

**Supervisor:** Dr Don Sharkey

**Project title:** Development of a neonatal nutrition tool to improve long-term outcomes

**Theme:** Newborn outcomes

**Keywords:** premature, newborn, nutrition, outcome

**Fee Band:** Low cost research

Available to home & EU students/International students

Optimal newborn nutrition, especially in premature infants, is crucial for growth and later development. Indeed, growing evidence now demonstrates that suboptimal nutrition in the first weeks of life is associated with low IQ, developmental problems and poor growth in childhood. Data from neonatal intensive care units (NICU) in Nottingham, and elsewhere, have demonstrated that early nutritional intakes in preterm infants are significantly lower than recommended requirements, potentially predisposing them to adverse outcomes. Calculation of daily nutritional intake, by doctors and nurses, on an individual basis is complicated, time consuming and, in reality, not practical to do on a frequent basis. This may, in part, explain why many newborn babies receive suboptimal nutrition as their deficits go unrecognised. For complex cases the use of an expert neonatal dietician is essential and individualised nutritional plans can be formulated. Unfortunately, these specially trained dieticians are a scarce resource with many NICUs unable to regularly access their help. A nutritional tool that could identify those newborns requiring expert dietician input, could allow these infants to be specifically targeted by this scarce resource.

The purpose of this project is to design and trial a nutritional tool for the NICU with the aim of improving nutrition and as a consequence long term outcomes.

This project aims to deliver a unique tool for NICUs that will ultimately lead to improved outcomes for this nutritionally vulnerable group. The student will explore, develop and trial a newborn nutritional scoring system to improve neonatal outcomes.