Discussion Paper

Perinatal and Infant Mental Health Service Enhancement

June 2014

Prepared by Children’s Health
Queensland Hospital and Health Service

For Queensland Mental Health Commission
Preface

In December 2013, the Queensland Mental Health Commissioner convened a meeting of senior officials from Department of Health, Children’s Health Queensland Hospital and Health Service, and a representative from Office of the Minister for Health, to address the identified need for better perinatal and infant mental health services in Queensland.

The meeting identified two over-arching issues that jointly contribute to an unacceptable level of risk for Queensland mothers, fathers, infants and families, Queensland Health and the Queensland Government. These issues are:

1. lack of appropriate mental health beds to which a mother can be admitted for treatment, without separation from her baby; and
2. a need to strengthen leadership for this under-resourced specialist clinical area.

The meeting resolved to develop a proposal for enhancing the perinatal and infant mental health service system in Queensland. Development of the proposal was funded by the Queensland Mental Health Commission and undertaken by the Children’s Health Queensland Hospital and Health Service, as the only HHS with a state-wide remit.

The project team, representatives of the Department of Health and Children’s Health Queensland Hospital and Health Service, was tasked with:

- Assessing the most urgent service gaps in perinatal and infant mental health in Queensland;
- Developing a model for co-ordinated, cost-effective service enhancement to reduce risk; secure better outcomes; and generate long-term social and economic benefits for Queenslanders; and
- Consulting with Hospital and Health Services and other relevant stakeholders on the appropriateness and workability of the model.

The project noted that considerable progress has been made in some parts of Queensland in terms of raising awareness of maternal perinatal mental illness; however, there are very few services to which these professionals can refer patients experiencing moderate to severe mental health issues, particularly outside the south-east corner.

In Queensland, a mother requiring inpatient treatment for perinatal mental illness is usually admitted to an acute mental health unit without her baby. International best practice guidelines unanimously recommend that, where possible, mothers and babies are admitted together to dedicated Parent Infant Units. Victoria has four public Parent Infant Units and is the process of establishing a further two; Western Australia has two; South Australia has one; Tasmania has one; ACT has one; and New
Zealand has two. By contrast, Queensland has no dedicated mother-baby beds and no specialist inpatient facility.

The model outlined in this Discussion Paper has been developed in consultation with all Queensland Hospital and Health Services (HHS), Mater Health Services, and other key stakeholders. The model recommends strengthening three service components to address moderate to severe perinatal and infant mental health issues:

- community-based clinical services,
- inpatient services, and
- state-wide clinical co-ordination.

Stakeholders have been highly engaged and responsive to the consultation process. Feedback on the model has been generally positive, with respondents endorsing additional investment in all three components. Issues of continuing concern are:

- rapid population growth in the corridor between the Brisbane River and the NSW border, where pressure on the proposed new services will grow quickly; and
- the need for central guidance and co-ordination of the new services, to ensure they articulate with and add maximum value to existing services in the primary care and NGO sectors.

The model has been informed by draft costings developed in collaboration with Queensland Health. The proposal represents a significant investment, shared across government and private partners, which will position Queensland as one of the leading states in the provision of perinatal and infant mental health services, providing a better start and a healthier life for mothers, fathers, infants and families in Queensland.

The adequacy of investment in community support and education programs delivered by the NGO sector has not been considered in this proposal.
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1 Introduction

This options paper proposes short, medium and long term initiatives to enhance perinatal and infant mental health services (PIMHS) in Queensland.

Implementation of these initiatives will:

- reduce immediate risks associated with service gaps in this area
- secure better outcomes for Queensland mothers, fathers, infants and families
- provide significant social and economic benefits for Queensland
- position Queensland as one of Australia’s leading states in meeting the mental health needs of mothers, fathers, young children and families

2 The Problem

2.1 Maternal Perinatal Mental Health

In Queensland in the period 2009-2011, suicide was the leading cause of maternal deaths, accounting for as many maternal deaths as all obstetric causes combined.

Queensland and South Australia have the highest rates of maternal postnatal depression in the country (10.2%; Buist et al. 2008).

This figure does not include antenatal mental health problems, mental health problems other than postnatal depression (such as postpartum psychosis), or postpartum issues in the context of pre-existing mental illness. In line with other developed countries, the prevalence rate for clinically significant maternal perinatal mental health issues in Queensland is around 15%.

There is a serious disconnect between the prevalence of maternal perinatal mental health problems and the number of women receiving appropriate treatment. Nearly 10,000 Queensland women require primary care for perinatal mental health issues, nearly 3000 require specialist psychiatric treatment, and over 200 require hospitalisation, each year. Disorders of the perinatal period are among the most preventable and treatable of all mental illness (Oates 2000; Salmon et al 2003), yet Queensland has no dedicated public beds for perinatal mental health admissions, and provides specialist community perinatal mental health services in only four of seventeen Hospital and Health Services.
2.2 Paternal Perinatal Mental Health

One in twenty new fathers experience clinically-significant symptoms of depression and/or anxiety in the perinatal period (PANDA 2013a). Indirect costs to the Australian economy of paternal perinatal depression in 2012 were calculated at $223.75 million: around two and a half times that of maternal depression. Paternal mental illness is a serious “hidden” social and economic problem (Deloitte Access Economics 2012).

2.3 Infant Mental Health

Infants and young children may require secondary and tertiary mental health services in their own right. Studies show that difficult temperament; non-compliance and aggression in infancy and toddlerhood (age 0 to 3 years) predict internalising and externalising psychiatric disorders at 5 years of age (Keenan et al 1998). Left untreated, up to 50% of these problems escalate throughout childhood and result in poorer outcomes emotionally, socially and scholastically (Bayer et al 2009).

2.4 Economic and Social Impacts

Perinatal and infant mental health problems contribute to significant drains on the Australian economy. Effective early intervention in perinatal and infant mental health can potentially save Australia:

- A proportion of the $17.5 billion per year associated with suicide (Lifeline 2010). Suicide is the leading cause of death among women in pregnancy and the first year following childbirth, in Australia as elsewhere in the developed world (Oates 2003). In Queensland in 2009-2011, suicide accounted for the same number of deaths as all obstetric causes combined (Queensland Maternal and Perinatal Quality Council 2013).
- $310.34m in lost productivity associated with perinatal depression. Maternal depression cost Australia $86.59 million in lost productivity alone in 2012. In the same year, paternal depression cost Australia $223.75 million in lost productivity (Deloitte Access Economics 2012).
- A substantial proportion of the $10.7 billion per year associated with child abuse and neglect (almost three times the $3.8 billion associated with obesity; Access Economics 2006, Taylor et al. 2008).
- A substantial proportion of the $1.4 billion per year associated with out-of-home placement of children (Richardson et al 2010). Out-of-home placement is associated with a range of increased vulnerabilities in children including depression, suicidal ideation, inattention and aggression (Sawyer et al. 2007).
- Much of the $20m per year in direct healthcare costs for children aged 4 to 8 with internalising or externalising disorders. This figure does not include indirect costs of childhood mental illness, such as lost productivity for parents (Lucas et al. 2013).
• Costs associated with future psychopathology of child. “Childhood adversity” includes abuse, neglect and out-of-home placement, all events in which parent and infant mental health problems and poor attachment are implicated. Childhood adversity has been found to account for more than 30% of psychosis in adulthood (Varese et al. 2012). In Australia in 2001, real financial costs of psychotic illness totalled $1.85 billion (Access Economics 2002). The burden of disease – pain, suffering, disability and death – is greater for schizophrenia than for ovarian cancer, rheumatoid arthritis or HIV/AIDS (Access Economics 2002).

• A proportion of the $55.5 billion total cost of substance abuse in Australia (Queensland Health 2014). Early adverse experiences before age 5 predict the onset of cannabis use by age 15, other illicit drug use by age 15, and smoking by age 17 (Najman & Plotnikova 2014). In 2004/05, the total cost of drug use in Australia was estimated to be $55.5 billion (Queensland Health 2014).

• A proportion of the $32 billion a year associated with crime and young people in the criminal justice system (Mayhew 2013). At least one longitudinal study has demonstrated that mental health intervention before age 2 reduces by 75% the likelihood of arrest or conviction for a crime by age 17 (Olds et al. 1997).

Other social impacts of untreated perinatal and infant mental health problems are more difficult to quantify in monetary terms, but have significant negative effects on individuals, families and society. These include:

• Infanticide. Most infanticides are committed by the natural mother, who in half of all cases is suffering from a severe health mental disorder (Oates 2000; Porter & Gavin 2010). While childhood mortality in general is decreasing throughout the western world, infanticide has not decreased over the past 100 years (Oates & Cantwell 2011).

• Future mental illness for mother. One-third of women whose postnatal depression goes untreated are still depressed one year after the birth, and up to 23% remain depressed four years after the birth (Woolhouse et al., 2014). An episode of perinatal mental illness is a high risk factor for further episodes, particularly for puerperal psychosis.

• Marital break-down, which can contribute to a cycle of social and economic disadvantage for the entire family (Oates 2000).


• Disrupted attachment relationships. Parental mental illness can interfere with the development of healthy attachment, leading to poorer outcomes in later childhood across a range of domains including emotional, social and
behavioural adjustment, scholastic achievement and peer-rated social status. Disorganised attachment is a predictor of significant later psychopathology.

- **Negative health outcomes.** Early experiences moderate gene expression, and genes mediate between early environments and adverse health outcomes (e.g. Caspi et al 2002, 2003; Champagne & Curley 2005; Cole et al 2007; Turkheimer et al 2003; Suomi 2003). Improving early environments can significantly reduce negative health outcomes (Felitti & Anda 2005).

- **Intergenerational effects.** A child who does not develop a healthy attachment relationship with parents fails to internalise working models of healthy relationships, particularly parenting relationships. This curtails the ability to function in relationships and can severely impair future parenting, contributing to intergenerational cycles of mental health problems and social disadvantage (Main et al. 1985, Fonagy 1991, Steele et al. 1996).

Nobel Prize-winning economist James Joseph Heckman has demonstrated that returns on investment for early intervention programs for perinatal and infant mental health, measured in terms of reducing costs to the health, education, child safety and criminal justice systems over the life of the child from birth to early adulthood, can be as high as $17 per dollar invested (Heckman 2006). Remediation programs in adolescence may achieve similar outcomes to early years programs, but have lower success rates and cost 35-50% more (Heckman 2008).

## 3 Cost-benefit assessment

In developing this paper, Children’s Health Queensland Hospital and Health Services (CHQ HHS) reviewed available national and international literature on the costs and benefits of perinatal and infant mental health intervention. The following principles emerged:

- **Upstream investment,** as early as possible in a child’s life, helps prevent or reduce later problems across such domains as health, education, child safety, crime, drug and alcohol misuse, and future parenting (intergenerational problems, cycles of disadvantage).

- **Prevention** is both more achievable and more cost-effective than remediation.

- **Secondary intervention,** with indicated and selected families, optimises cost-benefit ratios.

- **Higher investment, earlier,** yields higher returns. The up-front costs of intensive indicated and selected intervention tend to be higher than for universal intervention, but the returns on investment are higher and increase exponentially with every year of the child’s age.

- **A clear investment focus** with a demonstrated relationship to later savings is preferable to a diffuse investment with unproven benefits.
4 Existing service context

The current Queensland service system for perinatal and infant mental health has significant gaps. Improving links across sectors and ensuring better health outcomes depends on strategic investment to build capacity throughout the service system.

Recent state-wide consultation processes provide the following snapshot:

- **Greater focus on young families.** Government initiatives such as the Mums and Bubs initiative are providing more focus on healthcare and support for new mothers, babies and families.
- **Improved screening for perinatal maternal mental health issues.** The introduction of universal screening for perinatal depression in public maternity services is strengthening the capacity of the primary care sector to detect signs of perinatal depression in new mothers.
- **Shortage of clinical services.** However, compared with other states and territories and benchmarked against international best practice, Queensland has a serious shortage of options for treating moderate to severe perinatal mental illness.
- **Paternal and infant mental health poorly serviced.** Services for fathers and infants requiring mental health treatment are even more restricted than services for mothers. While awareness of maternal mental health issues (such as postnatal depression) is now growing in the community, paternal mental health and infant mental health needs are very poorly understood outside specialist services.
- **Lack of referral options and consumer choice.** Potential referrers including GPs, maternity and child health services, midwives, non-government agencies, and non-specialist mental health services, are faced with limited options when a new mother, new father, infant or family is identified as requiring specialist mental health intervention. New parents experiencing significant mental health issues have limited avenues for seeking help.

The non-government community sector is currently able to provide:

- information, advice and advocacy for parents experiencing perinatal mental illness
- peer support for parents experiencing perinatal mental illness (available in a few areas only)
- various social support services for families in need
- referral to appropriate clinical services, where these are available

The private sector is currently able to provide:

- mother-baby admission and inpatient treatment for private patients (10 beds only, Belmont Private Hospital)
• mother-only admissions for mental health treatment for private patients (9 private hospitals or clinics state-wide; not specialist perinatal mental health treatment)
• a small number of perinatal or infant mental health specialist psychiatrists, health professionals and mental health nurses (accessible privately, or through Better Access to Mental Health Care/ Access To Allied Health Psychological Services programs)
• a small number of perinatal or infant mental health specialist psychiatrists, health professionals and mental health nurses accessible through University clinics

The public sector is currently able to provide:

• universal screening for maternal mental illness and other risk factors, through Maternity and Child Health services
• mental health promotion and early intervention for mild to moderate perinatal mental health issues in most HHS, through Child Health services and Early Intervention Parenting Specialists/Early Intervention Counsellors
• a community-based perinatal specialist service for moderate to severe perinatal mental health treatment in four of seventeen HHS (most positions not recurrently funded)
• community-based infant mental health specialist services in the Brisbane metropolitan area, with some services in Gold Coast and Sunshine Coast
• short-term mother-baby admissions to a few acute mental health units, maternity wards or general hospitals, usually with general mental health consultation-liaison rather than specialist perinatal and infant mental health support
• mother-only admissions to acute mental health units, separating mother and baby, usually with general mental health consultation-liaison rather than specialist perinatal and infant mental health support
• leadership in service development and implementation, workforce development, mental health promotion and prevention, and evaluation and research, for perinatal and infant mental health across Queensland, through the Queensland Centre for Perinatal and Infant Mental Health

This small quantum of mental health service provision is primarily non-specialist, mostly addresses the mild-to-moderate end of the mental health spectrum, and is thinly spread across the public, private and non-government sectors. The service system for perinatal and infant mental health in Queensland is inadequate to meet moderate to severe mental health needs of parents, infants and families.

5 Other Australian states and territories, and New Zealand

• Victoria has an extensive network of community-based services for perinatal and infant mental health, supported by four public and four private Parent Infant Units (42 beds) for parents and families requiring inpatient treatment. Two new public units are planned for the near future.
• Western Australia has community services and an eight-bed public Parent Infant unit, and will soon open another eight-bed unit.

• South Australia has community services and a six-bed public unit.

• New South Wales has an extensive program of community services and day programs for perinatal and infant mental health, and a twelve-bed private inpatient unit.

• Tasmania has community services and a six-bed unit which accommodates public and private patients.

• ACT has community services. Mothers and babies can be admitted publically to Ward 2N at Calvary Hospital or privately to Hyson Green at Calvary Private Hospital.

• New Zealand has community services and a six-bed public unit in Christchurch, with another six-bed public unit under construction in Auckland.

Queensland has no dedicated public mother-baby beds, ten private beds at Belmont Private Hospital, and community perinatal and/or infant mental health services in only four of seventeen Hospital and Health Services (most not recurrently funded).

6 Service Planning Principles

Eight principles have guided the development of the service continuum proposed in this paper. These principles encapsulate international best practice and have been affirmed through a recent state-wide scoping exercise:

• **Minimise separation.** Separation of a mother from her baby and family should be minimised, where consistent with the safety and well-being of all parties. “Except in cases where the baby’s or the mother’s emotional or physical well being may be jeopardised, it is best clinical practice that mother and baby be admitted to hospital together” (Royal Australian and New Zealand College of Psychiatrists 2009).

• **Family-friendly service settings.** Where joint admission is not possible or advisable, frequent visits between mother and baby should be supported to promote breastfeeding, attachment, and positive health outcomes for both mother and infant. Service settings such as inpatient mental health units may require modification to ensure safe, comfortable, welcoming environments for babies and young children to visit with mothers.

• **Close to home.** Parents requiring mental health treatment should be treated as close as possible to where they live, to minimise dislocation from home, family, community, usual daily life, spiritual connections and, for indigenous consumers, country.
• **Early intervention.** Intervention to promote perinatal and infant mental health should occur as early as possible, to prevent escalation of problems and the need for more intensive and disruptive treatment.

• **Risk management.** The perinatal period is associated with an elevated risk of suicide. The safety of infants and young children in inpatient mental health settings requires good clinical and environmental risk management.

• **Family focus.** Perinatal and infant mental health services should be delivered within an integrated, recovery-oriented model of practice, with the family as the focus of intervention. A “silo” model that attempts to address the mental health needs of parent and infant separately is unlikely to be effective.

• **Father-inclusive practice.** The incidence of perinatal mental illness among fathers is only just being recognised, as is the impact of maternal mental illness on fathers. To build stronger families, services for perinatal and infant mental health must recognise and work with fathers as well as mothers.

• **Partnership and choice.** Consumers and families should have options and be empowered to choose where they receive services, within a safe and clinically appropriate framework.

### 7 Proposed Service Enhancements for Queensland

This options paper recommends a staged implementation of three evidence-informed programs of enhancement, summarised in Appendix I: Proposed State-wide Perinatal and Infant Mental Health Service Continuum:

#### 7.1 Community-based perinatal and infant mental health services

• Community Care Teams will deliver community-based clinical services for moderate to severe perinatal and infant mental health issues, addressing the most immediate needs identified through a recent state-wide audit of all HHS and Mater Health Services. These services include in-reach and consultation-liaison to support mothers and babies admitted to non-specialist inpatient services; specialist mental health home visiting; specialist clinic-based appointments; and specialist psycho-educational groups. These positions may also play a role in building cross-sectoral linkages and referral pathways; supporting local development of the perinatal and infant mental health workforce across sectors; and mental health promotion.

• Extended Community Care Programs will broker partnerships with public, private and non-government providers, to establish day programs for mothers, fathers, infants and families with moderate to severe mental health issues, as an alternative to admission and as a step-up/step-down treatment option.
• A new service, State-wide Perinatal Psychiatry, will provide psychiatry support via a cost-effective telehealth model, to community and inpatient elements of the service system.

7.2 Inpatient options for perinatal and infant mental health admissions

The paper outlines three cost-effective strategies for establishing mother-baby beds in key Queensland centres:

• Build on existing capacity and current models used around the state to provide mother-baby mental health admissions. Current models include the use of beds in adult mental health units, maternity hospitals and general hospitals, meeting criteria for either a Level 4 service under the Mental Health - Perinatal and Infant Clinical Services Capability Framework, or a Level 2 service under the Mental Health - Adult Services Clinical Services Capability Framework. Existing capacity will be enhanced through support provided by the State-wide Perinatal Psychiatry Service, clinical in-reach provided by Community Care Teams, and workforce development and strategic support provided by the Queensland Centre for Perinatal and Infant Mental Health.

• Explore potential for expansion of inpatient beds to meet Level 4 or Level 5 criteria under the Perinatal and Infant Mental Health Clinical Services Capability Framework, through public-private partnerships in existing facilities.

• Establish a 12-bed state-wide Parent Infant Unit (PIU) which meets Level 6 criteria under the Perinatal and Infant Mental Health Clinical Services Capability Framework. The PIU will provide short to medium term inpatient care and specialist intervention for mothers, fathers, infants and families with severe and/or complex mental health needs. Potential sites and funding models (including public, private, and partnership models) continue to be explored in consultation with stakeholders.

7.3 Queensland Centre for Perinatal and Infant Mental Health

Highly specialised health services, for issues of comparatively low prevalence but very high risk, require centralised leadership within a devolved health service system. To expand the scope, influence and effectiveness of perinatal and infant mental health service delivery across the state, there is a need to enhance the Queensland Centre for Perinatal and Infant Mental Health (QCPIMH) as a state-wide hub of specialist expertise. QCPIMH currently provides front-line services for infant mental health; supports capacity development within the primary care and non-government sector focussed on the emotional well-being of mothers, fathers, infants and families; leads perinatal and infant mental health service development and implementation across sectors; delivers training, education and workforce development across...
sectors; contributes to mental health promotion and prevention across sectors and community-wide; and contributes to the evidence base for cost-effective best practice in perinatal and infant mental health by conducting evaluation and research activities with a range of partners.

Key positions in QCPIMH are currently funded by Children’s Health Queensland Hospital and Health Service (CHQ-HHS). To ensure sustainability of a co-ordinated cross-sectoral state-wide service system supporting perinatal and infant mental health, some enhancement of the Centre is required.

A pictorial representation of the proposed enhancements is provided below. The QCPIMH will feed into cross-sectoral capacity development, including mental health promotion and earlier intervention, particularly across the primary care and community sectors. This support will continue up through the new secondary and tertiary services including community-based services and inpatient options.

**Figure 1: Proposed conceptual structure for new PIMH service system enhancements**

7.4 Benefits and Outcomes

- High quality, effective perinatal and infant mental health service options based on contemporary models of care, available to all Queenslanders.
- Increased access for mothers, fathers, infants and families to service options for moderate to severe perinatal and infant mental health issues, including home
visiting programs and day programs closer to where they live, taking into account the geographically-dispersed Queensland population.

- Strengthened intra-sectoral and inter-sectoral partnerships in perinatal and infant mental health care.
- High short, medium and long term returns on investment in the delivery of perinatal and infant mental health care.
- Reduction in maternal suicide rates from pregnancy to 365 days following birth.
- Reduction in abuse and neglect of Queensland children aged 0 to 3 years.

### 7.5 Models for Community-Based Services for HHS with Lowest Birth Rates

It is difficult to design and deliver a cost-effective community-based service for perinatal and infant mental health in those HHS with small and highly dispersed populations and low birth rates. It is vital that these populations be serviced effectively, since many factors associated with rurality and remoteness are known to contribute to increased levels of risk for mental health issues in general and perinatal and infant mental health issues in particular.

Aboriginal and Torres Strait Islander mothers, fathers, infants and families are at particularly high risk due to trans-generational trauma issues which may be activated at the time of having a child. Indigenous communities already face well-recognised challenges to mental health and well-being including isolation, over-crowded living conditions, limited opportunities for education and employment, high levels of drug and alcohol abuse, and high levels of violence in many communities.

Extensive consultation with these HHS has informed the model for enhanced PIMH services, outlined in more detail in Appendix I.
## 7.6 Proposed Timeline

The following draft timeline is based on existing infrastructure and opportunities, identified service demand, and advice received through the state-wide consultation process.

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<td>Plan for commissioning for 2018/19</td>
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8 Conclusion

The proposed State-wide Perinatal and Infant Mental Health Service Continuum is presented in more detail in Appendix I.

The model has been informed by draft costings developed in collaboration with Queensland Health, January to June 2014.

All Queensland Hospital and Health Services and a number of other key stakeholders contributed to the development of the proposed model and were invited to provide comment on a draft version of this Discussion Paper in May-June 2014.

Feedback on the model has been generally positive, with respondents endorsing the proposed investment in all three components. Issues of continuing concern are:

- rapid population growth in the corridor between the Brisbane River and the NSW border, where pressure on the proposed new services will grow quickly; and
- the need for central guidance and co-ordination of the new services, to ensure they articulate with and add maximum value to existing services in the primary care and NGO sectors.

The proposal represents a significant investment, shared across government and private partners, that will position Queensland as one of the leading states in the provision of perinatal and infant mental health services, providing a better start and a healthier life for mothers, fathers, infants and families in Queensland.