Policy Document

Pregnancy, Perinatal, and Infant Health (2022)

Position Statement

AMSA believes that:

- Every infant and pregnant person, whether in Australia or globally, has the right to equitable and regular access to good-quality prenatal, perinatal and postnatal healthcare services to promote their physical and mental wellbeing;
    - Every infant's life is valuable and the healthcare system should do its utmost to support and safeguard their health and wellbeing;
    - Equitable access to educations, health services, and support is vital to ensuring the best health outcomes for all pregnant people and infants;
- The cultural, social and economic determinants of health should be taken into consideration when promoting pregnant people and infant health;
    - Vulnerable groups, including but not limited to Aboriginal and Torres Strait Islander peoples, refugees, rural populations, transgender, gender diverse, and non-binary (henceforth respectedfully referred to as TGD), and those experiencing poverty, should be appropriately supported so that they have equitable access to the pregnant people and infant health services they require;
- Gender equity is essential in the care of pregnant people and should be promoted societally;
    - All pregnant people's autonomy should be respected, including for the termination of pregnancy, and should be treated with respect and dignity;
    - A rights-based participatory approach that encompasses the values of empowerment, transparency, non-discrimination, accountability and sustainability, will enhance the status of pregnant peoples and promote their sexual and reproductive rights.

Disclaimer:

AMSA recognises the importance of respectful and inclusive language that acknowledges the diversity of individual experience of health during pregnancy, including in TGD populations, same-sex parenting and other non-traditional family structures. However, gendered language and cisgender experiences

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during pregnancy still dominates the discussion and literature, and hence gendered language is only used when referenced material has used said language. Nevertheless, this policy endeavours to use inclusive and gender-additive language where possible, particularly in AMSA representative stances, with the hopes of contributing to broadening the mindset and understanding of this topic and to provide an inclusive perspective into the future.

Policy

AMSA calls upon:

1. **International governments to:**
    a. Provide every pregnant person and infant with affordable, high-quality care, including before, during and after pregnancy, that is respectful and promotes their dignity;
    b. Recognise high morbidity and mortality of pregnant people as an indicator of human rights violations, and should be addressed using rights-based approaches such as empowerment, transparency, non-discrimination and accountability;
    c. Implement community and facility-based intervention programs to reduce gender-based violence, including reproductive coercion, as well as promote the principles of gender equity, empowerment and autonomy;
    d. Reduce legal restrictions that limit access to safe, legal termination of pregnancy;
    e. Promote access, including financial affordability, to safe pregnancy termination clinics that have competent, trained staff and appropriate facilities, and follow other recommendations as per the *Access to Safe Termination of Pregnancy* (2021) AMSA policy;
    f. Promote access and accurate education surrounding methods of contraception, as well as implement strategies to overcome cultural and social misconceptions around the use of contraception;
    g. Address underlying historical, structural and social causes of gender-inequality and promote equal access to resources, education and opportunities;
    h. Provide universal healthcare coverage for all sexual, reproductive, gestational and newborn healthcare needs, using the *Universal Health Coverage and Health System Strengthening* (2021) AMSA policy as a guide;
    i. Transition the model of obstetric care to ultimately ensure the provision of accessible, comprehensive obstetric care facilities with midwife led care and appropriate emergency care provisions;
    j. In settings where resource scarcity makes comprehensive obstetric care facilities non-viable options:

        i. Upskill and provide the necessary training, resources and tools to traditional birth attendants, community health professionals and/or community members to promote safe obstetric care;
        ii. Implement appropriate and effective back-up referral options in case of pregnancy and/or birthing complications;
    k. Implement the recommendations as outlined in the WHO ‘Ending Preventable Maternal Mortality Strategy’;
    l. Research, implement, invest and strengthen healthcare services for pregnant people and infants, especially those that promote care around the time of birth and during the first week of infant life;
    m. Implement strategies that will empower gestational parents, families and communities to participate in care of pregnant people and infants, such as providing accessible education on healthcare services for pregnant people and addressing systemic problems regarding gender-inequality;
    n. Implement the ‘WHO Recommendations on Maternal Health’ and ‘WHO Recommendations on Newborn Health’, as approved by the WHO Guidelines Review Committee, while ensuring that interventions are integrated, reviewed and adapted according to existing national policy;
    o. Implement multi-sectoral strategies to provide adequate nutrition to gestational parents and infants by, at a minimum:
        i. Promoting food affordability and availability as well as providing nutrition education;
        ii. Provide diverse, safe and nutritious food aligning with dietary recommendations;
        iii. Provide undernourished pregnant peoples with nutritional education and supplementation with energy dense food and high protein supplements;
        iv. Implement strategies to promote the initiation of chestfeeding within the first hour of birth and then exclusively for the first 6 months of life;
        v. Follow other recommendations as outlined in the *Food and Nutrition* (2020) AMSA Policy;
    p. Measure and report progress on reducing preventable morbidity and mortality of pregnant people, ensuring appropriate data quality and availability, and the strengthening of patient death registration systems.

2. **International governments, actors and non-governmental organisations (NGOs) to:**
    a. Prioritise the health of pregnant people and infants in the coordination of a humanitarian response through, at a minimum:
        i. Having an agency lead or advocate for sexual and reproductive health during a humanitarian crisis;

        ii. Having health services for pregnant people and infants integrated into the humanitarian response;
        iii. Ensuring the procurement of essential medicines, supplies and staff that is directed to safeguard the health of pregnant people and infants.

3. **International healthcare facilities and services to:**
    a. Ensure all healthcare services for pregnant people and infants:
        i. Provide skilled care at birth for the gestational parent and the newborn;
        ii. Have strong community links through using an integrated care model between skilled professionals and traditional birth attendants;
        iii. Provide accessible antenatal screening with appropriate follow-up if required;
        iv. Facilitate the involvement of partners and families during the antenatal period, childbirth and postnatal period;
        v. Promote high quality antenatal and postnatal care services that have effective coverage and appropriate accessibility;
        vi. Implement effective continuity of care models, such as midwife-led strategies;
        vii. Provide family planning and counselling services;
        viii. Promote the importance and benefits of chestfeeding and support patients to chestfeed exclusively for the first 6 months;
    b. Implement appropriate standards, performance measures and internal auditing of health services for pregnant people and infants, to promote continual improvement in the quality of service provision while ensuring that transparency is maintained.

4. **The Australian Federal and State Governments to:**
    a. **With respect to healthcare services for pregnant people and infants:**
        i. Ensure that all people have equitable access to safe and effective family planning, chestfeeding services, antenatal, postnatal and infant healthcare services;
        ii. Ensure that there is continuity and standardisation of care of pregnant people in all states and territories;
        iii. Promote the importance of routine antenatal healthcare and ensure that all pregnant people have ten antenatal visits with a health professional, with the first visit before 10 weeks gestation, as per the Australian Government's *Pregnancy Care Guidelines* (2020);
        iv. Ensure implementation of routine universal antenatal and postnatal depression screening as well as identification of those at risk of mental health conditions and poor adjustment to parenting with appropriate and accessible pathways for

further assessment and/or treatment from mental health specialists;

v. Increase funding and promotion for digital health services for new parents or parents-to-be to increase accessibility for those who face barriers such as distance or language, and for those seeking timely high-quality support and advice from qualified health professionals;

vi. Adhere to the recommendations outlined in the *National Stillbirth Action and Implementation Plan* (2020) to close equity gaps in groups that have higher rates of stillbirth and ensure all families affected by stillbirth receive respectful and supportive care;

vii. Adhere to the state obligations and recommendations outlined under *Principle 32* of the *Yogyakarta Principles plus 10* (2017), which stipulates that the human rights and bodily autonomy of intersex infants should be protected;

viii. Ensure that no one is subjected to invasive or irreversible medical procedures that modify sex characteristics without their free, prior and informed consent unless necessary to avoid serious, urgent and irreparable harm to the concerned person.

b. With respect to sexual and reproductive health services:

i. Adhere to the recommendations outlined in AMSA's *Access to Safe Termination of Pregnancy* Policy (2021);

ii. Provide safe and equitable access to termination of pregnancy services for all pregnant people in Australia through the public health system and appropriately licensed private health facilities including:

   1. The adoption of safe access zones around termination of pregnancy facilities for pregnant people seeking these services and for staff rendering them;

iii. Improve affordability of, and access to all contraceptives, via the listing of newly-available hormonal contraceptives (including those used for emergency contraception) on the Pharmaceutical Benefits Scheme;

iv. Call for a review of the legislation that currently restricts the provision of the emergency oral contraceptive to pregnant people below the age of 16 in certain states and territories.

c. With respect to antenatal and perinatal nutrition:

i. Develop consistent, accessible, up-to-date dietary guidelines and develop strategies to improve adherence;

ii. Fund public education campaigns about the risks of obesity during pregnancy and healthy gestational weight gain;

   iii. Implement realistic and effective population-level interventions and campaigns to improve pre-pregnancy and antenatal nutrition and lifestyle;
   iv. Adhere to consistent, evidence-based guidelines for the diagnosis and management of gestational diabetes to improve health outcomes for pregnant people and infants.

d. With respect to chestfeeding:

   i. Ensure that the 'Australian National Breastfeeding Strategy - 2019 and beyond' is appropriately funded and and implemented;
      1. Review and revise targets as necessary that have been laid out in the strategy;
      2. Recognise the importance of ongoing research and updating of targets;
      3. Improve and update the strategy upon review to recognise TGD individuals within the scope of chestfeeding;
   ii. Provide funding for education and campaigning both within social forums and in the education system to promote chestfeeding and reduce the social stigmas surrounding chestfeeding in public;
   iii. Strengthen implementation of the WHO International Code on the Marketing of Breast Milk Substitutes within the Australia's Marketing of Infant Formulas Agreement in order to align Australian policy with international standards;
   iv. Provide increased support and funding for the implementation of the Baby Friendly Health Initiative (BFHI) at all healthcare providers offering maternity services;
   v. Provide increased support and funding for resources, tools and training on chestfeeding for all health care providers;
   vi. Ensure that pregnant people who are unable to chestfeed or decide not to chestfeed are respected and not subject to stigmatisation for their circumstances or decisions;
   vii. Provide funding for more research into the barriers that pregnant people from all backgrounds face with regards to chestfeeding, as well as development of reliable, standardised indicators of chestfeeding compliance data collection and reporting;
   viii. Provide funding for more research into best practice for pregnant people unable to chestfeed.

e. With respect to perinatal mental health:

   i. Adhere to all recommendations outlined in RANZCP's *Perinatal Mental Health Services Position Statement* (2021);

ii. Improve integration of perinatal care pathways and ensure that there is effective service provision at all stages of a pathway and systems in place to avoid loss to follow-up;

iii. Deliver ongoing training, professional development and evidence-based resources to staff working in perinatal services, with consideration of the psychosocial needs of diverse families and mental health of partners;

iv. Develop culturally appropriate and safe postnatal care for all new pregnant people, their partners and their infants, including culturally appropriate screening for postnatal depression, and access to adequate clinical and community support;

v. Ensure inclusivity, equitable access to services and trauma-informed care for groups at increased vulnerability to distress during the perinatal period, including Aboriginal and Torres Strait Islander peoples, refugees, those from culturally and linguistically diverse (CALD) backgrounds, those experiencing intimate partner violence during pregnancy, and LGBTQIA+ and gender diverse people;

vi. Increase funding into research on effective strategies to support the mental health of partners, the perinatal experiences and mental health of minority groups to ensure models of care are culturally safe and tailored to meet their needs, and interventions to promote healthy parent-infant attachment;

vii. Address gaps in information provision and provide realistic expectations of delivery, chestfeeding, parenting and self-care to prevent/minimise traumatic experiences in the perinatal period;

viii. Ensure trauma-informed care is provided throughout all stages of an individual's reproductive (i.e. family planning), antenatal and postnatal journey;

ix. Ensure that all parents receive education on mental health during the perinatal period and advice on when and how to seek help;

x. Provide education for parents on the importance of attachment in early infancy and the parental role in meeting their infants' needs;

xi. Implement proactive primary prevention strategies, including the provision of education on early responsive parenting, to promote healthy infant-parent attachment.

f. With respect to Aboriginal and Torres Strait Islander peoples:

i. Improve access to quality antenatal care for Aboriginal and Torres Strait Islander pregnant people, entailing culturally safe, ongoing pregnancy assessment and monitoring, as well as appropriate and timely screening and management for specific conditions during pregnancy;

ii. Implement measures to target and understand undernutrition and overnutrition in pregnant people, including issues pertaining to access and affordability and the development of culturally sensitive interventions;

iii. Increase funding of accessible, culturally appropriate and sensitive health initiatives for Aboriginal and Torres Strait Islander pregnant people and infants that address the social, economic and cultural determinants of the health discrepancies between Aboriginal and Torres Strait Islander communities and non-Indigenous populations including Birthing on Country services;

iv. Continue to re-evaluate and fund successful health services for Aboriginal and Torres Strait Islander pregnant people and infants;

v. Address the ways in which the actions of past and present colonialism impact upon the gap between outcomes of pregnant people and infants in Aboriginal and Torres Strait Islander peoples and non-Indigenous populations;

vi. Involve and engage Aboriginal and Torres Strait Islander communities in the design and delivery of health programs for pregnant people and infants;

vii. Support the training of Aboriginal and Torres Strait Islander health workers through the provision of scholarships, tailored cultural support services, and mentorship;

viii. Improve outreach services for Aboriginal and Torres Strait Islander pregnant people and infants for increased access to healthcare, including quality antenatal care.

g. With respect to rural and remote populations:

i. Address the shortage of healthcare workers in rural and remote areas by increasing recruitment of rural GP obstetricians and other specialists;

ii. Improve access and optimise antenatal care for pregnant people in rural and remote areas, by providing telehealth services and opportunities for interdisciplinary team meetings (by teleconference);

iii. Recognise the unique factors impacting on pregnant person care in rural and remote Australia and adopt context-sensitive approaches, considering local resources and needs of rural Australian pregnant people, including adequate psychosocial support during pregnancy;

iv. Continue monitoring the quality of health services for pregnant people and infants in rural and remote communities, ensuring pregnant people have equitable access to quality health services.

- **h. With respect to refugee and asylum seeker populations:**
    - i. Adhere to the recommendations outlined in AMSA's *Refugee and Asylum Seeker Health* Policy (2019);
    - ii. Increase investment to healthcare services to provide more culturally appropriate and safe health services for refugee and asylum seeker pregnant people and infants, including:
        1. Provide sufficient professional training to ensure culturally competent and culturally proficient health professionals;
        2. Providing free and accessible non-English language pregnancy resources and education for refugee and asylum seeker communities;
        3. Providing access to interpreters and translators for refugee and asylum seeker pregnant people throughout the prenatal, perinatal and postnatal periods.

- **i. With respect to TGD pregnancy care:**
    - i. Include TGD as options on the census to enable collection of quantitative data to demonstrate the need for increased health literacy and research in this sector;
    - ii. Increase funding for research surrounding gender-affirming care;
    - iii. Increase funding for research that pertains to TGD reproductive and pregnancy care.

5. **Private sector companies to:**
    - a. Establish employer-based programs to support chestfeeding among working pregnant people, including providing allocated time to chestfeed or express while at work;
    - b. Abide by anti-discrimination legislation that offers protections for pregnant people;
    - c. Have appropriate avenues to report, and safeguards against, discrimination towards pregnant people;
    - d. Support initiatives that increase paid parental leave, ensure gender-equal parental leave, and provide a safe and positive culture around access to parental leave.

6. **Health professionals and healthcare providers, including hospitals, to:**
    - a. Engage in continual professional and CPD activities related to pregnant people and infant health, including areas in foetal surveillance education and management of obstetric emergencies;
    - b. Recognise the significant impact of obesity and diabetes on pregnancy, and provide adequate pre-pregnancy weight and nutrition

counselling and appropriate management to those at higher risk of weight-related complications of pregnancy;

   c. Screen all pregnant people for perinatal depression and anxiety, and for psychosocial risk factors, and refer to mental health services where appropriate;
   d. Provide culturally appropriate care to their patients where appropriate in combination with traditional birth assistants;
   e. Ensure that non-urgent medical and surgical interventions on intersex infants are not conducted, in alignment with the *Yogyakarta Principles plus 10* (2017).

7. **Medical schools, universities, educational institutions and other health professional training bodies to:**
   a. Provide evidence-based education and training for medical students (in both preclinical and clinical stages) and junior doctors with respect to:
      i. Social and cultural determinants of health of pregnant people and infants;
      ii. Nutritional guidelines for pregnant people, the risks and complications of obesity and undernutrition during pregnancy and how to manage this appropriately;
      iii. Chestfeeding;
      iv. Perinatal mental health of pregnant people and their partners;
      v. Aboriginal and Torres Strait Islander pregnant people and infants;
      vi. Refugee and asylum seeker pregnant people and infants;
      vii. LGBTQIA+ parental and infant health; and
      viii. TGD pregnancy, parenthood and gender-affirming care;
         1. Adhere to all recommendations outlined in AMSA's *Transgender Health and Access to Care Policy* (2021)
      ix. Health of people with variations in sex characteristics, and the human rights and bodily autonomy of intersex infants.
   b. Ensure there are dedicated, easily accessible facilities for pregnant people to chestfeed or express while ensuring that facilities are clean, culturally appropriate and respect privacy;
   c. Ensure that there is education surrounding trauma-informed care towards patients during medical training, whereby the benefit of trainee experience is balanced with the potential negative effect of multiple interviews and examinations which may lead to re-traumatisation;
   d. Ensure that there is education surrounding gender-affirming care in all specialty training programs;
   e. Include pregnancy care, family-planning, chest-feeding support, antenatal and postnatal counselling and psychological support for TGD patients in specialty training programs, particularly for obstetricians and gynaecologists, as well as midwives.

Background

Definitions

According to the Whole Health Organisation (WHO), maternal health refers to "the health of women during pregnancy, childbirth and the postnatal period [1]." The term maternal is used throughout this policy in accordance with referencing and where possible the term pregnant person health is used to refer to this period of time. Additionally, infant health refers to the health of the baby. Infancy is defined by age; a newborn is a baby up to 2 months of age and infants are anywhere from birth to 1 year of age [2]. Infancy is a time of rapid growth and can see many changes for the gestational parent and their families [3].

Periods of Pregnancy

The health needs and healthcare services required for pregnant people and infants change throughout and after pregnancy. These periods include:

Prenatal period

The prenatal period, also known as antenatal care, refers to promoting health throughout pregnancy. It can include physical exams, blood tests, imaging and more [4].

Postnatal period

The postnatal period, or postpartum care, occurs immediately after childbirth and can last up to 6 months. Initially the acute period, 6-12 hours postpartum, can involve rapid changes and major complications such as haemorrhage. The second subacute period, 2-6 weeks, involves the body undergoing significant haemodynamic, emotional and metabolic changes, as well as genitourinary recovery. The last stage, the delayed postpartum period, lasts up to 6 months. Changes are very gradual as the body settles and there is restoration of muscle tone and connective tissue [5].

Perinatal period

The perinatal period is immediately before and after birth, commencing at 20 weeks gestation and ending 28 days after birth [6]. During this time, the developing baby is vulnerable to external disturbances due to critical neuroplastic changes [7].

Note: In the mental health setting, the perinatal period begins from conception and extends to the end of the first postnatal year [8].

Stillbirth (Australian definition):

A foetal death prior to the birth of a baby born at 20 weeks gestation or more, and/or weighing 400 grams or more [9].

The following working definitions, as they are in rapid and constant flux, will be used with respect to their meanings as defined by the Australian Institute of Family Studies [10].

- **Transgender, or trans:** an umbrella term used to describe people whose gender does not exclusively align with the one they were assigned at birth.

- **Gender diverse:** an umbrella term encompassing a range of genders expressed in different ways, including, but not limited to genderfluid, genderqueer, agender, and gender non-conforming individuals.
- **Non-binary:** a term used to describe gender identity that does not conform to traditional gender norms and may be expressed as other than woman or man, including gender neutral and androgynous.
- **Intersex:** an umbrella term that refers to individuals who have anatomical, chromosomal and hormonal characteristics that differ from medical and conventional understandings of male and female bodies.

LGBTQIA+:
Stands for Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, communities which are considered marginalised sexualities and identities.

Gender-affirming healthcare:
Healthcare that is respectful, non-judgemental and tailored to individuals in a way that honours their gender identity. This includes affirming language, psychological and peer support, support for social affirmation, and/ or medical affirmation [11]

Introduction

In 2016, the then Secretary General of the United Nations, Ban Ki Moon, launched the updated *Global Strategy for Women's, Children's and Adolescents' Health (2016-2030)*. This new evidence-based initiative reinvigorates the goal of seeing a world where every woman and every child realise their right to good mental and physical health and wellbeing. It is a hallmark document that also emphasises the importance of promoting and sustaining agency and socio-economic opportunities for women and children. AMSA utilises this framework for the 2022 *Pregnancy, Perinatal and Infant Health* policy, extending it to encompass all pregnant people and their infants. The attainment of these goals will see the development of healthy and prosperous societies for now and the future [12].

Overall, Australia ranks highly on international tables for life expectancy, health outcomes and system performance [13,14]. With respect to pregnant people and infants in Australia, measures of health outcomes have improved in recent years. However, there are significant inequities between different population groups, including Aboriginal and Torres Strait Islander peoples, rural and remote communities, Transgender and Gender Divserse (TGD) individuals, and refugee and asylum seeker populations [15,16].

Pregnant person and infant health are universally recognised as being strong indicators of a nation's health status and wellbeing [17]. Evidence demonstrates the positive impacts of maintaining a healthy weight, normoglycemia, and access to adequate nutrition during pregnancy for both pregnant people and infants [18, 19, 20]. Early screening, early management of existing and emerging pregnancy-related complications, pregnancy education and adequate postpartum support also improve health outcomes for pregnant people and their infants [21]. However, emerging factors, most notably the increasing prevalence of overweight and obesity in Australia, pose a significant challenge for obstetric care [22].

The Importance of "The Life Course Approach" to Health

AMSA's Pregnancy, Perinatal and Infant Health policy takes into account the importance of the Life Course Approach when addressing the deficits in healthcare for pregnant people and infants in Australia and globally. The Life Course Approach recognises that social, economic and cultural factors shape people's health experiences. This offers social, economic, political and health-based institutions and institutions a framework by which to deliver appropriate services for pregnant people and their infants [23]. In the WHO's *The Solid Facts* on the social determinants of health, it was recognized that major public health problems such as obesity and cardiovascular disease have their roots in early life [24]. The first 1,000 days of life has been recognized as a unique and critical period of opportunity when foundations of optimum health and wellbeing, growth and neurodevelopment across one's lifespan are established [25]. Therefore, the provision of optimum pregnancy care is critical to infant health, and as such, policies focussing on promoting holistic models of healthcare provision encompassing the physical, social and cultural environments for the pregnant person are more likely to improve infant health outcomes [26].

The Life Course Approach to health further keeps within the broader definition of health adopted by the WHO, defining health as not only the absence of infirmity but also considering physical, mental, spiritual, and social wellbeing [27]. In Australia, Aboriginal and Torres Strait Islander peoples extend on this definition viewing a community cultural wellbeing dimension [28]. Groups, from researchers to policy makers, can use the Life Course Approach to design their work so that it acknowledges both the physical and socioeconomic factors that can affect prenatal, delivery and postnatal periods for both the gestational parent and infant. This approach, alongside its consideration to the social and cultural definition of health, understands the adverse health and psychosocial outcomes later in life that arise directly due to exposure to ill physical, cultural, and socioeconomic contexts [23].

GLOBAL CONTEXT

Health Status of Pregnant People and Infants Internationally

Globally, complications relating to the health of pregnant people and infants remain a major cause of mortality. Worldwide, approximately 810 women die daily from preventable causes related to childbirth and labour [29]. This is disproportionately high in lower income countries with 94% of all maternal deaths coming from low and low-middle income countries with two-thirds of this statistic coming from Sub-Saharan Africa [29]. The maternal mortality ratio (MMR), although declining in recent years particularly in low income countries, still remains high at 462 per 100,000 births, whereas this figure is significantly lower in high income countries at 11 per 100,000 births [29]. The United Nations targets maternal health in their Sustainable Development Goals (SDGs) with action 3.1 aiming to "reduce the global mortality ratio to less than 70 per 100,000 live births" by 2030 [30]. Additionally, young adolescent pregnancies (aged 10-14) have a disproportionately high risk of complications and mortality from pregnancy [29]. Encouragingly, recent trends have shown a slight decrease in the number of young adolescent pregnancies rates from 45 to 41 per 1,000 [29].

Additionally, while SDG 3.2 is aimed at infant health to reduce neonatal mortality to below 12 per 1,000 live births, latest data available in 2019 demonstrated a rate of 17 per 1,000 live births [30]. The main cause of infant mortality worldwide is undernutrition, which can be affected by the gestational parent's own nutritional status [31]. WHO recommends and promotes breastfeeding exclusively for 6 months, as it has numerous protective and beneficial advantages for both the infant and the person feeding [31]. Current data shows that only 44% of 0-6 months olds globally are exclusively breastfed [31].

Internationally, the number of births that are being attended by a skilled health professional are increasing, with 83% of births attended in the period from 2014-2020 [29]. WHO currently recommends antenatal care with a minimum of eight contacts across the duration of the pregnancy [32]. Rural and remote communities, as well as lower income areas demonstrate a much lower rate of being seen by a health professional during their pregnancy [29].

Human Rights and Culture Implications

Mortality of pregnant people and their infants is closely linked with women's status and economic dependency [33]. As such, culture, poverty, gender stereotypes and religion all play into the human rights perspective surrounding the health of pregnant people and their infants.

The Office of the High Commissioner for Human Rights (OHCHR) recognise that high maternal morbidity and mortality rates are a violation of human rights, as it is a sign of discrimination against women [34]. Their guidance for addressing maternal mortality and morbidity is through a rights-based approach including empowerment, transparency, non-discrimination, accountability, sustainability and international assistance as fundamental principles. Through enhancing the status of women, ensuring sexual and reproductive health rights, strengthening healthcare systems and improving monitoring and evaluations programmes, together this forms a rights-based strategic framework for reducing maternal morbidity and mortality [34].

Pregnancy Termination

Around the world, more than 42 million women who undergo an abortion due to having an unintended pregnancy, nearly half of which are considered to be unsafe [35, 36]. Approximately 68,000 women pass away from these unsafe abortions annually, making it one of the leading causes of maternal mortality (responsible for 13% of maternal mortality deaths) [35].
97% of unsafe abortions occur in developing nations as a result of social, religious and political obstacles preventing access to safe procedures [36]. The WHO has deemed abortion to be the easiest preventable cause of maternal mortality, as

currently every 8 minutes a woman in a developing country dies as a result of complications from unsafe abortion practices [35].

A study that analysed the association between abortion laws and MMR from 162 countries demonstrated that abortion law reform in countries with restricted abortion laws may reduce MMR [37]. Therefore, through the liberalisation of abortion laws, it will allow skilled practitioners to perform the procedures that reduce abortion-related morbidity and mortality. However, many different religious and socio-political barriers are preventing abortion laws being passed in many nations [35].

Nevertheless, even in countries where pregnancy termination is legalised, many other factors need to be taken into consideration; staff training, procedures, cost, counselling etc. Additionally, the education of individuals in regards to reproductive health and programs promoting gender equity also play a significant role [35]. Refer to the *Access to Safe Termination of Pregnancy* (2021) AMSA policy for clear guidelines and actions that should be taken to promote health and wellbeing in this area.

Contraception

One-third of all pregnancies are considered to be unintended, where 1 in 5 results in an abortion [30]. Two-thirds of unintended pregnancies occur in women who are not using any method of contraception in developing countries [38]. Therefore, promoting greater and more affordable access to and education regarding contraception, can decrease the number of unintended pregnancies. Hence, this will reduce the number of safe and unsafe abortions [35]. Studies have shown that the increasing use of modern contraceptives has provided an important contribution to reducing MMR in the developing world [39].

As such, reducing barriers to accessing and improving contraceptive use is important in reducing MMR. Ensuring culturally appropriate delivery of education and health promotion surrounding contraceptive use, as well as affordable access to safe, effective contraceptive methods, is crucial in reducing inequality of access. Increased education should also be undertaken to reduce cultural and social misconceptions that prevent people from seeking and receiving the necessary healthcare information and services surrounding their reproductive health [35].

However, there are many obstacles to improving contraceptive access. This includes religious objections, lack of education and awareness around contraceptive methods, concerns regarding health risks and side effects around contraception use [40].

Gender-Based Violence against Female Identifying People

Negative pregnancy and perinatal health outcomes are closely linked to violence against female identifying people, along with discrimination and coercion [41]. Studies have shown that between 3-9% of women experience abuse during pregnancy, generally occurring at the hands of their spouse or intimate partner [42]. Additionally, reproductive coercion includes actions such as birth control sabotage, pregnancy coercion and control over pregnancy outcomes. Consequently, this diminishes the victim’s autonomy in regards to their reproductive health, and increases the rate of unintended pregnancies [43].

Gender-based violence, including reproductive coercion, has been shown to promote a reduced utilisation of antenatal and skilled care delivery services. This is believed to be because gender-based violence disempowers those who identify as female and their ability to access healthcare services as their decision-making power is reduced, their freedom of movement is limited and they have higher economic dependency [44].

This violence during pregnancy can result in many serious negative health outcomes, including infection, miscarriage, unsafe abortion, low-birth-weight, suicide and homicide [41]. It can also have long-term mental health effects, such as depression and anxiety [44].

Implementing both community and facility-based intervention to reduce gender-based violence has the ability to improve health during pregnancy [41]. Additionally, promoting the principles of gender equality and female empowerment can facilitate an individual's autonomy over their own reproductive and health-care decisions. Through promoting equal access to resources, information and education, as well as focusing on the elimination of gender-based violence and discrimination, the human rights of female identifying people can be safeguarded. Nevertheless, this requires governments, policy-makers and organisations to address underlying historical, structural and social determinants of health to ensure equal outcomes for all [37].

Infant Health in Humanitarian Settings

Neonatal mortality is the highest in low-income settings, fragile states and countries which have recently experienced a humanitarian crisis. These crisis situations result in a myriad of challenges that threaten both infants and their gestational parents [45].

Firstly, there can be service disruption and facility destruction of humanitarian services impacting the vital continuity of neonatal care. This can result in breakdown of prevention programs (such as vaccinations), healthcare service shortages, reduced access to water, sanitation and hygiene and more [45]. Secondly, crises result in population movements which can reduce the quality of living conditions, and impair access to all services and essential resources for survival. Thirdly, competing priorities in a humanitarian crisis may strain health resources and facilities. For example, injuries and displacement overwhelm existing health facilities, making them unable to cope with infant care and funding may be re-routed to areas of acute need [45]. Finally, these situations pose a significant threat to safety and security, which prevent gestational parents accessing healthcare facilities and receiving the help they require [45].

In order to safeguard infant health during a crisis, infant health would benefit from appropriate streamlining in humanitarian coordination. This includes having an agency that leads or advocates for sexual and reproductive health responses, integrate health services for pregnant people and infants in the humanitarian response, and conducting an analysis to develop appropriate response strategies that ensure the procurement of essential medicines, supplies and staff [45].

Causes of Inequity in Health of Pregnant People and Infants

There are a number of determinants that can affect the health outcomes of pregnant people and their infants, including ability to access care, discrimination, and cultural beliefs and practices. Lack of access to care can be attributed to remoteness, poor investment in health services, weak referral systems and low numbers of skilled health care workers [46]. Those who are isolated geographically, live in rural or remote committees or are nomadic may have reduced ability to seek appropriate care during their pregnancy [46]. Furthermore, people living in places of insecurity who may have been displaced or are at threat of being displaced have poorer access to health services [46].

Healthcare services themselves may be inadequate in terms of resources and appropriately skilled staff. These factors can affect integral practices such as the use of appropriate equipment, maintaining hygienic standards and the use of essential medications. In high acuity cases, the ability to transport patients with complications or if a higher tier of medical care is required, this may be limited by lack of communication between facilities. Shortage of skilled workers additionally contributes to lack of healthcare services, and skilled workers can be as low as 10 per 10,000 people in Sub-Saharan Africa, where they struggle with the highest MMR rates [30].

High costs to healthcare, particularly in low income countries, may further inhibit the ability to seek appropriate prenatal, perinatal or postnatal care [47]. Although out-of-pocket costs differ between countries, estimates from Sub-Saharan Africa, which has the highest rates of MMR, demonstrated there are still significant out-of-pocket costs with a normal vaginal birth, caesarean section, and higher costs associated with complications such as post-partum haemorrhage and eclampsia [47]. These costs may place significant financial strain on families, and inhibit the ability for low income families to seek the desired healthcare.

Cultural beliefs and the ability of health care workers to provide culturally appropriate care can be barriers to accessing appropriate maternal healthcare [47]. Culturally inappropriate care can negatively impact the utilisation of health services and can exacerbate distrust of healthcare workers and systems [48]. Additionally, the provision of culturally competent health care has been shown to improve health outcomes, increase efficiency of clinical staff and increase patient satisfaction [49]. Providing culturally appropriate care is being seen as an increasingly important part of healthcare that requires knowledge and practical experience [50]. Global or widespread studies of culturally appropriate care and training are limited given the difficulties in researching this area; however, specific communities and peoples are explored in more detail in the domestic context of this policy. Within the global context, a study within Ethiopia explored cultural competence of health care workers and found that 73% of health care workers were in the earliest stage of cultural competence, this demonstrates that they have low levels of understanding about the culture, and limited appreciation of how the culture might impact the patient's interactions with healthcare providers [51]. Greater cultural competence allows for greater knowledge about the patient's beliefs and avoids stereotyping and discrimination [51].

Strategies Addressing Health of Pregnant People and Infants Globally

Every infant and pregnant person has a right to affordable, high-quality care, and this includes before, during and after pregnancy [52]. There are many strategies, from holistic interventions to specific programs, that promote this right. All strategies that are used to improve the quality of healthcare services, should ensure that the needs of the family are met and that all members involved are treated with dignity and respect [53].

Healthcare System Strengthening and Universal Healthcare Coverage

Pregnancy and perinatal health are effective indicators of the overall strength of a country's healthcare system. As such, reducing MMR requires the overall healthcare system to improve. As such, improvements in healthcare during pregnancy can also be expected to benefit other conditions as well (such as accident care, or district and primary healthcare in general) [54]. Thereby, through implementing holistic healthcare system strengthening strategies, MMR can be reduced. Such strategies include ensuring there is universal healthcare coverage for all sexual, reproductive, pregnant person and newborn healthcare needs. This includes providing access to all those in the population with the essential healthcare services, and ensuring they are protected from financial hardship as a result of healthcare service cost [34].

Refer to the *Universal Healthcare Coverage and Health System Strengthening* (2021) policy for guidelines and action items on how to achieve this.

Improving Health Outcomes of Pregnant People

Both short and long-term strategies should be implemented to improve health outcomes of pregnant people. In the short-term, providing better obstetric care during emergencies, increasing the age at marriage/first birth, improving family planning services (especially for adolescents) and addressing the issue of unsafe abortions are vital. In the long-term, there should be a move to improve the quality and coverage of skilled attendance at birth [55].

There are many different models for how obstetric care should be provided at birth. An analysis of how obstetric care is organised in countries with an MMR below 1/100, has yielded four models of care. The first model involves the delivery of obstetric care at home through a community member that has previously received brief training, with there being a back-up referral option available [55]. In countries which are resource poor, this is the preferred model of choice. The main advantage is that traditional birth attendants provide a link to formal Maternal Healthcare Systems, even if the attendant themselves can only provide limited care during unexpected obstetric complications [55]. This model is widely used and has some degree of success. However, studies in China and Brazil have shown that this model cannot significantly improve health nor reduce MMR to under 1/100 live-births [54]. The second model of obstetric care is where skilled attendance is provided at a home birth and the third model is where there is skilled attendance provided in a basic facility. Both of these models also have back-up referral systems. However, there is no clear data about the effectiveness or cost-efficiency of these models [54]. The final model is gestational parents giving birth in a comprehensive obstetric care facility (with access to caesarean section services). This is the most advanced model, however it is out-of-reach and not considered a reasonable objective to many developing, resource-poor countries. Countries should strive to transition up the models from models 2 to 4 as they progressively provide more comprehensive, higher-quality and safer services. However, for a successful transition, there must be strong links with the community through either traditional providers or popular demand of the service [54].

WHO recommends having integrated care between skilled professionals and traditional birth attendants, and in some settings, it may be appropriate to upskill the traditional birth attendants on how to recognise the need for further assistance and administer simple medications [32]. In some cultures where males may be excluded from childbirth, WHO recommends promoting the involvement of males in pregnancy, childbirth and after birth, which has benefits for the female, child, and home environment [32].

The WHO ‘Ending Preventable Maternal Mortality Strategy’ calls upon Member States to work with countries in supporting strategies to reduce maternal mortality. This includes [45, 56]:

- Ensuring universal health coverage for comprehensive reproductive, maternal and newborn healthcare;
- Addressing all causes of maternal mortality, reproductive and maternal morbidities, and related disabilities;
- Strengthening health systems to collect high quality data in order to respond to the needs and priorities of women and girls; and
- Ensuring accountability in order to improve quality of care and equity.

Improving Health Outcomes of Infants

Low and middle-income countries experience a disproportionate level of infant deaths. It is possible to improve survival and health outcomes of infants through providing services such as:

- Skilled attendance at birth
- High coverage and quality antenatal care
- Postnatal care for infants and their gestational parents
- High quality care provision for premature and sick newborns

It has been shown that midwife-led continuity of care models are highly successful in reducing preterm births (up to 24%). This demonstrates the importance of continuity of care models, particularly midwifery models, for the health of the gestational parent and infant [57].

There has been an increase in facility births (8% globally), providing great opportunity to provide essential newborn care and managing high risk newborns. However, it is rare for the gestational parent and their newborn to stay in this facility for the recommended 24hr period after birth [58]. As a result, many newborns die at home due to early discharge from hospital, barriers to access care and delays in seeking this care [58]. Therefore, around the time of birth and during the first week of life (which is when the highest number of newborns die), it is important to implement programs that promote care. This will not only improve infant health outcomes, but also empower gestational parents, families, and communities to participate in newborn care and promote engagement with services and programs [57].

Specific Interventions to Promote Health of Pregnant People and Infants

Specific intervention strategies include the implementation of essential services, and evidence-based programs that reduce reproductive, pregnancy, newborn and child mortality [59]. All these interventions and strategies are closely related and must be provided using a continuum of care approach. When they are all linked together into integrated programs, they promote efficiency, reduce costs and reduce resource duplication [60]. All these interventions should be integrated, reviewed and adapted according to existing national policy and regulatory context, which should be updated and reviewed to ensure that life-saving interventions are delivered as a priority [60].

The WHO has collated global data and evidence on the impact of these interventions and their effect on the main causes of maternal, newborn and child death. Two publications, the 'WHO Recommendation on Maternal Health' and 'WHO Recommendations on Newborn Health', as approved by the WHO Guidelines Review Committee, outlines a series of interventions and services that would reduce mortality. This includes everything from the requirements for nutritional supplementation, to the provision of antenatal corticosteroids. Countries should endeavour to provide the recommended services in these reports to an appropriate standard to promote health of pregnant people and infants [61, 62].

Nutrition Strategies

In developing countries, undernutrition affects a significant proportion of gestational parents. Undernutrition has been linked to intrauterine growth restriction, preterm birth, complications and increased morbidity and mortality rates of pregnant people and their infants [18]. It is crucial to ensure that nutrients are provided adequately from the very beginning of life, to ensure good physical and mental development, as well as long-term health [63]. In 2010, 115 million children were underweight, 55 million had low weight for their height and 171 million children under the age of five years had stunted growth, demonstrating the extent of malnutrition globally [63].

In order to address the importance of adequate nutrition for pregnant people and infants, multi-sectoral strategies are required. Programs should promote food availability and affordability, as well as ensure that any nutritional aid aligns with dietary recommendations [63]. Refer to the *Food and Nutrition* (2020) AMSA policy that provides more guidance on such strategies and how they should be implemented.

Additionally, having appropriate chestfeeding strategies and education is vital. In order to aid in chestfeeding in undernourished populations, WHO recommends that gestational parents who are undernourished during pregnancy undergo nutritional education and are supplemented with energy dense food and high protein supplements to decrease chances of poor birth outcomes [32].

Accountability for Improving Quality of Care of Pregnant People and Infants

Accountability to improve quality of care, and equity of access and service provision of this care is important to improve health outcomes. This includes improving the ability to measure and report progress towards reducing preventable mortality and morbidity of pregnant people, the actions taken by stakeholders, including government and health system leaders, to make them accountable for their commitments in this area. In order to achieve this, there must be improved data availability and quality, including an emphasis on strengthening registration systems that provide information about a patient’s cause of death [34].

Furthermore, there is also a facility level obligation to improving health outcomes of pregnant people and infants. Appropriate standards, performance measures and internal auditing of services, will facilitate the continual improvement in the quality of service provision. It is important that both the public and private sector are participating in accountability mechanisms, which should be transparent to the wider community and health leaders [34].

Health of Pregnant People and Infants in Australia

The following statistics, derived from Australian data, have been reported as maternal health outcomes, which may or may not include pregnant people who are TGD.

Morbidity of Pregnant People and Infants

Pregnancy, perinatal and infant health outcomes are influenced by demographics, such as age, refugee status, rural/remote locality, and socioeconomic status. The average age of women giving birth has increased from 30 years in 2009 to 30.8 years in 2019, with rates of women giving birth aged 40-44 almost doubling since the last century [64]. Older women are more likely to experience complications during pregnancy, such as diabetes and hypertension [64]. Increased age is also associated with poorer outcomes for infants, particularly for first-time parents aged 40 or over [64]. Other issues which may affect experiences in pregnancy and birth, as well as uptake in health services include the challenges associated with resettling in a new country, and past experiences of poverty, discrimination, trauma and violence, which may induce poorer physical and mental health outcomes.

Birthweight for gestational age is a key indicator for infant health and outcome measure for the health and wellbeing of gestational parents during pregnancy [65]. An infant born at or after 40 weeks of gestation, with a birthweight of less than 2750 grams, is classified as small. This may indicate intrauterine growth restriction, which is associated with higher rates of foetal death and complications in labour [66]. They may also have increased predisposition to long-term health conditions later in life, such as diabetes and hypertension. The proportion of infants with low birthweight in Australia have remained relatively stable over the past decade, while rates of high birthweight have fallen from 1.8% in 2009 to 1.1% in 2019 [67].

Mortality of Pregnant People and Infants

The MMR in Australia is among the lowest in the world, with 6 deaths per 100,000 occuring in 2019 [56]. The most common cause of death during pregnancy is cardiovascular disease [56]. There continues to be a higher incidence of death during pregnancy in Aboriginal and Torres Strait Islander people; the MMR within this population from 2012 - 2019 was 3 times that of the non-Indigenous population [68]. Other factors shown to increase MMR include residing in rural and remote areas, smoking during the first 20 weeks of pregnancy, or being aged under 20 or over 40 [68]. However, due to the small numbers of deaths during pregnancy in Australia, these statistics should be interpreted with caution.

In 2019, a total of 303,054 infants were born, with a recorded 9.6 perinatal deaths per 1000 births (7.2 stillbirths per 1000 births and 2.4 neonatal deaths per 1000 live births) [69]. Although perinatal mortality rates have generally remained steady since 2000, the number of neonatal deaths of babies born at 23 weeks' gestation or more, and the number of stillbirths occurring at 28 weeks' gestation or more, have decreased [69]. Perinatal mortality rates in 2019 were 1.8 times higher among babies born to Aboriginal and Torres Strait Islander individuals, and 2 times higher among those who lived in very remote areas [69]. The National Stillbirth Action and Implementation Plan, published by the Australian Government in 2020, includes actions that aim to close equity gaps in groups that have higher rates of stillbirth [70]. Such actions include ensuring high quality stillbirth prevention and care, raising awareness and strengthening understanding of stillbirth, improving holistic bereavement care and community support following stillbirth, and prioritising stillbirth research [70].

Access to Health Services

Health Services for Pregnant People and Infants

Access to safe and effective family planning, antenatal, postnatal and infant healthcare services is essential to decreasing morbidity and mortality rates in pregnant people and infants [71]. In Australia, three levels of government (Federal, State and Local) are involved in the provision of health services for pregnant people and infants, and each level of government has distinct roles [72]. At a national level, the Federal Government funds free or subsidised primary and tertiary healthcare services through the Medicare Benefits Scheme and provides national direction, while the planning and delivery of these services are predominantly managed by State, Territory and Local governments [72]. There are over 800 maternity models of care across both public and private services in Australia [73]. Consequently, the variety, quantity and distribution of these services may vary considerably throughout the country.

Routine antenatal healthcare is known to improve health outcomes for both pregnant people and infants [65]. The *Pregnancy Care Guidelines* state that during a pregnant person's first pregnancy, they should have ten antenatal visits with a health professional, with the first visit before 10 weeks gestation [65]. Of the women who gave birth in 2019, only 56% visited a health care provider in the first 10 weeks and 77% received antenatal care in the first trimester [74]. These percentages have been steadily increasing since 2013. This rate varied among different populations, based on remoteness, socioeconomic position, indigenous status and country of birth [74]. These variations may reflect systemic issues regarding access to and knowledge about local and culturally appropriate healthcare services, and language barriers.

Additionally, digital health services are available for new parents or parents-to-be. The Pregnancy, Birth and Baby helpline is a free national service available 7 days a week, where fully qualified maternal child health nurses can provide information and guidance on feeding, putting a baby to sleep and parenting, offer support and reassurance, and make referrals [75]. A translating and interpreting service can be requested by a caller before or while they are connected to the Pregnancy, Birth and Baby helpline [75]. Such services increase accessibility to timely, high-quality advice for those who may be disadvantaged by distance, language or their socio-economic situation.

Access to Contraception

In Australia, the main form of contraception for people who menstruate is the oral contraceptive pill [76]. This encompasses both preventative and emergency contraceptive pills. When people lack adequate access to the emergency contraceptive pills, they are placed at an increased risk of unwanted pregnancy [76].

It is estimated that half of Australian people with child-bearing capacity and of reproductive age, will experience an unplanned pregnancy [76]. Whilst not every unplanned pregnancy is unwanted, the relatively high rates of unplanned pregnancies suggest that not everyone has appropriate access to contraception or has adequate knowledge on how to utilise it effectively [76].

Access to Safe Termination of Pregnancy Services

Currently, there are discrepancies in the legislation regarding access to pregnancy termination services between Australian states and territories [77]. It is important that the legislation is consistent across all states and territories so that everyone has equal and adequate access to pregnancy termination, regardless of where they live. Access to safe and competent termination is essential to address physical and mental health during pregnancy [78]. Not everyone who is pregnant wants to be and as such, access to safe termination is an essential part of pregnancy care [79]. In higher-risk, high-comorbid pregnancies, it has been shown that first or second-trimester termination results in far less mortality and morbidity than traditional delivery [70, 71]. An in-depth review of these discrepancies is highlighted in AMSA's *Access to Safe Termination of Pregnancy* Policy.

Nutrition of Pregnant People and Infants

Nutrition, obesity and diabetes

The Australian Dietary Guidelines provide national advice for adequate nutrition during pregnancy [82]. They include advice on optimal nutrition for pregnancy, nutritional supplements and the healthy amount of weight to gain during pregnancy based on pre-pregnancy weight. [82]. While these national guidelines are published, there are still significant gaps in the nutritional knowledge of individuals during pregnancy, leading to poor adherence [83]. In a survey of 857 pregnant women across Australia in 2015, none of the women adhered to the guidelines for all food groups [84]. Only 56% met the fruit recommendations, 29% met the dairy recommendations, and 10% met the recommendations for other core food groups [84]. However, 61% believed they had a healthy diet during their pregnancy [84].

A high portion of Australian women are in an unhealthy weight category at the start of their pregnancy with 26% of women being overweight and 21% obese [85]. There are higher rates of overweight and obese pre-pregnancy weights in those from rural and remote areas, those of a lower socioeconomic status and for Aboriginal or Torres Strait Islander peoples [85]. Weight stigma felt by pregnant people can negatively impact on the doctor-patient relationship and lead to poorer outcomes, so appropriate terminology must be used to address these concerns [85]. Having an overweight or obese pre-pregnancy mass increases the risk of complications and poor outcomes for both the pregnant person and infant [85].

A cross-sectional survey of Australian women beginning their pregnancy showed that 75% of women were aware that being obese during pregnancy carried an increased overall risk of complications, and that this knowledge was similar across all BMI categories [86]. However, surveys of pregnant women who are obese have shown that 74% underestimate their own BMI category, and that the majority of women who are overweight or obese overestimate how much weight they should gain during pregnancy [87]. This knowledge gap represents a significant health risk for people who are overweight or obese and are planning a pregnancy.

Being overweight or obese before pregnancy has been linked to poorer health outcomes for the infant including a higher risk of macrosomia, being large for gestational age and neonatal deaths [19]. Additionally, the greatest risk factor for childhood overweight and obesity is high parental Body Mass Index (BMI) [88]. The child of an overweight or obese parent is more than twice as likely to be overweight or obese themselves at age 3, increasing to three to four fold at 9 to 10 years when compared with individuals whose parents have a BMI in the normal weight range [88, 89].

Having a high BMI during pregnancy also has poorer outcomes for the pregnant person including higher rates of miscarriage, pre-eclampsia, minor complaints of pregnancy, higher rates of assisted deliveries and c-sections and vaginal tears [20]. Another critical risk of increased obesity is the higher risk of glucose tolerance abnormalities. Many women are having this detected for the first time as gestational diabetes, which affects around 15% of Australian pregnancies [90, 91]. This is routinely tested in all pregnant people, and earlier in pregnancy for those who have risk factors for developing gestational diabetes [91]. Gestational diabetes also comes with the added risk of developing type 2 diabetes in the future and requires follow up testing after pregnancy [91].

Chestfeeding

The numerous benefits of chestfeeding on both pregnancy and infant health have been well-documented. Chestfed children have higher intelligence and lower infectious morbidity and mortality than those who are not chestfed and can lower the risk of chronic conditions later in life, including hypertension, childhood asthma and obesity [92, 93]. It is also thought to have numerous benefits for gestational health, including reducing the risk of post-partum haemorrhage, type 2 diabetes and breast, uterine and ovarian cancers [92,93].

The National Health and Medical Research Council (NHMRC) dietary guidelines recommend exclusive breastfeeding of infants until six months of age, with combined solid food and breastfeeding until 12 months of age [94]. According to data obtained by the Australian Bureau of Statistics regarding breastfeeding rates in 2017-18, 93% of children aged 0-3 had been fed at some point with breast milk; however, only 29% met the desired six months of exclusive breastfeeding [95].

There are numerous factors influencing Australia's low rate of chestfeeding. Societal attitudes towards chestfeeding play a significant role in the decision to not continue chestfeeding for Australians in the post pregnancy period, as many feel that it is not the societal norm [96, 97]. In a large survey of South Australian adults, over 80% of respondents agreed that bottle-feeding was more acceptable in public places, and 70% agreed that there was not always a place to chestfeed when outside the home [97]. In addition, an individual's decision to return to work may play a role in the low duration of chestfeeding. For example, being at work makes it difficult to maintain a chestfeeding relationship with their baby. There might also be a lack of support, such as chestfeeding breaks and lactation spaces [98, 99]. Conversely, workplaces that implement such supports are associated with higher rates of chestfeeding initiation, duration and exclusivity among working individuals [100].

It is also important to acknowledge that individuals may experience delayed, reduced and/or a complete lack of lactation [101]. This can be due to various factors, including primiparity, stress, obesity and gestational diabetes [101, 102]. Several strategies for recognising and managing this have been identified, including early postnatal follow-up (during the first week post-birth), mechanical breast pumping, and reassurance [103]. Although delayed and failed lactogenesis are known phenomena, there is a lack of research into how this affects chestfeeding long term or the extent to which management strategies are implemented. Furthermore, there are settings in which chestfeeding is not possible or is contraindicated due to infant or birthing parent factors. Examples for infants where specialised formula is required are genetic metabolic conditions including galactosemia [104, 105]. Conditions that impact a pregnant person's ability to safely chestfeed include a confirmed diagnosis of HIV and specific medications (antiepileptics, opioids, radioactive iodine, sedating psychotherapeutic drugs) [104, 105]. Specific management is required in these situations to manage health and also relationship between the birthing parent and their infant and alternatives to chestfeeding, in particular formulas, are recommended and supported [105].

The Baby Friendly Health Initiative (BFHI) is a joint WHO and United Nations Children's Fund (UNICEF) project, aiming to create healthcare environments where chestfeeding is encouraged [106]. Healthcare facilities can apply for 'Baby Friendly' accreditation, which is contingent on compliance with and promotion of the 'Ten Steps to Successful Breastfeeding' [106, 107]. These steps include having a written chestfeeding policy that is routinely communicated to all staff and informing all pregnant people about the benefits and management of chestfeeding [106]. In Belarus, the implementation of BFHI-associated measures was shown to increase the duration and degree (exclusivity) of breastfeeding, as well as decrease the risk of gastrointestinal tract infection and atopic eczema in the first year of life [108]. According to UNICEF, only about 20% of births in Australia currently occur in BFHI-accredited facilities [109]. Implementation of the BFHI in Australia is limited and there has been no formal Commonwealth support provided to encourage healthcare facilities to acquire 'Baby Friendly' accreditation [106].

In 1981, The World Health Assembly adopted the International Code of Marketing of Breast-milk Substitutes to promote chestfeeding, through the provision of adequate information on appropriate infant feeding and the regulation of the marketing of breastmilk substitutes [109, 110]. Australia responded to this code in 1992 with the creation of the Marketing of Infant Formulas: Manufacturing and Importers (MAIF) agreement, which aims to promote chestfeeding and regulate the safe and informed use of breastmilk substitutes when required. [111] This agreement is limited, however, as it only restricts the advertisement of infant formula, the scope of which does not cover all breastmilk substitutes [112].

The Australian Federal Department of Health released the ‘Australian National Breastfeeding Strategy – 2019 and beyond’ in 2019 [113]. This strategy outlines the government's initiatives to increase the rates of chestfeeding by reducing barriers for establishing and maintaining chestfeeding. The strategy vision is to provide an ‘enabling and empowering environment that protects, promotes, supports and values breastfeeding as the biological and social norm for infant and young child feeding’, with a key goal to increase rates of exclusive chestfeeding to 50% by 2025 [113].

Mental Health in the Perinatal Period

Mental Health of Pregnant People

Individuals are at an increased risk of experiencing new onset or recurrence of mental health disorders during the perinatal period [8]. In the mental health setting, this period begins from conception and extends to the end of the first postnatal year, with some service settings covering patients for up to 2-3 years postpartum [8, 114]. The emergence of new or existing mental illness can have devastating implications on mental and physical wellbeing of pregnant people, the wellbeing of partners, children and infants, as well as the wider community. In 2012, Deloitte’s estimated productivity losses associated with maternal perinatal depression equated to $86.59 million, while the burden of disease was associated with 16,575 disability adjusted life years [115]. It is therefore crucial that there is early identification and early referral to integrated services for those affected.

Research has found that the most common mental health condition among women in the perinatal period is depression (15-22%) [116, 117, 118, 119]. Depression during pregnancy is strongly linked with postnatal depression and future depressive episodes [120, 121]. Although there is less research on perinatal anxiety, emerging research suggests that it is at least as common, if not more so than depression, with many experiencing both [122, 123]. Other mental health disorders that can emerge or worsen during this period include obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), bipolar disorder, schizophrenia, borderline personality disorder and postpartum psychosis. Postpartum psychosis is a rare psychiatric emergency, affecting 0.05-0.2% of women during the perinatal period [123, 124, 125]. It can emerge up to 4-6 weeks following childbirth, and there is a demonstrated association with increased risk of infanticide and suicide, the latter being one of the top causes of death during pregnancy in Australia [126, 127, 128].

Risk factors or stressors during pregnancy or early parenthood may increase the chances of developing a new mental illness or play a role in initiating a relapse. While the biggest risk factor is a history positive for mental illness, the likelihood is also greater for those with: a trauma history (any type of abuse or neglect); low level of childcare support; isolation by distance or culture; recent life stressors such as family conflict, family violence or loss; low self-esteem; unwanted pregnancy; and a history of drug or alcohol abuse [8].

Some groups, such as Aboriginal and Torres Strait Islander peoples, migrants and refugees, those from culturally and linguistically diverse (CALD) backgrounds, those experiencing intimate partner violence during pregnancy, and LGBTQIA+ people, have greater vulnerability due to exposure to life stressors and previous trauma [129]. This vulnerability increases the risk of psychological distress perinatally, which may be exacerbated by language or cultural barriers, limited supports due to distance or locality, and systemic racism or discrimination resulting in exclusion from perinatal care [8]. TGD people's experiences of birth trauma and perinatal mental health are particularly under-researched [130]. More research involving these minority groups, with adequate representation and input from these communities, is needed to inform policy and future research. Models of care need to be tailored to meet the needs of these groups to ensure they are suitably supported.

Postnatal depression amongst Aboriginal and Torres Strait Islander peoples is prominent. The National Postnatal Depression Research Program found that the strongest risk factor for depression was Indigenous ethnicity; there was a 5% greater absolute odds of Aboriginal and Torres Strait Islander people having postnatal depression than non-Indigenous people [131]. Psychosocial risk factors for Aboriginal and Torres Strait Islander people include a lack of emotional supports, domestic violence, traumatic birth experience, unexpected outcome, poor social functioning, economic situation, and current major stressors including bereavement and financial strain [131]. On the other hand, key enablers include cultural and spiritual facets of birthing, including the preservation of cultural traditions around the birthing process and perinatal period [131]. Accounts of cultural beliefs surrounding birth include the cultural significance of Birthing on Country, retaining the traditional roles of women, men, family and community during pregnancy and delivery, and roles of traditional midwives. Enablers of successful, documented Aboriginal-specific pregnancy programs tend to be community-based, have a focus on communication, rapport-building, and respect for Aboriginal and Torres Strait Islander peoples' culture [132]. Other key enablers include strong family connections, economic security, and access to appropriate support services [131].

Lastly, it has been found that one in three women giving birth in Australia describe their birthing experience as traumatic [133]. These women disclose a high level of obstetric intervention during childbirth and dissatisfaction with intrapartum care [133]. Birth trauma can present as postnatal depression and/or anxiety, PTSD or OCD [134]. As such, there should be a high priority to implement strategies aimed to minimise interpersonal birth trauma and to adequately address the physical, emotional and informational needs for pregnant people [134]. As trauma may also emerge throughout pregnancy, amidst chestfeeding and infertility challenges, premature birth and pregnancy loss, trauma-informed care should be provided throughout all stages of a pregnant person's reproductive, perinatal and postnatal journey and be well-integrated into medical training.

Screening Programs and Services

Early identification of pregnant people experiencing psychosocial problems and mental health conditions is important, as accurate diagnosis, early intervention and implementation of effective treatment improves health outcomes [135, 136]. Current Australian clinical guidelines recommend universal routine screening during both the antenatal and postnatal period, for depression (using the Edinburgh Postnatal Depression Scale (EPDS)) and anxiety symptoms – as well as psychosocial risk factors (using the Antenatal Risk Questionnaire (ANRQ) [8, 137].

There appears to be high rates of acceptability of depression screening from women during the perinatal period (80-97%) [138, 139]. However, for screening programs to be effective, avenues of support need to be well-resourced and accessible to both staff and patients [140]. Services should be collaborative, culturally informed and integrated across hospital-based and community settings, with links to primary care, adult mental health services and infant and child mental health and development services. For example, specialist Perinatal Mental Health Services (PMHS) should be integrated into antenatal care when required [8].

For a comprehensive overview of perinatal mental health services offered in Australia, see RANZCP's Perinatal Mental Health Services Policy statement [114].

Mental Health of Partners

Any parent or partner, including fathers, co-mothers, step-parents, and other members of non-traditional family structures, can experience mental health difficulties during the perinatal period. Partners of gestational parents who are experiencing perinatal depression, may be particularly vulnerable to mental illness [141]. While there is a paucity of literature on paternal perinatal mental health, there is even less on the perinatal mental health and perinatal experiences of non-resident or non-gestational parents, step-parents, LGBTQIA+ parents, and other partners. Prevalence among these groups is unknown, however studies suggest higher rates of perinatal depression among lesbian co-parents, step-fathers, and increased stress surrounding fear of childbirth where both partners have child-bearing potential [142, 143, 144].

Perinatal paternal depression contributes significant direct and indirect costs to the community [115]. Due to the demands of caring for a new infant and other difficulties surrounding the transition to fatherhood, it is estimated that one in ten fathers experience depression and/or anxiety in the perinatal period [145, 146, 147]. Additionally, marital distress as a result of these stressors and maternal depression, may be associated with paternal perinatal depression and anxiety [148]. Studies have shown an increased risk to an infant's physical, emotional and social wellbeing when fathers experience severe mental illness [149, 150].

According to several qualitative studies, fathers demonstrate a desire to be engaged in perinatal healthcare alongside their partners and receive ongoing support throughout the antenatal and postnatal period [8, 151, 152]. However, there is mixed acceptability among both health professionals and fathers when it comes to implementing and receiving perinatal mental health assessment [153]. Reasons for this include: gender bias leading to fathers' marginalisation in services, limited contact with services and its associated practical barriers; resource implications including potentially compromising support offered to women; healthcare workers' concerns regarding knowledge, skills and confidence; and the availability of referral pathways [153]. A well-trained workforce and well-integrated care pathways need to be implemented before a screening programme can be deemed beneficial. Besides face-to-face services, fathers who require support and information may be effectively engaged via technology, namely mobile phones [154]. However, more research in generating innovative solutions and appropriate services to address this gap in support for all partners is required.

Attachment and Parent-Infant Relationship

Perinatal mental health problems of both or either parent, especially if left untreated, may impair day-to-day functioning, and have a significant impact on parenting and parent-infant engagement [114]. They may be less responsive and less sensitive to their infant's needs, increasing the likelihood of developing insecure or disorganised attachment with their baby [114]. As a result, developmental consequences, such as poor growth, delayed motor and cognitive development, as well as emotional and behavioural difficulties, may arise in these infants and can cause lifelong complications [149, 155, 156].

Proactive primary preventions prior to birth, such as education on early responsive parenting, may support infants' social, emotional, communication and cognitive development, and may be effective in establishing healthy attachment [157]. Educating parents surrounding the normal development of infants and promoting awareness of the fourth trimester, which signifies the first critical three months after childbirth, may also be of great benefit [158]. However, while primary prevention is key, interventions may be required. Despite an importance in establishing a healthy parent-infant relationship early on, there is limited research on attachment interventions [114]. Two recent randomised controlled trials of an attachment intervention for mothers with postpartum depression found no impact on attachment outcomes [159, 160]. More research is therefore required before attachment interventions can be integrated into current models of care.

Health of Pregnant People and Infants from Vulnerable Populations

Aboriginal and Torres Strait Islander Peoples

There is an evident gap between the health outcomes of Aboriginal and Torres Strait Islander peoples and non-Indigenous populations. As of 2018, Aboriginal and Torres Strait Islander infant mortality rates are 1.8 times that of the non-Indigenous rate [161]. The single largest cause of mortality in infants was perinatal conditions, accounting for 57% of deaths. These perinatal conditions included pregnancy complications, foetal growth disorders and birth trauma [161]. Despite improvement in infant mortality rates since 2008, non-Indigenous infant mortality rates have improved at a faster rate meaning that the gap in outcomes for Aboriginal and Torres Strait Islander health has widened [161].

The consequences of colonialism and subsequent loss of land, language, cultural and spiritual identity of Aboriginal and Torres Strait Islander peoples has led to intergenerational trauma and a number of social, economic and cultural determinants of the discrepancy between Aboriginal and Torres Strait Islander peoples and non-Indigenous populations [162]. The impacts of child removal in Australia and the Stolen Generation have also had catastrophic impacts on the physical and mental health of Aboriginal and Torres Strait Islander peoples during their pregnancy and their children [163]. This history has impacted directly on the health determinants for pregnancy by influencing factors including access and uptake of antenatal care services, trust in health services, culturally inclusive education provision, and infant malnutrition [164, 165]. Aboriginal and Torres Strait Islander children experienced 1.7 times higher levels of malnutrition in 2016 compared to non-Indigenous children [165].

Gestational diet is an important determinant of health for both the pregnant person and infant, and syntheses of available literature have found that obesity and low Body Mass Index (BMI) of an individual during pregnancy are associated with alterations in glucose metabolism in children and later in adults, with increased cardiometabolic risk [166]. An Australian study reported in 2006 that Aboriginal women were less likely to have their BMI recorded during clinic visits due to the interplay of strained trust relationships with health systems and discomfort as a result of insufficient explanations by health professionals [167]. Being overweight is associated with higher prevalence of gestational diabetes, hypertensive disorders during pregnancy and a low APGAR score for the infant, and was more common in Aboriginal people than non-Indigenous [168]. Access to healthy food is an issue for some Aboriginal and Torres Strait Islander people during pregnancy, and many residing in remote communities may have reduced access to healthy food due to limited availability and affordability [132]. Currently, frequent exceeding of recommended intakes for energy-dense and nutrient-poor foods are high, whilst intake of nutrients for optimal reproductive health (folate, iron, calcium, zinc and fibre) are low [169, 170].

Successful strategies recognised by both the RANZCOG and the Close the Gap campaign have a focus on cultural competency and community engagement. This involves a holistic approach that acknowledges Aboriginal and Torres Strait Islander peoples cultural and spiritual beliefs and practices as well as involving community-controlled health services with trained Aboriginal and Torres Strait Islander staff [171, 172]. This was further highlighted by the 2010-2015 National Maternity Services Plan, which detailed three core strategies to closing the health gap: increasing the Indigenous healthcare workforce; increasing culturally competent pregnancy care; and developing dedicated programs for Birthing on Country [173]. These initiatives have led to significant improvement in outcomes; however, further government support and discourse is required to allow these initiatives to realise their full potential. Aboriginal and Torres Strait Islander health workers are employed throughout Australia in government and non-government health services to help support primary health care delivery for Aboriginal and Torres Strait Islander patients [174]. Significant advancements have been made to bridge the gap in employment of Aboriginal and Torres Strait Islander health workers with the sector employing 2.6% of the population; however, more work is required to close the gap and with non-Indigenous population employment at 4.1% [171].

A number of key areas for intervention have been identified by government and community health organisations to improve the health of Aboriginal and Torres Strait Islander peoples during and after pregnancy. Improving the accessibility of healthcare services for Aboriginal and Torres Strait Islanders is a priority for the Federal government [175]. Intergenerational trauma, geographical distance, fear, past and present discrimination, and lack of cultural sensitivity are significant barriers to access [159, 177]. Quality and accessible antenatal care and education are essential. Antenatal care entails providing timely pregnancy access and monitoring as well as screening and management for conditions during pregnancy. Addressing the gap in gestation-related assessments should be a priority for Aboriginal and Torres Strait Islander pregnancy care. In Australia, gestational age has been noted to be assessed and less recorded for Aboriginal and Torres Strait Islander people during pregnancy compared to non-Indigenous people, often due to less accurate recall of the last menstrual period (LMP) [178, 179]. Accurate determination of gestational age is critical to monitoring pregnancy progress, interpreting screening tests for congenital abnormalities and decision-making and planning around delivery [180]. Thus, a less reliable gestational age estimation is likely to pose problems downstream regarding delivery and infant health.

Routine antenatal screening is important to support the health of Aboriginal and Torres Strait Islander pregnant people. Awareness of specific conditions such as such as urinary tract and genital tract infections (UTIs), diabetes, HIV and Hepatitis B are likely to have positive health impacts for Aboriginal and Torres Strait Islander pregnant people [132]. Early management and treatment of the above conditions are key determinants of infant birth weight, and effective antenatal screening would likely reduce the burden of LBW amongst Aboriginal and Torres Strait Islander infants [181]..

In Australia, available estimates suggest that the incidence of asymptomatic bacteriuria during pregnancy is higher amongst Aboriginal and Torres Strait Islander people [182, 183]. This is associated with higher levels of adverse pregnancy health effects including direct sequelae such as pyelonephritis as well as higher rates of preterm birth and LBW [184]. Furthermore, antenatal services should have timely management of chronic diseases such as diabetes and gestational diabetes. These share an association with adverse perinatal outcomes such as neonatal hypoglycaemia, hyperbilirubinemia, congenital abnormalities, macrosomia, respiratory distress syndrome and other birth trauma [132]. Among Aboriginal and Torres Strait Islander women specifically, pre-existing diabetes affecting pregnancy was 3-4 times as common and gestational diabetes twice as common compared to non-Indigenous women [185]. Finally, in rural and remote Central and Northern Australia, Rheumatic Heart Disease (RHD) continues to be a critical health issue for Aboriginal and Torres Strait Islander people, with up to 78% of women affected being of Indigenous origin [186, 187]. This condition disproportionately affects Aboriginal and Torres Strait Islander communities due to a failure of health systems and infrastructure support to provide appropriate housing and health care for the prevention and management of this condition [186]. RHD has severe cardiovascular implications for pregnant people and risks for babies, with early diagnosis and effective management crucial to positive pregnancy outcomes [186]. Engagement of Aboriginal Community Workers in care has been seen to improve literacy, awareness and empowerment for RHD-related health determinants, and their capacity to build strong relationships with local families can be a usable resilience factor for strength-based approaches to health promotion in this area [188].

Environmental and social factors along with other psychosocial stressors also impact on the health of pregnant people and their infants – these require responsive and culturally safe care [132]. RANZCOG identified that 45% of Aboriginal and Torres Strait Islander people smoked during pregnancy as compared to 13% of non-Indigenous people [187]. The disparity in the rates of these risk factors is largely as a result of colonialism including intergenerational trauma, which has created barriers to access of all health services and smoking cessation services. For example, a study found that over half of Aboriginal pregnant people had more than three significant social stressors including death of a family member (sorry business) or housing difficulties [189].

Furthermore, improved access to antenatal care services and training of Aboriginal and Torres Strait Islander health workers across remote parts of Australia will promote Birthing on Country [173]. Birthing on Country is the practice where Aboriginal and Torres Strait Islander pregnant people are able to give birth on their country with the support of community and appropriate health service and are not required to travel off land to give birth [173]. This practice has been recognised to improve health through the integrated connection between birthing, land, and place of belonging [173]. It is a new phenomenon for Aboriginal and Torres Strait Islander peoples to be unable to give Birth on Country, which is another fundamental consequence of colonisation. Birthing on Country is considered vital to the health of pregnant people, infants and communities, and has been described as 'a metaphor for the best start in life for Aboriginal and Torres Strait Islander babies and their families' [13]. In order to be effective, these services must provide continuity of care, have Aboriginal and Torres Strait Islander Health workers and be culturally safe [173, 190].

Although initiatives to close the gap in infant and pregnant people’s health outcomes between Aboriginal and Torres Strait Islander and non-Indigenous populations have had a positive impact, there is still much room for improvement. Strategies include an increase in program funding, which is currently insufficient and often only short-term, as well as greater local community involvement and empowerment of Aboriginal and Torres Strait Islander peoples in addressing their own health needs [171, 172, 191, 192].

Rural and Remote Populations

In Australia, around one-third of the population resides rurally, and the population in these areas have a higher fertility rate as well as a higher perinatal mortality rate [193, 194]. Approximately 25% of births in Australia occur rurally and remotely, and the geographic isolation experienced by pregnant people pose significant challenges to the provision of quality health services. Women living in rural and remote Australia are more likely to experience adverse health outcomes compared to those in metropolitan areas [195]. In addition to a lack of maternity services in rural hospitals, there has been an apparent nationwide trend toward the further downgrading of existing rural and remote maternal facilities [196, 197]. Over the past two decades, the number of rural maternity units has halved [198].

Care for pregnant people is multidisciplinary and complex, including obstetricians, procedural GPs (anaesthetists), midwives, nurses, paediatricians, AHWs, and other allied health professionals. In rural and remote Australia, the maternity workforce, as with the overall health workforce, is faced with existing and worsening shortages [199]. The drivers of this decline have been attributed to difficulties in retainment and recruitment of workforce, as well as the centralisation of services with more cost savings for the government rather than families [200]. In light of this, the recent decade has heralded rafts of state and national policy and planning documents supporting the ongoing provision of quality services for pregnant people in rural and remote Australian areas. The Australian Maternity Services Plan (NMSP) and the National Maternity Services Capability Framework (NMSCF) both outline a framework to provide better responsive care to rural and remote pregnant people [201]. Likewise, the 2009 'Improving maternity services in Australia: The Report of the Maternity Services Review' recommended expansion of collaborative models of care and improved access for rural pregnant people to maternal health facilities [202]. Despite these strategies and recommendations, there remains a lack of practical action and provision of services [203]. This may be due to upstream factors including absence of informed leadership, lack of knowledge on models of care, poor workforce planning and distribution of resources, flawed perceptions of risk and a lack of community involvement [203].

RANZCOG have recommended that sustaining a rural specialist obstetrician workforce requires conditions of employment to be more balanced to reduce disparities in employment conditions between urban and remote practitioners, which includes more carefully considered on-call arrangements to create a more sustainable work-life balance. Furthermore, given the interdisciplinary nature of care for pregnant people in rural and remote Australian communities, funding models recommended by the RANZCOG support the use of telehealth and videoconferencing facilities as a means to drive optimal and efficient management of pregnancy, including obstetric and neonatal care as well as the psychosocial elements (eg. Child protection) [202]. Furthermore, the Royal Flying Doctor Service is integral in providing antenatal care for women in rural Australia [204]. The service includes home visits with doctors and midwives and teleconsultations with medical professionals [204]. However, this service cannot fully replace specialised maternity clinics in rural areas. Ongoing monitoring of the quality of maternal services, and appropriate access to specialist advice and support for patients and rurally based health professionals through contemporary approaches such as telemedicine is important. RANZCOG promotes the involvement of all healthcare providers for pregnant people in continual professional and CPD activities, including in areas such as foetal surveillance education and management of obstetric emergencies [202].

Closures of maternity services and a decreasing workforce have correlated with an increase in delivery of infants occurring prior to arrival in hospital, which is a risk factor for poorer perinatal outcomes [205]. Access to timely and quality emergency transport services has been recognized by RANZCOG as critical to rural maternity services [202]. Lack of local maternity services has also had direct consequences on those living in rural and remote communities, often posing significant psychosocial stressors as a result of difficult access to emergency maternal care (distance, and availability) [202]. These include giving birth away from their communities, extra financial costs, lack of material and emotional support, isolation, and lack of continuity of care between systems, culturally unsafe health care and temporary separation from other family members [206, 207]. These impacts introduce significant emotional and financial strains for families, many of which are already disadvantaged due to their socioeconomic position [203, 208]. These stressors can all lead to poorer birth and perinatal outcomes [203]. Appropriate travel and accommodation assistance can reduce emotional and financial burdens on families requiring temporary relocation [202, 209].

Refugee and Asylum Seekers

Global migration is at an all-time high, and there are implications for perinatal health for vulnerable groups of pregnant people, especially refugees and asylum seekers [193]. While in Australia, many refugee and asylum seekers experience healthy pregnancies, the social and cultural issues associated with acculturation and resettlement often contribute to poorer perinatal outcomes compared to other Australian gestational parents [194]. A number of perinatal health outcomes are worse for refugee and asylum seekers, including mental health, mortality, pre-term birth, and congenital anomalies.

Several socio-cultural elements are frequently reported as recurring barriers for healthy pregnant people and infants. Poorer health, racism, discrimination, and illiteracy are concerns reported by women from a refugee background [210]. Additionally, during the perinatal period, separation from loved ones and from traditional cultural norms may result in feelings of isolation and vulnerability [211]. Health-care service factors affecting access for women with a refugee background were reported to include: use of interpreters, structural barriers to service utilisation, experiences and rapport with health care workers, medical xenophobia and conflicts between traditional cultural expectations and the Australian medical system [195]. Limited English proficiency can make their experiences challenging, especially if there is an inability to communicate during care or when receiving pregnancy or perinatal information. This may impact their ability to request services, impair their capacity to understand situations, and therefore their ability to make decisions requiring informed consent, contributing to an increased level of distress and fear [195]. For many refugee women, previous deliveries may have taken place at home, often with the assistance of a traditional birthing assistant [212, 213]. Hence, women unable to maintain traditional practices relating to pregnancy, birthing and postpartum frequently report sadness and anxiety [196]. In light of this, health and settlement workers have an important role in supporting those from refugee backgrounds to access hospital antenatal care that is sensitive to their needs [213]. Finally, more complex obstetric issues are also more likely to affect refugees and asylum seekers, such as uterine rupture, eclampsia, female genital mutation (FGM), infectious disease, anaemia and unwanted pregnancies [193, 194]. Exposure to conflict, trauma, and torture is common for asylum seeker populations [213]. Women of refugee background in Australia are more likely to have suffered injuries as a consequence of torture, assault and rape, as well as associated physical and psychological consequences and gynaecological problems [213]. Women who had undergone FGM almost universally reported negative experiences in their interactions with Australia healthcare workers who they perceived as being ill-equipped to assist them in their condition, making these women feel abnormal and anxious [196]. Another challenge for refugee and asylum seekers is often inadequate knowledge of sexual and reproductive health due to cultural taboos that may be associated with constructions of sexuality. As a result, their ability to access contraception and sexual health screening may be limited, which may make them vulnerable to obstetric challenges including STIs and unplanned pregnancies [214, 197].

TGD People

Access to safe, sensitive and gender-affirming healthcare is fundamentally life-saving [215]. TGD people are subjected to gender-based discrimination, institutionalised cissexism, social exclusion and violence [216].

This deeply entrenched marginalisation limits access to safe and gender-affirming medical and psychological care, and has been correlated to increased risk of adverse mental health and suicide [217, 218]. TGD people aged between 14 and 25 are 15 times more likely to attempt suicide than cisgender people of the same age [219]. A 2013 study shows that the greatest risk of attempted suicide occurs between the time a TGD individual embarks on medical care and their ability to access gender-affirming care [220, 221].

The medical community has much work to do in the way of safe, sensitive and gender-affirming healthcare for TGD patients. More specifically, in gynaecological and obstetric care, the biologically essentialist emphasis on “women’s health” and gendered terminology have resulted in generations of OBGYNs who are inadequately trained to work with TGD people. A study from 2015 showed that only one-third of OBGYNs are comfortable working with TGD patients [222]. This has largely been attributed to the failure of medical school and residency curricula to cover care for TGD patients [223]. Furthermore, there is insufficient literature on the gynaecological and obstetric care of TGD parents [222].

Pregnancy in TGD people is another area of scant research [223]. The aforementioned lack of gender-affirming healthcare is noted to be an additional stressor experienced by TGD patients during pregnancy compared to cisgender patients [224]. Furthermore, there are many unique challenges that TGD patients face during pregnancy and after giving birth. Firstly, there is a need for comprehensive family-planning counselling, including costly fertility-preserving treatments, prior to the initiation of gender-affirming hormonal treatment [225]. This forces TGD people to make decisions about family-planning earlier than they may be ready to. Any TGD person undergoing hormonal treatments needs to receive counselling on stopping these treatments while trying to conceive [226]. Stopping gender-affirming treatment could exacerbate gender dysphoria, which in turn has adverse mental health consequences and puts the patient and their foetus at risk. Many TGD people experience gender dysphoria during pregnancy which requires medical and psychological support both antenatally and post-partum [226]. Furthermore, in the postpartum period, there is a need for critical considerations around recommencing hormonal therapy and the ability to chestfeed [227].

These unique challenges in healthcare during pregnancy and parenthood for TGD people are all underpinned by the life-saving need for clinicians who are able to provide well-informed, safe and gender-affirming healthcare. Until this can be guaranteed to TGD patients globally, there will be ongoing work that needs to be done in this space.

Intersex Infant Health

Intersex variation has a variety of underlying causes that can often be determined at birth or at puberty [228]. Historically, the western medical system has been complicit in forcible medical intervention and subsequent coerced sex assimilation [229]. The existence and resistance of intersex people contradicts the biologically essentialist understanding of the sex binary that underpins western medicine [230]. Medical staff are often complicit in recommending medical and surgical intervention on healthy infants as a means to reinforce the “sex binary” without adequate discussion on the psychological or sociocultural implications of these decisions with their parents [231, 232]. The downstream effects of surgery on these neonates are highly consequential and pervasive. People either remain uninformed about this surgery and go on to develop dysphoria surrounding their identity - especially at puberty, or experience immense anger when they come to understand what has occurred [233, 234]. These decisions are often made without the consent of intersex people, overriding their bodily autonomy and self-determination [234]. This fundamentally goes against their human rights and does not align with the Yogyakarta principles [235]. As such, efforts need to be made towards protecting intersex infants from these unnecessary and outdated practices. Colombia and Malta have instituted laws against performing genital surgery before a child is able to consent, except in cases that are emergent [236]. Currently, there are movements to de-pathologise intersex variation and prioritise autonomy in Australia [237, 238].

However, these will only gain traction when there are healthcare providers who truly understand and commit to this in their practice.

Parental and Infant Health in the Workplace

The seminal 1986 Ottawa Charter for Health Promotion identified that supportive patterns of life, work and leisure are central to population health [239]. Socioeconomic structures must be constructed to facilitate living and working environments that are conducive to wellbeing. For the wellbeing of gestational parents and infants, this requires workplaces that support and cater for the unique requirements of pregnancy and parenthood.

Firstly, employers must not discriminate against gestational parents and pregnant people. In Australia, discrimination on the basis of pregnancy or childbirth constitutes unlawful sex discrimination under Title VII of the Civil Rights Act of 1964. [240]. However, one in two women in Australia report experiencing discrimination in the workplace during their pregnancy, parental leave, or on return to work [240]. This discrimination is in relation to pay, conditions and duties, worker health and safety, and job loss. One in five mothers reported that they were made redundant, restructured, dismissed or their contract was not renewed either during their pregnancy, when they requested or took parental leave or when they returned to work [240]. This discrimination impacts gestational parents' health, finances, career and job opportunities, as well as their families and their engagement and attachment to the workforce [241].

Secondly, employers must cater for the unique demands of pregnancy and parenthood with adequate and gender-equal parental leave. In Australia, every employee is entitled to up to 52 weeks of unpaid leave when they have a child [242]. The primary carer is eligible for 18 weeks of leave with pay at minimum wage under the Federal Government's 'Parental Leave Pay' scheme (in addition to any paid leave allowed by the employer) [243]. The secondary carer is entitled to 2 weeks of leave with minimum wage under the 'Dad and Partner Pay' scheme, but this cannot be taken alongside paid leave from the employer [243]. Australia's current scheme is one of the least generous in the Organisation for Economic Co-operation and Development (OECD), with per capita spending on parental leave currently at less than half of the OECD average [244]. Fathers, in particular, receive very little dedicated leave and their take-up of the scheme is poor, with less than 0.5% of Parental Leave Pay recipients being men [245]. This situation engenders inadequate support for parents and infants, promotes employment discrimination, and intensifies entrenched gender roles, gender pay gaps and gendered division of labour [246, 247, 248, 249]. It is known that more mothers than fathers in Australia drop paid work for caring after the birth of a child, and that mothers are more likely than fathers to feel overloaded [250]. However, fathers experience increased levels of work-family conflict and are more likely to feel that they have 'missed out' [251]. Surveys show that most working parents support a more equitable division of labour in the home and the workplace [252]. Gender equal parental leave has been shown to improve the health and wellbeing of both parents, reduce parenting stress, and reduce the risk of postpartum depression [245, 253].

Both anti-discrimination and workplace leave measures are particularly important in the wake of the COVID-19 pandemic, in which women have experienced disproportionate socio-economic setbacks [254].

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