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Perspective Piece

Perinatal mental healthcare in Northern Ireland: challenges and opportunities

D. Mongan[1,2], J. Lynch[3], J. Anderson[4], L. Robinson[5] and C. Mulholland[4,6]

[1]Centre for Public Health, Queen's University Belfast, Belfast, Northern Ireland, [2]Department of Psychiatry, Royal College of Surgeons in Ireland, Dublin, Ireland, [3]Belfast Health and Social Care Trust, Belfast, Northern Ireland, [4]Northern Health and Social Care Trust, Antrim, Northern Ireland, [5]Independent Researcher, Northern Ireland and [6]School of Medicine, Queen's University Belfast, Belfast, Northern Ireland

Abstract

Perinatal mental health is a vital component of public mental health. The perinatal period represents the time in a woman's life when she is at the highest risk of developing new-onset psychiatric disorders or relapse of an existing mental illness. Optimisation of maternal mental health in the perinatal period is associated with both short- and long-term benefits not only for the mother, but also for her infant and family. However, perinatal mental health service provision remains variable across the world. At present in Northern Ireland, 80% of women do not have access to specialist community perinatal mental health services, and without access to a mother and baby unit, mothers who require a psychiatric admission in the postnatal period are separated from their baby. However, following successful campaigns, funding for development of specialist perinatal mental health community teams has recently been approved. In this article, we discuss the importance of perinatal mental health from a public health perspective and explore challenges and opportunities in the ongoing journey of specialist service development in Northern Ireland.

Maternal mental health; perinatal; postnatal depression; public health

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Introduction

Public mental health is increasingly recognised as a crucial consideration of an overall mental health strategy. Through this lens, perinatal mental health could be viewed as the pinnacle of preventative care. Optimisation of maternal mental health in the perinatal period is associated with multiple and inter-generational benefits for mothers as well as their children and families (Stein *et al.* 2014). Despite this, the provision of perinatal mental health services remains variable across the globe and, where services exist, they are often under-resourced. To-date, this has unfortunately also been the case in Northern Ireland. However, plans have been underway to change this for the better and are beginning to come to fruition.

In this article, we will focus on the development of perinatal mental health services in Northern Ireland. We first discuss the importance of perinatal mental health from a public health perspective. We describe the current provision of services in Northern Ireland and the journey of reform. Finally, we highlight the potential challenges and opportunities in relation to the ongoing process of perinatal mental health service development.

Address for correspondence: D. Mongan, Department of Psychiatry, Royal College of Surgeons in Ireland, Smurfit Building, Beaumont Hospital, Beaumont Road, Dublin 9, Ireland. (Email: davidmongan@rcsi.ie)

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Perinatal mental health: a public health imperative

The perinatal period is defined by the WHO as beginning at 22 weeks gestation and ending at 7 days postnatally (World Health Organisation, 2021). Typically however, perinatal mental health services provide care for women with psychiatric disorders that arise over a broader period, from the beginning of pregnancy through to 1 year postpartum. Due to significant investment, in England women open to specialist teams (when clinically appropriate) can be followed for up to 2 years. One of the roles of the psychiatrist in the perinatal mental health team also relates to preconception counselling, particularly for women with significant pre-existing mental illnesses which are likely to be impacted by pregnancy or parenthood. As well as communicating the risks a pregnancy or birth may have for the woman's mental health, preconception counselling is also an opportunity for psychotropic medication to be optimised to minimise the risk of relapse and the risk of adverse effects. Certain women may be at particularly high risk of an episode of perinatal mental illness during pregnancy or after birth; for example, women with a history of bipolar affective disorder, other severe mental illness or perinatal mental illness.

Psychiatric disorders are common causes of morbidity in the perinatal period. For example, anxiety disorders such as generalised anxiety disorder, obsessive-compulsive disorder and post-traumatic stress disorder affect approximately 15% of women antenatally and 10% postnatally (Dennis *et al.* 2017). There is an evidence that anxiety symptoms have increased among pregnant women in the context of the COVID-19 pandemic (Moyer *et al.*

2020). A systematic literature review reported a pooled prevalence of perinatal depression of approximately 12% (Woody *et al.* 2017). However, this figure may vary widely across the globe, being as high as 65% in some settings (Dadi *et al.* 2020). A scoping review of Irish studies found widely varying prevalence rates of perinatal depression and anxiety, ranging from 1% for antenatal depression based on self-report to 26.7% for postnatal depression based on clinical interview (Huschke *et al.* 2020). A population-based survey of approximately 5000 pregnant women in the Republic of Ireland found that 15.8% screened positive for antenatal depression (Jairaj *et al.* 2019). Postpartum psychosis is comparatively less common (arising in around 1 in 1000 births (VanderKruik *et al.* 2017)) but is a very serious psychiatric disorder that requires early detection and treatment to minimise risks of harm to the mother or her baby (Sit *et al.* 2006). This condition is considered a psychiatric emergency and may require specialist inpatient care.

As well as *de novo* disorders, women with pre-existing mental illness may be at risk of relapse in or after pregnancy. For example, in a longitudinal study of women with a history of depressive disorder, 43% of participants experienced a relapse of their condition during pregnancy (Cohen *et al.* 2006). Women with a history of psychotic disorders may also be at risk of relapse. In one retrospective study, relapse occurred in 24% of women with a history of non-affective psychotic disorders, and in 12% of women with affective psychosis or bipolar affective disorder (Taylor *et al.* 2018). Bipolar affective disorder, in particular, has an established risk of postpartum relapse: the overall risk of postpartum relapse of this condition is 35%, increasing to 66% in women who were medication-free during pregnancy (Wesseloo *et al.* 2016). The risk of perinatal relapse of any psychiatric disorder is dependent upon multiple characteristics related to the individual, their disorder and psycho-social factors (which may be exacerbating or protective). However, shared and multi-disciplinary pre-pregnancy or antenatal care planning, as recommended by guidelines from the National Institute of Health and Care Excellence (NICE) in the UK (NICE, 2014a), may help to minimise these risks and ensure that services are work together to best support mothers who may be vulnerable to perinatal mental illness.

Outcomes of perinatal psychiatric disorders for mothers and children

Whether arising as a relapse of an existing condition or a *de novo* episode, perinatal psychiatric disorders can sometimes lead to major detrimental outcomes for the mother. In the UK, confidential enquiries into maternal mortality continue to highlight the contributory role of mental health conditions. The most recent report, based on maternal deaths from 2015 to 2017, found that 10% of the maternal deaths recorded during this period were caused by mental health conditions (Knight *et al.* 2019). These included deaths by suicide and deaths caused by alcohol and other substance use. Suicide remains the leading cause of maternal deaths within the first postnatal year in the UK. Maternal self-harm is more common in women with a history of psychiatric disorder or substance use, and in younger compared to older mothers (Ayre *et al.* 2019). Other maternal risks associated with perinatal mental illnesses include increased risk of substance misuse, poor physical health and interpersonal violence, as well as potential impacts on mother–infant bonding and relationships with the partner and other children (Devries *et al.* 2013; Meltzer-Brody & Stuebe, 2014; Dubber *et al.* 2015).

In addition to adverse maternal impacts, there are also associated risks for the infant. We recently investigated associations between maternal psychiatric disorder and indicators of early neonatal health (Mongan *et al.* 2019). In Northern Ireland, midwives have been routinely enquiring from women regarding any history of psychiatric disorder at the booking appointment over the past several years, in line with NICE guidance (NICE, 2014a). This information is recorded using the Northern Ireland Maternity System (NIMATS), an electronic clinical recording platform used regionally to record information on all women presenting to maternity services. Based on data for 140 569 pregnancies registered on NIMATS, we found that a self-reported history of any psychiatric disorder at the booking appointment was significantly associated with increased odds of preterm birth, low infant birth weight and low Appearance, Pulse, Grimace, Activity, and Respiration (APGAR) scores at birth (Mongan *et al.* 2019). These findings are in keeping with previous studies that have linked maternal history of psychiatric disorders with an increased risk of adverse obstetric and neonatal outcomes (Grote *et al.* 2010; Stein *et al.* 2014; Jarde *et al.* 2016; Huang *et al.* 2017).

Beyond infancy, there is also evidence of more distal impacts of maternal mental illness upon child development across a range of socio-emotional, cognitive and neurodevelopmental outcomes, both in early childhood and adolescence (for reviews of this area see Aktar *et al.* 2019 and Talge *et al.* 2007). Maternal perinatal depression, for example, has been associated with increased risk of emotional problems and conduct problems in childhood (Bauer *et al.* 2015). Significant maternal stress in pregnancy may be associated with cognitive difficulties in children (Laplante *et al.* 2008). A meta-analysis of 193 studies found evidence of significant associations between maternal depression and internalising, externalising and general psychopathology in children (Goodman *et al.* 2011). A further longitudinal study found that maternal depression was associated with increased anxiety and depressive symptoms in adolescence, with evidence that this relationship may be partly mediated by peer victimisation in childhood (Côté *et al.* 2018).

Several mechanistic explanations have been put forward to explain these intergenerational associations including shared genetic risk factors (Stein *et al.* 2014), hypothalamic-pituitary axis upregulation (Lautarescu *et al.* 2020), epigenetic mechanisms (Talge *et al.* 2007), maternal immune activation (Beijers *et al.* 2014), impaired parent-infant bonding (Dubber *et al.* 2015) and environmental risk factors (including experience of adversities such as intimate partner violence (Shah & Shah, 2010) and poverty (Lefmann & Combs-Orme, 2014)). For any individual case, there is likely to be a complex network of causal factors operating synergistically that necessitate individualised assessment and tailored responses beyond a 'one size fits all' approach.

Interventions

Regardless of the causes of perinatal mental ill-health, services need to be capable of intervening effectively to ameliorate these problems if we wish to improve outcomes for mothers and their children. Interventions need to be tailored to the individual mother and her family, and are most likely to be most effective when considered within a biopsychosocial framework. Studies of psychological interventions such as cognitive behavioural therapy and interpersonal therapy show that this is possible, especially in the case of postnatal depression as this is where most evidence has been accumulated to date (Howard & Khalifeh, 2020). Given that pregnant women are usually under-represented (if at all) in clinical

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trials of pharmacological agents, decisions about psychopharmacological interventions in pregnancy require collaborative and informed discussions between prescribers, the mother and her family. These discussions should be framed as a risk–benefit analysis on an individual case-by-case basis, balancing the risks of destabilisation of a mother's mental health with the potential risks of adverse effects for the foetus. Perinatal psychiatrists, in particular, have a key role in aiding and supporting these decisions.

Overall, it is clear that there is a need to identify women at risk of perinatal psychiatric illnesses, to actively monitor their mental health and to intervene appropriately to prevent or treat perinatal mental illness to maximise early and later outcomes for mothers and their children. Our attention now turns to the reality 'on the ground' with respect to specialist service provision in Northern Ireland.

Perinatal mental health service development in Northern Ireland

Unfortunately, despite clear need, 80% of women living in Northern Ireland do not currently have access to specialist community perinatal mental health services (Maternal Mental Health Alliance, 2020a) and there is no access to a mother and baby unit. The Maternal Mental Health Alliance recently investigated whether provision of specialised perinatal community teams met standard criteria in areas across the UK (Maternal Mental Health Alliance, 2020b). Their report highlighted that 14% of Health Boards in Scotland met such criteria; 29% of Health Boards in Wales and 80% of Clinical Commissioning Groups in England. While there is work still to be done in these nations to expand availability, the same figure for Health and Social Care Trusts in Northern Ireland was 0%. This constitutes a gross disparity in terms of basic service provision for women and their families in Northern Ireland.

Until recent years, there has been relatively piecemeal development of services in Northern Ireland largely initiated by motivated clinicians. Now, following sustained concerted efforts by patients, advocates, clinicians, researchers, policy-makers, campaigners and politicians, meaningful progress is starting to happen. Perinatal mental health forms an important component of Northern Ireland's Mental Health Action Plan published by the Department of Health in May 2020 (Department of Health, 2020). On 13th January 2021, the Department of Health in Northern Ireland confirmed the allocation of funding for new multi-disciplinary community perinatal mental health teams. The cost of the new services is estimated to be approximately £4.7 million per year. Community teams will be set up in each of the five Health and Social Care Trusts. A new stepped care model will be introduced, and a central regional group will be established to consider standards and outcomes and ensure consistency across Trust areas. This will help ensure that these positive developments are sustained.

Challenges

The development of new perinatal mental health services raises both challenges and opportunities.

An initial challenge relates to the ideal service model. It has been recently highlighted that little evidence exists to guide decisions regarding the commissioning of community service models for perinatal mental health (Howard & Khalifeh, 2020). It is however clear that services need to be planned within the context of the local service environment and, insofar as is possible, to ensure continuity of care. Looking to the Republic of Ireland, there the model of care for specialist perinatal mental health services closely aligns with existing maternity networks (National Mental Health Division, Health Service Executive, 2017). The model consists of a 'hub and spoke' arrangement whereby each 'hub' hospital has a specialist perinatal mental health service staffed by a full-time consultant perinatal psychiatrist, a psychiatry trainee doctor, two clinical nurse specialists, a psychologist, an occupational therapist, a senior social worker and an administrator. In 'spoke' hospitals, the local liaison psychiatry service provides clinical care for perinatal patients with access to the hub team for advice and training. While these developments in models of care are promising, systemic gaps and challenges to implementation continue to be identified in provision of perinatal mental healthcare in Ireland. For example, systematic screening for psychiatric disorders has not been universally implemented. Midwives may not routinely screen for mental health conditions or risk factors that may be particularly sensitive, such as suicidal ideation, eating disorders and psychosis (Higgins *et al.* 2017) highlighting the need for improved education and training in this area. There have been calls to refocus the measurement of quality of care on women's subjective experiences rather than morbidity and mortality alone (Huschke *et al.* 2020). Greater engagement is required with marginalised groups (such as Travellers and migrants) who may have specific maternity care needs (Kennedy & Murphy-Lawless, 2003). Recognition of such problems has led to some positive developments such as the Mind Mothers e-learning programme (https://healthservice.hse.ie/filelibrary/mind-mothers-project.pdf) which seeks to improve access to education and training regarding perinatal mental health for midwives (Carroll *et al.* 2018).

The model proposed as part of the business case for services in Northern Ireland comprises specialist community perinatal mental health teams with staff from psychiatry, psychiatric nurses, social work (including social workers with a specific safeguarding role), psychology, occupational therapy and peer support, with input from midwives, obstetricians and health visitors with dedicated time and training. Rather than a region-wide hub and spoke model, the business case proposes that there will be a specialist community perinatal team in each Health and Social Care Trust area in Northern Ireland. This is justified not only on the basis of number of yearly deliveries, but also to ensure equitable geographical service provision and availability across urban and rural areas. For women already open to a community mental health team who are accepted by the specialist perinatal team, most will be managed on a shared care basis between the two teams, with ongoing input from the patient's community team keyworker and the specialist perinatal team leading her care. In most cases, care will be transferred back to the woman's community mental health team at 12 months postpartum. Perinatal services will work closely together with the woman's existing support network to augment rather than replace vital supports and to ensure minimal disruption on transition into and out of specialist perinatal services.

Availability of inpatient services requires careful consideration. Even with optimal community-based perinatal mental health service provision, there will always a core group of cases where the risk, complexity or severity of illness warrants specialist care in an inpatient setting. In the cases where admission for perinatal mental health problems is required, at present in Northern Ireland women are generally admitted (without their babies) to general adult psychiatry settings. While this may be indicated in certain situations (e.g. where there is significant risk of harm to the baby), separation of mother and baby may impact upon

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mother–infant bonding and can potentially prolong the woman's recovery. This has been complicated by the fact that during the COVID-19 pandemic supervised visits have been restricted or unavailable in many units. There is evidence that specialist inpatient mother and baby units are clinically effective in terms of symptomatic and functional improvements for mothers (Meltzer-Brody *et al.* 2014; Stephenson *et al.* 2018). There is also qualitative evidence that specialist perinatal inpatient services are preferred over generic services by patients and staff (Griffiths *et al.* 2019). Mother and baby units are also likely to be favourably cost-effective (NICE, 2014b). Currently, however, there are no active mother and baby units on the island of Ireland whereas there are 22 such centres operating in England, Scotland and Wales (Maternal Mental Health Alliance, 2020c). The Regulation and Quality Improvement Authority, in their 2017 review of perinatal services, recommended that a regional unit should be established in Northern Ireland (Regulation and Quality Improvement Authority, 2017). The business case for a dedicated mother and baby perinatal mental health inpatient unit in Northern Ireland is still under development, but is not yet agreed.

In the Republic of Ireland, there is also currently no mother and baby unit. The perinatal mental health services model of care report recommended establishment of a dedicated national mother and baby unit in Dublin, which would act as a tertiary referral centre (National Mental Health Division, Health Service Executive, 2017). In the UK, the Royal College of Psychiatrists have recommended that all women requiring admission in late pregnancy or after delivery should be admitted to a specialised mother and baby unit. In the same report, it was recommended that specialised units with at least six beds should be provided to serve populations with 15 000–20 000 deliveries per year (Royal College of Psychiatrists, 2015). Northern Ireland typically has between 22 000 and 25 000 live births per year (Northern Ireland Statistics and Research Agency, 2020) and thus, on the basis of this recommendation, a regional mother and baby unit is justified. An island-wide mother and baby unit is another possibility, which would potentially maximise clinical throughput and ensure a 'critical mass' to allow for adequate training, exposure and experience for development of specialist inpatient teams. This may also help to better facilitate access to inpatient services for women living in border areas that may be distanced from urban population centeres. However, this would require extensive and integrative work across two legal jurisdictions (especially relevant in the context of mental health legislation), two health systems and multiple different training bodies for the various essential professional disciplines. There are previous examples of such cross-border service models (such as in paediatric cardiology) demonstrating that it can be achieved with sufficient political will, but clearly there are extraneous challenges (not least of which include COVID-19 and the departure of the UK from the European Union) that could impede such plans. Even without shared cross-border specialist centeres, collaborative sharing of resources, learning, experience and training seems a sensible and worthwhile approach as services develop on both sides of the border.

Opportunities

Opportunities include the potential to develop a world-class perinatal mental health service that is prevention-focused, multi-disciplinary, research-aligned and co-designed by patients.

In keeping with the proactive (rather than reactive) service framework proposed in the 'Systems, Not Structures' expert panel report into health and social care in Northern Ireland (Department of Health, 2016), the emphasis of perinatal mental health services should include prevention of illness. This would necessitate close working with public health and primary care on awareness campaigns targeted towards mothers, their partners and families. Furthermore, ongoing public health efforts to improve healthcare access among vulnerable populations (including people with severe mental illness) and to tackle health inequalities dovetail with the preventative aims of perinatal mental health services. Of course, these efforts would need to run parallel and not detract from adequate provision of treatments and interventions at an individual level.

Perinatal mental health services require multi-disciplinary working. By their very nature, perinatal psychiatric disorders are complex and rarely impact one person individually. Adequate assessment and intervention may require input from a spectrum of professionals including psychiatry, psychology, nursing staff, midwives, obstetricians, pharmacists, health visitors, social workers, occupational therapists, voluntary sector staff and, ideally, peer support workers. Inter-disciplinary training will need to be provided to ensure the appropriate mixture of skills is available for each patient on an individualised basis. A programme of multi-disciplinary training in perinatal mental health has been developed in Northern Ireland and the intention is that will continue to be delivered on an ongoing basis, increasing the pool of staff with specialist training. With high levels of demand for professionals in already-existing services, this will require careful recruitment and strategies to ensure adequate staffing and skill mix is available across the perinatal mental health teams.

A new perinatal mental health service should, like any other, rely on evidence-based recommendations and interventions. However, in the local context, there is a lack of research regarding prevalence and, particularly, interventions for perinatal psychiatric disorders. Working closely with research colleagues, a new perinatal mental health service in Northern Ireland should also serve as a platform for further research into mental health problems in this previously under-researched population.

Central to any new service development is the integral involvement of patients and the public from the beginning. Patients and others with lived experience should have real input into how the service is designed and delivered. Thus far, co-design has thankfully been emphasised in the development of perinatal mental health services. This will help to ensure that the patient remains at the heart of the service model.

Conclusions

For too long, women in Northern Ireland have not had access to specialist perinatal mental health services. Following rigorous campaigns, we are now on the cusp of an exciting opportunity to develop world-leading services in this area. While there are clear challenges ahead, the hope is that the product will be an example of multi-disciplinary working at its best, leading to improved outcomes for mothers, babies and their families.

Conflicts of interest. DM reports a patent pending (UK Patent Application No. 1919155.0, 'Biomarkers to predict psychosis'). JL, JA, LR and CM report no conflicts of interest.

Ethical standards. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as

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revised in 2008. The authors assert that ethical approval for publication of this perspective piece was not required by their local Ethics Committee.

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