



ARC West

Preventing cerebral palsy in premature babies: the PReCePT programme

2023



Premature birth is the main cause of brain injury and cerebral palsy in babies.

Evidence shows that babies can be protected from brain injury by giving magnesium sulfate to women who are at risk of premature birth.

In 2014 University Hospitals Bristol and Weston NHS Foundation Trust (UHBW), in collaboration with the West of England Academic Health Science Network (AHSN), developed a programme to increase the use of magnesium sulfate.

The programme, called PReCePT (Prevention of cerebral palsy in pre-term labour), provided practical tools and training to support hospital staff to give magnesium sulfate to eligible

mothers. After its initial success at UHBW it was piloted in other NHS trusts.

What was the aim of the project?

To evaluate the implementation of the PReCePT programme in maternity units across the West of England.

What did we do?

We compared magnesium sulfate use in maternity units for the year before and the year after they implemented PReCePT. We also analysed data from the UK National Neonatal Research Database.

We used this data to see if magnesium sulfate use had increased after PReCePT was introduced, and to estimate their effectiveness and cost-effectiveness of the programme.



What did we learn?

While use of magnesium sulfate had been increasing before, our research showed that PReCePT was able to accelerate uptake. It increased by 6.3 percentage points on average across all maternity units in England during the first year, over and above the increase that would be expected over time as the practice spread organically.

After also adjusting for variations in when maternity units started the programme, the increase in use of magnesium sulfate was 9.5 percentage points. By May 2020, on average 86.4% of eligible mothers were receiving magnesium sulfate.



We also estimated that the programme's first year could be associated with a lifetime saving to society of £3 million.

This accounts for the costs of the programme, administering the treatment and of cerebral palsy to society over a lifetime, and the associated health gains of avoiding cases. This is across all the extra babies the programme helped get access to the treatment during the first year.

What next?

Our next PReCePT project is to evaluate the longer-term impact and sustainability of the national programme in England, up to 2022.

We will also compare magnesium sulfate use in England with Scotland and Wales.

We also hope to develop a prototype toolkit to support implementation of new interventions in NICE guidance. This is a vital step in helping NHS hospitals put research evidence and national clinical

Read the paper by Edwards et al.

National PReCePT Programme: a before-and-after evaluation of the implementation of a national quality improvement programme to increase the uptake of magnesium sulfate in preterm deliveries

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research evidence into practice and provide training for the local workforce.

Find out more about ARC West:

www.arc-w.nihr.ac.uk

Twitter: @ARC_West

Email: arcwest@nihr.ac.uk

Telephone: 0117 342 1262

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