The Revised Model of Care for Neonatal Services in Ireland: Psychology and Infant Mental Health

This position paper has been produced by psychologists from the Psychological Society of Ireland (PSI) Special Interest Group in Perinatal and Infant Mental Health (SIGPIMH), the PSI Special Interest Group in Paediatric Psychology (SIGPeP), and the Irish Association for Infant Mental Health (I-AIMH) for consideration in the Revised Model of Care for Neonatal Services in Ireland.

The Psychological Impact of the Neonatal Intensive Care Unit (NICU) on Infants, their Parents, and Families

High-risk infants beginning their lives in the Neonatal Intensive Care Unit (NICU) are often predisposed to a range of short and long term behavioural, social, and emotional developmental challenges that may accompany them into adulthood (Browne, 2021). The specific nature of these challenges can manifest in a range of regulatory difficulties such as pronounced medical and autonomic instability, eating/feeding/growth delays, disorganised sleep/wake cycles, poor social availability and/or pronounced irritability (Browne and Talmi, 2012).

The separation of parents from their infant in the NICU, combined with parental mental health issues such as depression, post-traumatic stress disorder (PTSD), and anxiety, can adversely affect the parent-infant relationship resulting in adverse outcomes for the infant’s social and emotional development and behavioural and cognitive functioning (Craig et al., 2015). Parents of premature infants or infants in the NICU grapple with uncertainty about their child’s wellbeing from risk of death to life-changing diagnoses and vicarious trauma from necessary treatments and interventions. This is compounded by a lack of opportunity for parents to provide direct care to their infant, their own self-reported difficulties with their wellbeing, as well as their concerns about bonding with their infant, both in the short and long term.

Having a baby in a NICU can also be a traumatic experience for families and it has been estimated that 20-30% or higher of NICU parents experience a diagnosable mental disorder

during the first postpartum year (Hynan et al., 2013). These NICU journeys take a psychological toll not only on the parents and the neonate, but also on wider family relationships including siblings.

What is the Role of a Psychologist in the NICU?

Psychologists in neonatal services can provide evidence-based psychological and infant mental health assessments and interventions to infants, parents, and staff. Psychologists provide excellence in the delivery of individual and group interventions and contribute formulations on infants and families on developmental ward rounds and multidisciplinary team (MDT) meetings. Psychologists are also specially trained in developing relationships and engaging with families in highly evocative, traumatic, and stressful situations and are critical to holistic neonatal care. Alongside provision of clinical expertise, psychologists have core competencies in the design, implementation, and evaluation of research projects.

The clinical skill base of the psychologist in addition to the incorporation of core infant mental health principles, facilitates an environment to:

i) support the nurturing of relationships between parents and professional NICU staff at the earliest opportunity.
ii) create the opportunity for the development of regulation of physiological state, motor, and interactive perspectives during the newborn and young infant's period of development.
iii) facilitate opportunities for reflection on the meaning of the infant's experience in the NICU. These reflective opportunities can collectively help parents, family, and the NICU professional team caregivers to support and promote the infant's social and emotional development (Browne, 2021).

Psychologists provide comprehensive, psychological interventions to support the mental health and wellbeing of parents, siblings, and family members resulting from the stressful and challenging events that necessitate an infant's admission into the NICU (Shah, Browne, & Poehlmann-Tynan, 2019). In addition, the psychologist can offer teaching on the unit, reflective practice staff supports, opportunities for debriefings on critical incidents, and provide psychologically informed understandings regarding the evocative environment of the NICU to help reduce incidences of stress and burnout. These supports further enhance the capacity of the professional team to optimise their care and respond to the complex needs of infants and families in neonatal units.

Along with trauma-informed, attachment and infant and perinatal mental health framework models, psychologists are also trained to provide support for infants and parents with palliative diagnoses and deliver comprehensive neurodevelopmental follow-up to infants.

Recommendations for optimal family support in the NICU indicate this should include provision of psychosocial support for parents from professionals providing care in the NICU including psychologists (Craig et al., 2015).

Why Early Social and Emotional Development Matters?

Early relationships matter and early social and emotional development lay the foundational building blocks for a lifetime trajectory of wellbeing and mental health. These early caregiving environments in the first three years of life impact on cognitive, social, and emotional development. The nature of parent-child interaction predicts the developmental outcomes for infants with consistent, predictable, and sensitive relationships leading to optimal child development. Infant outcomes in neonatal care are also influenced by the quality of these early caregiving relationships and the nature of the facilitating NICU environment.

What is Infant Mental Health?

Infant mental health is the developing capacity of a child from zero to three years to experience, regulate and express emotions; form close and secure relationships; and explore the environment and learn, all in the context of the caregiving environment that includes family, community, and cultural expectations (Zero to Three, 2023). The Health Service Executive (HSE) definition adds to this by explaining that infant mental health begins before birth and refers to how well a child develops socially and emotionally from conception and throughout early childhood (HSE, 2022).

Suggested Psychology Staffing

Psychology Services should be clinically led by a Principal Specialist Psychologist with staffing for one Whole Time Equivalent (WTE) Senior Psychologist per 20 cots on a neonatal unit. In the United Kingdom (UK), the most recent staffing recommendations for psychology on the Neonatal Unit have been developed by the Operational Delivery Network (ODN) Psychology Leads. These standards have been endorsed by the British Association of Perinatal Medicine, the British Psychological Society, Association of Clinical Psychologists, Neonatal Nurses Association, and the Sands organisation, which is dedicated to saving babies' lives and supporting bereaved families. The proposed minimum Principal Psychologist-led staffing standards for psychology on the neonatal unit is a hub and spoke model with the following recommendations:

- Inpatient - 1 WTE Senior Grade Psychologist for 20 cots (with additional 0.4 / Principal Psychologist grade and higher-grade leading service development over three inpatient units).

- For inpatient units deemed higher risk, e.g., a unit that provides surgery/high stress/ high deprivation/specific challenges etc., the recommendation is 1.2 WTE Senior Psychologist Grade with 0.6 WTE Principal Specialist Psychologist and higher-level Psychologist (UK Staffing Standards, 2022).

Neurodevelopmental Assessment and Follow-up

Evidence from research and clinical practice recommends repeated neurodevelopmental assessment and follow-up for many cohorts of infants. Existing neurodevelopmental assessment and follow-up has been provided for some infants born at extremely low birth weight (<1500g) and/or born preterm, and infants with hypoxic-ischemic encephalopathy (HIE) treated with therapeutic hypothermia. Further neurodevelopmental follow-up is also recommended for infants with early diagnoses of neurological, metabolic, neuromuscular conditions and infants born with other medically complex diagnoses. Psychologists are well placed to assess and formulate differential assessments of mental health, attachment, and the impact of early adversity to explain the role that wider variables can have on the neuropsychological profile of an infant. The heterogeneity of neurodevelopmental outcomes for neonatology patients is an important consideration for all healthcare professionals in supporting parents in their journey through neonatology services.

Best practice neurodevelopmental follow-up is completed with an MDT of health and social care professionals, including neuropsychology/psychology, using standardised objective psychometrics to complete wider assessments of clinical need (i.e., exploring neurodevelopmental difficulties and diagnoses). Consultation between neonatology, the paediatric hospital and community services to maximise resources and provide further neurodevelopmental assessment and intervention is recommended. Assessment and intervention of the cognitive, social, and emotional development of an infant into childhood is recommended within a paediatric hospital service or a community service with the MDT and a consultant paediatrician.

Staffing for neurodevelopmental assessment and follow-up is in addition to the requirement for psychology in the NICU.

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