

# Rapid review of Allied Health Professionals working in neonatal services

July 2024

## EXECUTIVE SUMMARY

### What is a Rapid Review?

Our rapid reviews (RR) use a variation of the systematic review approach, abbreviating or omitting some components to generate the evidence to inform stakeholders promptly whilst maintaining attention to bias.

### Who is this Rapid Review for?

The review question was suggested by Health Education and Improvement Wales (HEIW). This review is intended to inform those responsible for staffing in neonatal services.

### Background / Aim of Rapid Review

This review aimed to quantify the impact of allied health professionals (AHPs) embedded in neonatal services on outcomes by asking the following review questions:

- Q1. What is the effectiveness of neonatal services with embedded allied health professionals compared to neonatal services without embedded allied health professionals?
- Q2. What is the effectiveness of early interventions provided by allied health professionals in neonatal units?

### Results

#### *Recency of the evidence base*

- The review included evidence available up until March 2024. Included studies were published between 2016 and 2024.

#### *Extent of the evidence base for Q1*

- 7 studies were identified: 6 before-after studies and 1 comparative cohort study.
- The studies were conducted in Canada (n=2), USA (n=2), Australia (n=1), South Korea (n=1) and Japan (n=1).
- 1 study compared before with after the implementation of a neonatal intensive care unit (NICU) with embedded physiotherapy staff. The other studies compared neonatal units with and without multidisciplinary teams including AHPs.

#### *Key findings and certainty of the evidence for Q1*

- Low certainty evidence suggests AHPs embedded in neonatal services may improve gross motor ability and lead to earlier oral feeding.
- Results from before-after and cohort studies of multidisciplinary nutrition support teams in neonatal units are too inconsistent to draw conclusions.

#### *Extent of the evidence base for Q2*

- 5 studies were identified: 5 systematic reviews including 57 unique randomised controlled trials (RCTs)
- The studies were conducted in the USA (n=23), Iran (n=5), Australia (n=5), Brazil (n=4), India (n=3), France (n=3), UK (n=3), Canada (n=3), Spain (n=2), Switzerland (n=1), Netherlands (n=1), South Korea (n=1), Italy (n=1), Denmark (n=1) and Taiwan (n=1).
- The studies investigated early interventions actively involving parents, oral stimulation multisensory stimulation, and early interventions which continue post-discharge.

#### *Key findings and certainty of the evidence for Q2*

- Moderate certainty evidence suggests that early interventions provided by AHPs in neonatal units are associated with shorter length of stay, better parental sensitivity and quicker oral feeding.
- There is moderate certainty that these interventions are associated with small improvements in general cognitive and general gross motor ability in infancy compared to standard care.
- There is low certainty evidence from RCTs that early interventions delivered by AHPs do not impact parental stress in the short-term.

#### **Research Implications and Evidence Gaps**

- There was very little directly relevant evidence on AHPs embedded in neonatal services. Most of the evidence related to multidisciplinary team working or early interventions provided by AHPs.
- Few early intervention trials were from the UK, leading to uncertainty about the availability and applicability of interventions in the UK setting.
- Further UK-based research is needed to better understand the best way to integrate allied health professionals in neonatal services.

#### **Policy and Practice Implications**

- AHP professional bodies and Royal Colleges have issued recommendations of number of whole time equivalent (WTE) AHP staff of each type needed for each level of neonatal unit.
- This rapid review supports the idea that the involvement of AHPs neonatal units is likely to improve outcomes, but it does not inform the exact numbers of staff required.
- Implementing the recommendations of the AHP professional bodies in Welsh neonatal units is likely to be a major change in practice as no Welsh neonatal unit currently has the recommended WTE number of AHP staff.

#### **Economic considerations**

- There is no published evidence on the cost of AHPs working within neonatal units.
- There is marked variability in the reporting of cost estimates for neonatal care units in the UK, making the evaluation of cost implications of adopting AHP recommendations difficult.
- Subsequent economic evaluations could explore the Budget Impact to the NHS of increasing AHP presence in neonatal units to align with recommendations from AHP professional bodies and Royal Colleges.

The certainty of evidence has been assessed using the GRADE (Grading of Recommendation, Assessment, Development and Evaluation) approach (<https://www.gradeworkinggroup.org/>)