This is a more accurate way to measure your cervix. Your sonographer will discuss with you the option of a transvaginal ultrasound if required.

If your cervix is found to be short (less than 25mm) on transvaginal ultrasound, it is important that treatment to prevent preterm birth is commenced on the same day. You can ask your doctor or midwife about your risk of a preterm birth and the different ways to measure the cervix at your mid-pregnancy ultrasound.

The earlier a short cervix is identified in mid-pregnancy, the faster treatment can be provided to try and prevent preterm delivery.

Treatment can include vaginal progesterone or a stitch to the cervix. Women identified with a short cervix, thereafter, may have regular transvaginal ultrasounds to review the cervical length up to 24 weeks. Your doctor or midwife will discuss this with you if required.

Michelle Pedretti
Chief Sonographer,
Western Australia
King Edward Memorial
Hospital

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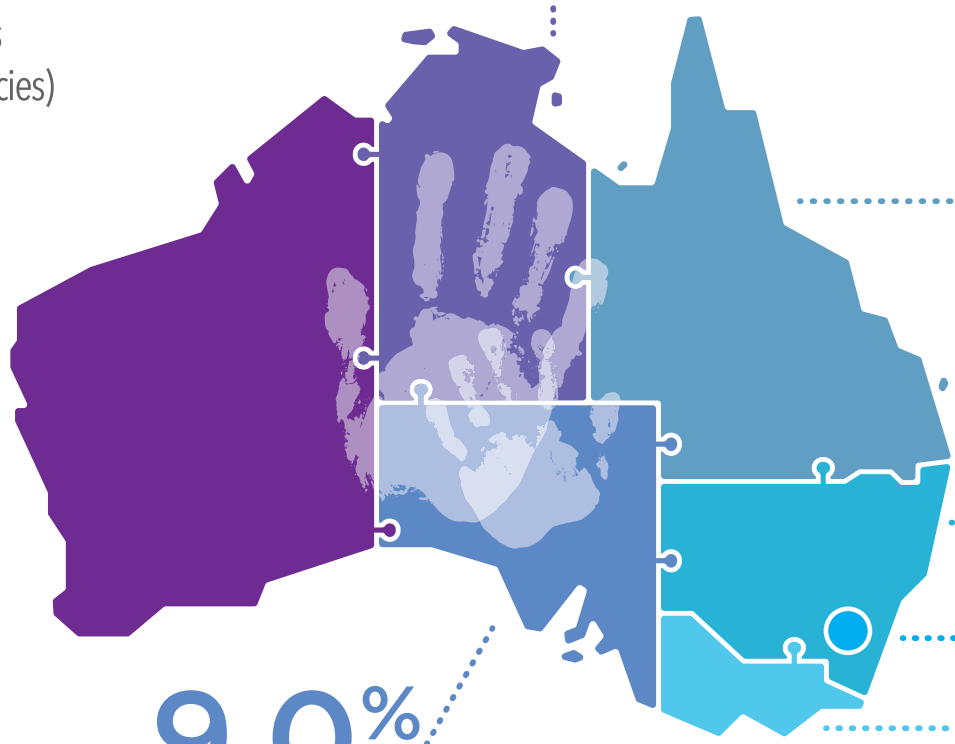
Rates of preterm birth in each state and territory

Preterm births reflect all births (single and multiple pregnancies) (2020*)



11.4% NT

9.0% QLD

7.3% NSW

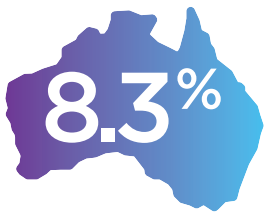
8.6% ACT

8.3% VIC

8.9% TAS

9.0% SA

9.3% WA



8.3% Overall rate of preterm birth in Australia

*2020 is the most recent year for which comparable data are available for every state and territory.

Taking preterm birth prevention to regional and remote Australia

Australia is a vast country and, amongst many challenges, access to maternity care remains a major problem for families living in regional and remote areas.

The 2018-19 Queensland Rural Maternity Taskforce gave interesting insights into rural birthing and highlighted the importance of our preterm birth prevention work in regional and remote Australia – far away from big city centres and metropolitan hospitals.

Thirty-two of the 40 facilities that provide birthing in Queensland are in regional, remote and very remote areas.

If a woman lives very remotely, the risk of her baby dying around the time of birth is almost double compared to a woman who lives closer to a city. Women who live four or more hours from a birthing facility have higher rates of preterm birth, stillbirth and death of the newborn baby compared to those women living close to a maternity service.

It has become very clear that all our efforts in preventing preterm birth will only come to fruition if families and the workforce living in rural and remote Australia are included in our program.

Women who live in remote parts of the country often have compounding risk factors for early birth – these women are grossly over-represented in our preterm birth statistics. In 2018, preterm babies accounted for 42 per cent of all newborn retrievals in Queensland.

There is an urgent need to prioritise our remote Indigenous communities and provide culturally competent maternity care. Finding ourselves in a post-COVID-19 maternity crisis in many rural areas makes our efforts even more meaningful.

We will need to re-focus on primary prevention of preterm birth and address modifiable risk factors for early birth such as smoking cessation and the lack of access to continuity of care in pregnancy.

As part of our Queensland educational roadshow, we are training local champions across the state in preterm birth prevention who will be able to offer this change package to their local communities.

It is important to optimise planned timing of birth and understand that our midwives, Aboriginal health workers, child health nurses and rural general practitioners all play an integral part in this work.

By working together as a team, and involving our regional and remote sites in our program, we are confident to achieve our aim of a safe reduction of early birth and improve outcomes for pregnant women, their babies and families far away from our big city obstetric centres.

Dr Chris Lehner
Consultant Obstetrician and Maternal Fetal Medicine Subspecialist and Queensland Co-Lead, Australian Preterm Birth Prevention Alliance

A Top End approach to preventing preterm birth for First Nations women

Starting life on an even field remains a challenge for Australia's First Nations babies. Nowhere is this more evident than through rates of early birth, which continue to disproportionately impact Aboriginal and Torres Strait Island women and their newborns.

An innovative preterm birth prevention program led out of the Northern Territory is taking aim at this unacceptable disparity, and the hope is that it will provide a roadmap for improved outcomes for all First Nations women and their children across a life course.

Jess Murray, Marisa Smiler-Cairns and I are a team of women based in Garramilla, Darwin in Larrakia country that together make up the Top End chapter of the Australian Preterm Birth Prevention Alliance.

Australia's preterm birth landscape

Preterm birth remains the leading cause of death in children up to five years of age.

The national average rate of preterm birth in Australia has remained relatively constant over the last 10 years – between 8.1 per cent and 8.7 per cent. Many of these babies lose their fight for life.

For many First Nations babies, the news gets worse. In 2018, the rate of preterm birth in First Nations mothers was 17 per cent compared with eight per cent in non-Aboriginal mothers.

The biggest discrepancy is in the extremely preterm gestational age group. First Nations women in the NT are four times more likely to lose a baby between 20 and 23 weeks gestational age. That is before the baby even gets a chance to survive. This dreadful statistic means too many mothers walk out of hospital without their babies.

Sadly medical disorders affecting pregnancy outcomes are a real issue for First Nations women. Pregnancy can sometimes be a vulnerable time for these women, especially for those with pre-existing medical conditions, such as diabetes, and cardiac conditions like rheumatic heart disease.

Key successes to date

Within the context of these challenges, we can point to some key improvements in outcomes for First Nations women over the last decade.

There has been a notable increase in the proportion of First Nations mothers attending an antenatal visit in the first trimester (from 49 per cent in 2012 to 70 per cent in 2020).

There has also been an increase in the proportion of First Nations mothers attending five or more antenatal visits and we have also observed a decrease in the proportion of First Nations women who reported smoking in the first 20 weeks of pregnancy (48 per cent in 2011 to 43 per cent in 2020).

The importance of social determinants of health

Despite these improvements, First Nations mothers and babies continue to experience poorer health outcomes, and there are complex interactions between maternal and perinatal health outcomes, as well as the determinants of health.

One such determinant is remote living. Remoteness can influence several key statistics for First Nations women including smoking rates (First Nations mothers who live very remote are more likely to smoke), attending antenatal care in the first trimester, low birth weights and, of course, preterm birth.

A workforce and health system capable of addressing social determinants of health, including education, social support, cultural pride, housing, transport and financial support, leads to health improvements.

The Top End experience

The Top End Alliance is developing a community-driven, strengths-based public health campaign that encourages not only First Nations women, but all women, to take control of their pregnancy care, to understand important milestones in their pregnancies, and to better engage with their healthcare providers.

Recent evidence has shown First Nations women have better pregnancy outcomes when healthcare services are constructed to specifically meet the needs of First Nations families. This concept has been well documented by the team of dedicated researchers at the Molly Wardaguga Research Centre, which has been driving this change in key regions across the country.

The key ingredients to better constructed services include:

- Services designed with First Nations leadership and governance.
- Continuity of care models that are community based.
- A First Nations workforce and non-First Nations staff who are trained within a culturally safe framework.
- A holistic approach to care.
- Meaningful partnerships between multiple stakeholders.

We want women to be the drivers of their pregnancy care and to better understand an approach to reaching term, rather than preventing preterm birth. By doing this, we will have the opportunity to positively impact the health of future generations.

Dr Kiarna Brown
Obstetrician, Gynaecologist and Northern Territory Lead, Australian Preterm Birth Prevention Alliance

The Australian Preterm Birth Prevention Alliance recognises the vast inequities faced by Aboriginal and Torres Strait Islander women in Australia's healthcare system, and we recognise there is always more work to do to bridge this gap.

We are proud to work in true partnership with First Nations healthcare professionals, researchers, academics, organisations and women to ensure the next generation of First Nations Australians are given the best possible start to life.

Promoting safe timing of birth

The last few weeks of a pregnancy are always a time of great anticipation and excitement for the arrival of a new baby.

Part of this anticipation relates to the day on which a baby will come into the world – the timing of birth. In many pregnancies, nature decides this for us with the spontaneous onset of labour. Sometimes, however, there are reasons to plan the timing of birth, either through induction of labour (when labour is started medically) or by caesarean section.

In some pregnancies, there are clear medical reasons to plan when a baby is born. These can be as a result of medical conditions in the mother, such as high blood pressure or diabetes, or on account of concerns for the baby's growth or wellbeing.

Historically, for many of these pregnancies, it was recommended that birth occur as early as 37 weeks, as that gestation was considered to be term. However, more recent evidence shows us, in many cases, it is safe for these pregnancies to continue beyond 37 weeks.

What are the benefits in having babies born later than 37 weeks when it is safe to do so?

We now know babies born at 39 weeks and beyond have a lower chance of needing help with breathing or maintaining their blood sugar levels and body temperature in the newborn period, and are less likely to need admission to the neonatal nursery. In the longer term, being born after 39 weeks reduces the chance of needing extra help at school and is associated with better academic performance.

For these reasons, when there is a medical indication to plan the timing of birth, it is important to have a detailed discussion with your maternity care provider about exactly when the birth should occur as, in many cases, it will be possible for it to happen at 39 weeks or later without placing mother or baby at significant risk.

Sometimes there is a desire to plan the timing of birth even when there is no clear medical reason to do so.

The physical symptoms of a pregnancy can become more troublesome near the end of pregnancy, with poor sleep, pelvic discomfort and back pain relatively common in the late third trimester.

Most of the time, these symptoms are annoying but not serious and their effects can be managed with a range of strategies, including physiotherapy.

At other times, a planned birth is desirable for logistic reasons, to avoid major holidays or to facilitate family support.

In all of these circumstances – where there is no clear medical indication for a baby to be born early – a planned birth should not occur before 39 weeks. By doing this we will give our children the best possible start in life.

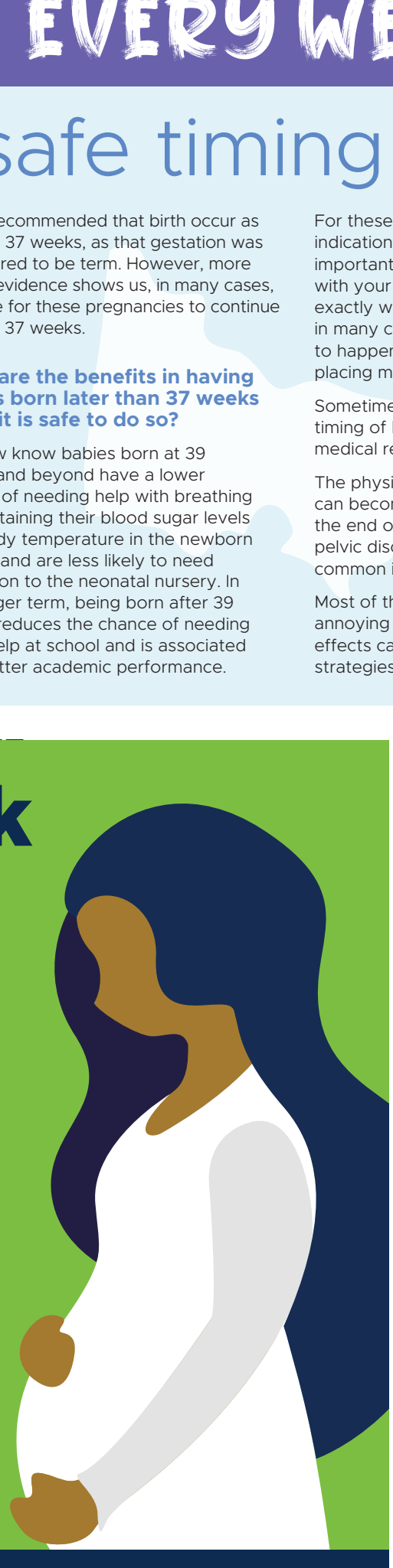
Associate Professor Stefan Kane
Maternal Fetal Medicine Subspecialist, Obstetrician and Head of the Fetal Medicine Unit, The Royal Women's Hospital and Victoria Lead, Australian Preterm Birth Prevention Alliance

Let's Talk Timing of Birth

#LetsTalkTiming

Information to help you talk with your midwife or doctor about the best timing for your baby's birth.

Scan here to watch a video summarising the information in this brochure.



Safer Baby
WORKING TOGETHER TO REDUCE STILLBIRTH

Stillbirth
CENTRE OF RESEARCH EXCELLENCE

Australian Government
Department of Health and Aged Care

Australian Preterm Birth Prevention Alliance

Key terms to know

Developmental delay: when a child is behind or less developed mentally or physically than what is normal for their age.

Gestation: the period of development in the uterus from conception until birth.

Neonatal intensive care unit: a specialised intensive care unit to care for preterm and seriously ill newborns.

Neonatology: the subspecialty of paediatrics that consists of the medical care of newborn infants, especially ill or preterm newborns.

Obstetrics: the branch of medicine that deals with the care of women during pregnancy, childbirth and the recuperative period following delivery.

Preterm birth: defined as birth before 37 and after 20 completed weeks of pregnancy.

Cervix: a cylinder-shaped neck of tissue that connects the vagina and uterus. A shortened cervix in mid-pregnancy is strongly associated with preterm birth.

Progesterone: a female hormone that is produced in the ovaries and prepares the lining of the uterus for pregnancy. A key intervention for preventing preterm birth.

Steroids: medication given to women in preterm labour and babies who have difficulty breathing to help with lung function.

Continuity of care central to making every week count

Reducing the chance of having a preterm baby is an important aim of maternity care.

Interestingly, one of the most effective ways to reduce the chance of a baby being early is to have what is called a known midwife. A known midwife is when the pregnant woman gets her maternity care from a small number of midwives – usually no more than three or four – and she feels she knows her midwives through pregnancy, labour and birth, as well as after the baby is born, which is called the postnatal period.

This way or model of receiving care is known as midwifery continuity of care. Research from a number of countries, including Australia, has shown the chance of having a preterm baby can be significantly reduced if women receive this midwifery continuity of care. Simply put, this is one of the best strategies available to reduce the rate of preterm birth in Australia. The Australian Preterm Birth Prevention Alliance considers midwifery continuity of care to be a key prevention measure.

Midwifery continuity of care means the woman and her partner have a relationship with their midwife and get to know this person.

A known midwife can help to make sure women get the care they want and need. We know from research when a woman builds a professional relationship of trust and confidence with her midwife, she is more likely to feel safe and respected. This helps to ensure any problems are detected early and women can share any concerns or worries, as they are not doing that with a stranger.

Midwifery continuity of care does not mean doctors are not involved when needed. Midwifery continuity of care is collaborative and provided with obstetricians, general practitioners, and other health professionals when necessary.

There are many other advantages of receiving this type of care. Women who access midwifery continuity models are also more likely to have a normal birth, have a positive experience of labour and birth – regardless of how the baby is born – be satisfied with their care, and breastfeed their baby.

Midwifery continuity of care models can be found across Australia in both the public and private systems. In some hospitals, these models are known as a midwifery group practice. Some hospitals provide women with midwifery continuity only during the pregnancy and then again after the baby is born. There are also examples where the midwives work with an Aboriginal community organisation providing continuity in the community, alongside an Aboriginal health worker.

Midwifery care from privately practising midwives is also an option in some parts of the country and these often have Medicare rebates available. These private midwifery services also mean women can give birth in a chosen hospital and receive care from a doctor if that is what they need.

Women seeking to have care through midwifery continuity models are encouraged to book a place early, as they are valued by women and demand may outstrip availability. Finding out what midwifery programs are available in your area is worth doing, especially if you are planning to become pregnant soon.

Paula Medway
Senior Midwifery Advisor, Australian Preterm Birth Prevention Alliance

Professor Caroline Homer
Burnet Institute
Co-Program Director of Maternal, Child and Adolescent Health and Chair, Council of the National Health and Medical Research Council

Stephanie's rollercoaster pregnancy

Almost three years on after the preterm birth of their firstborn daughter Isla, the experience and emotion is just as vivid for parents Stephanie De Barba and Ben Mitchell. So too is their resolve for no family to have to go through what they did – an extreme preterm birth.

Isla Hope Mitchell was born at just 26 weeks after Stephanie was diagnosed with pre-eclampsia, as well as haemolysis, elevated liver enzymes and low platelets (HELLP) syndrome. Due to her almost 3.5 month-early birth, Isla would weigh just 850g – classifying her as a micro preemie.

Stephanie recalls a textbook pregnancy until her final check-up at 24 weeks.

"Between 24 and 26 weeks, I began to notice some swelling mainly in my feet," she said. "I was on the go all day at my job and I just thought it was a normal symptom of pregnancy."

"I was out to dinner one evening, and I began to experience heartburn and a pain in my abdomen. Fast forward to 4am, I wasn't getting any better, so I woke Ben and got him to take me to the local hospital."

On arrival, Stephanie continued to decline and her blood pressure reading of 198/140 meant she was suffering from severe hypertension. Soon after, she was in an ambulance being transferred to King Edward Memorial Hospital.

"I just remember things happening so fast. It was such a whirlwind – very scary at times – and there was so much information coming at me. I knew absolutely nothing about preterm birth."

Stephanie was informed her baby was well, all things considered, but due to suffering from HELLP syndrome and severe pre-eclampsia, the only way for her to get better was by delivering her baby.

"They administered a second dose of steroids to prepare my baby's lungs for delivery and, four hours later, I was wheeled into theatre where we welcomed baby Isla," she remembers. "The whole thing was so surreal. To be honest, it all only sunk in when I heard a little cry before she was placed on the ventilator and then quickly taken away to the neonatal intensive care unit (NICU)."

It would be a painstaking 30 hours later before Stephanie would see baby Isla again and she recalls her reaction vividly as it if were yesterday.

"Nothing can prepare you to see your baby like that – the translucent skin, wires and cords, breathing support machines and monitors constantly alarming," she said.

If there is such a thing, Isla's NICU journey was textbook. She made it through without a single blood transfusion and no retinopathy of prematurity – an eye problem seen in some premature babies.

107 days later, Isla would graduate the NICU and be allowed to go home with mum and dad.

"Other than a speech delay, in which we've seen some great progress lately, Isla has met all her milestones and is developing well. We know we were extremely lucky."

It was not until early 2022 that Stephanie would have to again think of the possibility of stepping into the world of preterm birth.

"After Isla's birth, I was told there was a 50/50 chance I would have another premature baby in any subsequent pregnancy. Knowing we had an incredible support network around us, we decided to try for another."

Baby Isla in the neonatal intensive care unit.

In January 2023, Isla became a big sister as she, Stephanie and Ben welcomed baby Billie, born at almost 39 weeks.

"I'm so grateful for the care Isla and I received from so many to get us safely through my first pregnancy and, equally, the advice and treatment plan to ensure an almost full-term second pregnancy," she finishes with.

Good preconception care will help produce good pregnancy outcomes

When a couple is trying to conceive, it is important they try to get themselves as healthy as is possible.

Indeed, while to many people the process of attempting to conceive appears obvious, many of us will need to try to improve aspects of our health before we try to conceive. So, a visit to the general practitioner is a sensible thing to do.

Many men and women who are trying to start a family will need some tweaks to their health such as weight loss or gain, some gentle exercise, stopping smoking and curtailing alcohol consumption, adjusting any medication that is being taken, checking the woman's rubella immunity and women should take the required amount of folic acid. Men should also be encouraged to take a multivitamin.

Indeed, most of us will discover there are some subtle things we can do to improve our preconception health to ensure ease of conception and, for the woman, a successful pregnancy and a healthy baby.

Many individuals think getting fit for pregnancy means really increasing physical activity levels and becoming super-fit. In fact, the contrary is true. A healthy balanced diet combined with gentle exercise, like walking, swimming or yoga, is ideal when preparing for pregnancy, as these activities can continue into pregnancy without disrupting the physical routine.

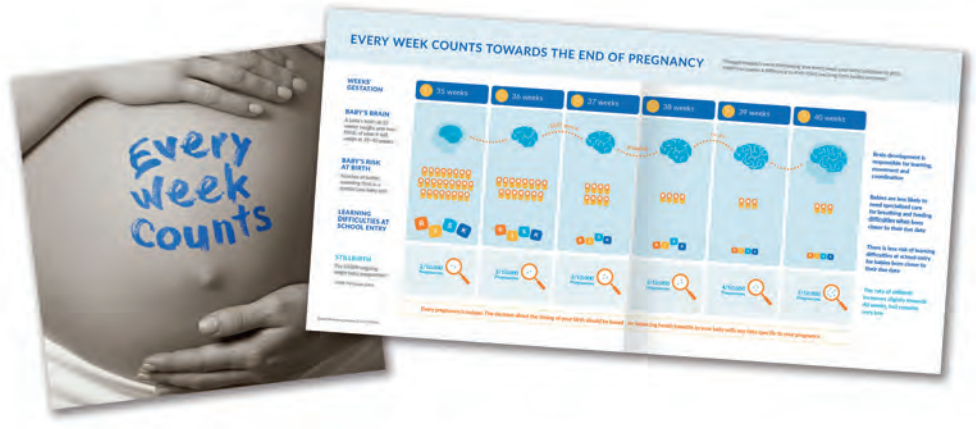
However, if an individual is significantly overweight, then seeking advice from a general practitioner on gradual weight loss prior to conceiving is important.

It is important that, at the point of conception, both the female and male health are optimal to maximise their chances of conceiving and to assist the health of the child born, as the health of individuals at the point of conception – both the man and the woman – can influence the health of their children. Furthermore, the health of the woman when she conceives can influence the chances of complications in pregnancy such as diabetes and preterm birth.

It is essential for all couples thinking about starting a family to focus on their preconception health, as their health at the point of conception significantly impacts on the chance of success, miscarriage risk and the pregnancy outcome.

Professor Roger Hart
Head of Fertility Services, King Edward Memorial Hospital

Exploring early birth and educational outcomes



Human pregnancy lasts, on average, 40 weeks or 280 days. The word term is used to describe the period at which the baby is considered to be mature and ready for life outside the womb.

For decades, term was considered to be anytime beyond 37 weeks or 259 days of gestation. On investigation, however, it transpires there is no clinical justification for this thinking. Indeed, it seems as though 37 weeks was chosen, as it is at that gestation that the baby has a 90 per cent likelihood of weighing more than 2500g – a measure below which a baby is, traditionally, considered to be of low birth weight.

Do the last three weeks of pregnancy make a difference? The answer is yes. Every day the pregnancy progresses beyond 37 weeks means the baby is less likely to be admitted to a special care baby unit, less likely to have breathing issues, less likely to develop jaundice and more likely to feed well.

Not only does the baby fare better at birth but research has also shown babies born at 37 weeks and 38 weeks are more likely to require admission to hospital in the first year of life.

The final weeks of pregnancy result in maturation in many of the baby's organs. What has become apparent in recent years is that the baby's brain develops in the final few weeks of pregnancy. Although the majority of babies born slightly early grow up to be healthy, a small number of these babies grow up and, as children, are more likely to experience some learning difficulties and behavioural challenges. This has been shown to be more likely in pregnancies in which birth is planned early compared with those babies born after the mother spontaneously goes into labour.

Early planned birth is sometimes necessary if there are concerns about the mother's or baby's health. Even when this is the case, the question caregivers, mothers and their families should ask is whether the planned birth is necessary this week or can it be delayed a little longer.

In those pregnancies that have no risk factors and can safely progress, the aim should always be to wait until 39 weeks or beyond. Every week really does count. The benefits of ensuring that all pregnancies progress as far as is optimal will not only include a reduction in mother and baby separations at birth, and less readmissions to hospital in the first year of life, but will also have real benefits for our classrooms and teachers.

A healthy, best beginning is an important foundation for optimal health, as well as educational and behavioural development for every child. For this reason the Australian Preterm Birth Prevention Alliance has, as one of its priorities, a strategy to reduce early planned term births until at least 39 weeks whenever possible.

Professor Jonathan Morris

Deputy Chair, Australian Preterm Birth Prevention Alliance and President, Women's and Children's Healthcare Australasia

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