Antenatal Magnesium Sulphate

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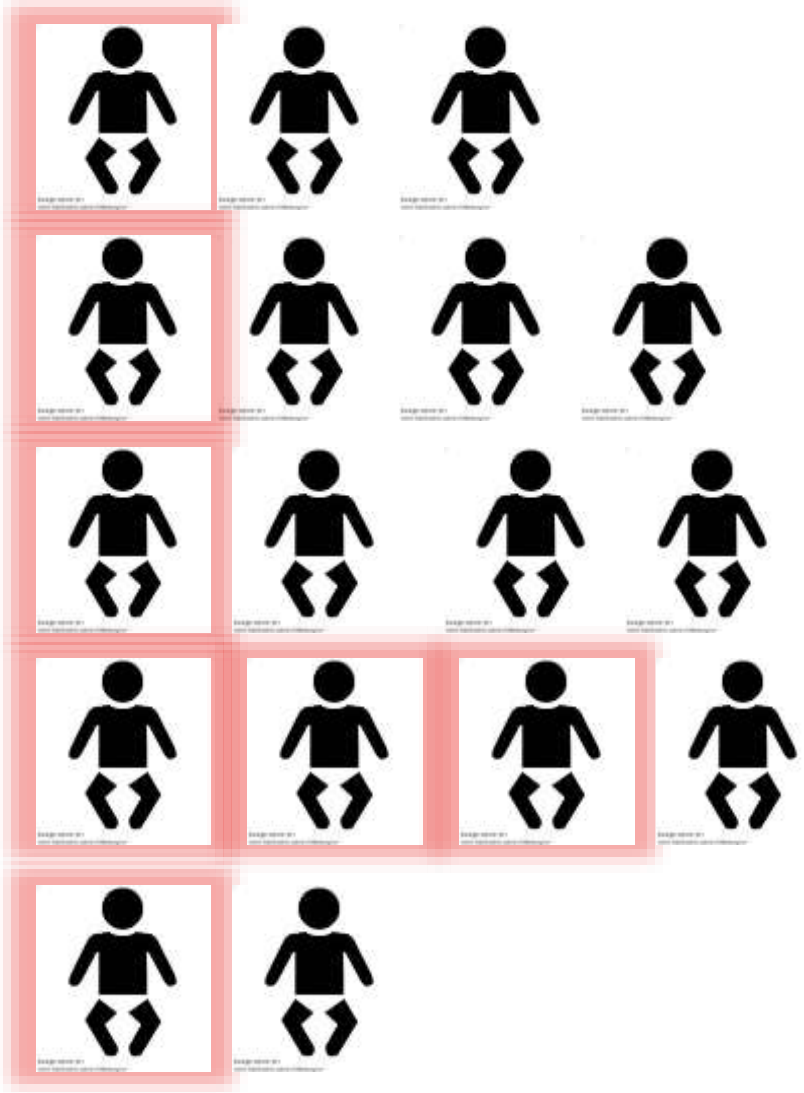
Preterm Birth and Cerebral Palsy

- Preterm birth is the major risk factor for CP
- Marked by impairment movement and/or other disabilities, typically caused by damage to the brain before or at birth
- Average lifetime Health Care costs per individual: ~£800,000
- NHS Litigation Cost for CP: £1.9 billion in 2016
- The cost to the individual and their family is unquantifiable

Cerebral Palsy



→ Unable to walk

→ Unable to talk

→ Epilepsy

→ Experience pain

→ Intellectual impairment

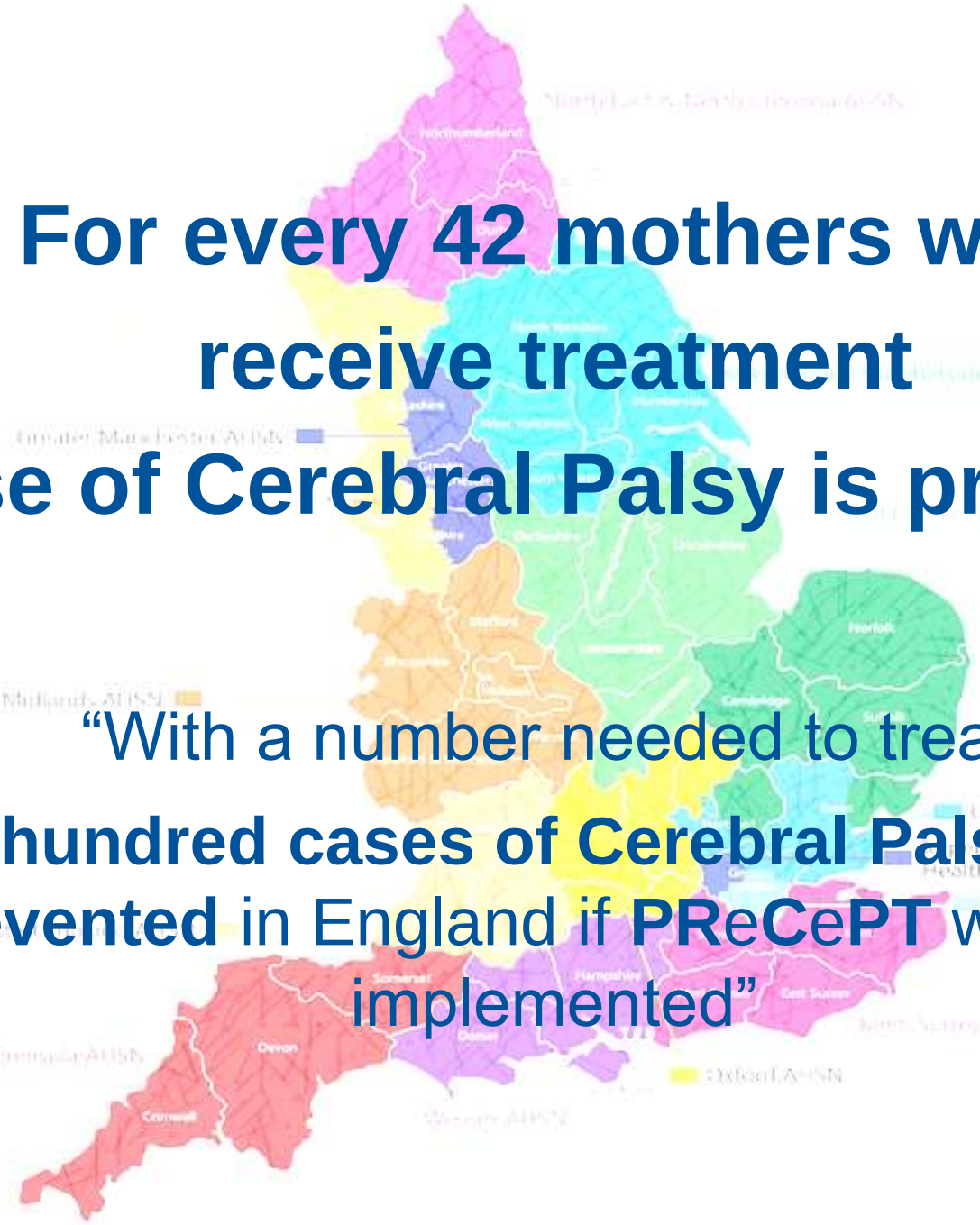
Clinical Evidence

Antenatal magnesium sulphate therapy given to women at risk of preterm birth substantially reduced the risk of cerebral palsy in their child (relative risk (RR) 0.68; 95% Confidence interval (CI) 0.54 to 0.87; five trials; 6145 infants).

Supported by NICE 2015 (NG25)

For every 42 mothers who receive treatment

1 case of Cerebral Palsy is prevented



"With a number needed to treat of 42,

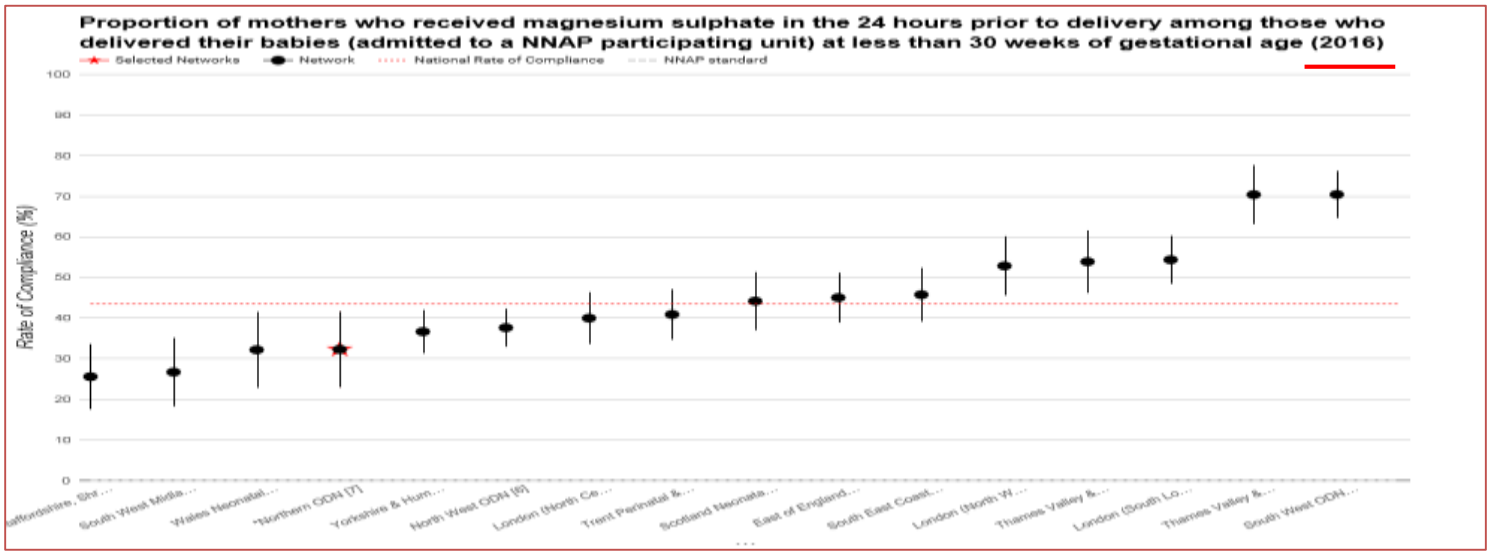
a few hundred cases of Cerebral Palsy may be prevented in England if **PReCePT** was fully implemented"

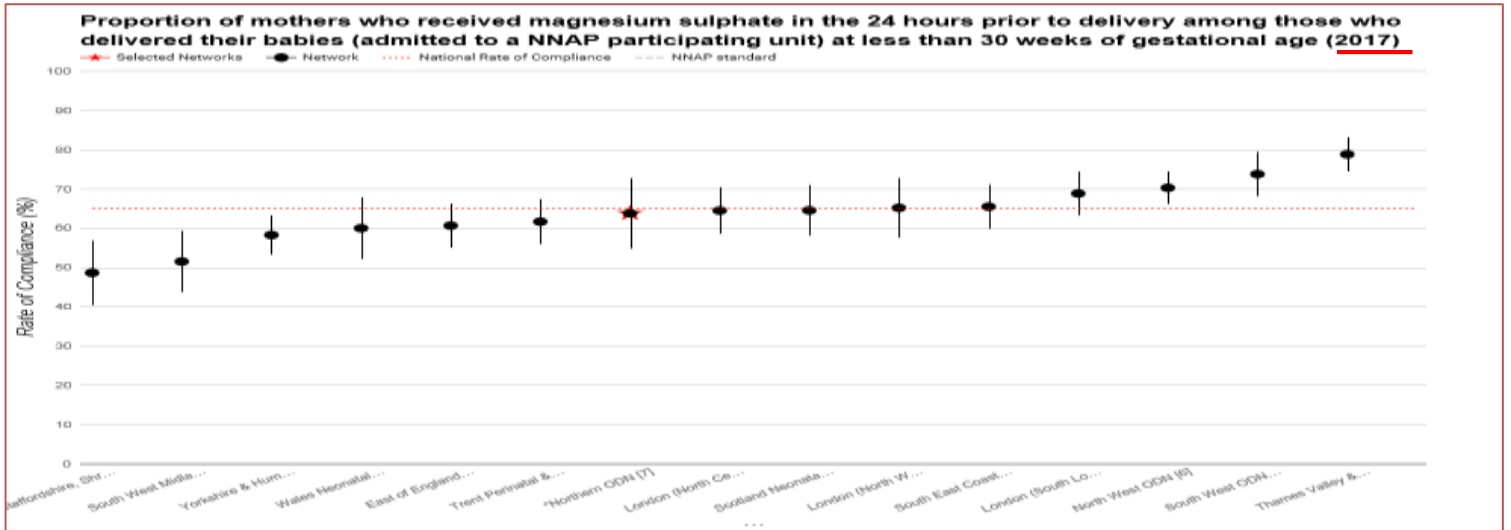
(Crowther 2017)

The Problem

- Fewer than half of eligible women in planned/unplanned preterm labour are receiving magnesium sulphate (MgSO4) when clinically indicated.

National picture





Aims

- To increase the proportion of eligible women offered Magnesium Sulphate (MgSO4) in England
- Long Term: Reduction in the incidence of cerebral palsy in babies born preterm.

NNAP (2018) – draft

There were 190 eligible mothers identified for inclusion in this audit measure for your Network. 74.0% of these mothers were given magnesium sulphate prior to delivery.

Nationally, 71.9% of eligible mothers were recorded as receiving magnesium sulphate but comparisons to this figure should be made cautiously, as on a national basis data is missing for 6.4% of eligible cases.

Table 2.1 Magnesium sulphate given to mothers who delivered their babies at less than 30 weeks at Northern Neonatal ODN

Network of birth	Eligible mothers	With outcome	Magnesium sulphate		Missing/ Unknown data
			Yes (%)	No (%)	
Northern Neonatal ODN	190	181	134 (74%)	47	9

NNU name	Eligible mothers	With outcome	Given	Not given	Missing Unknown data
CUMBERLAND INFIRMARY	4	3	2 (66.7%)	1	1
DARLINGTON MEMORIAL HOSPITAL	4	4	1 (25%)	3	0
NORTHUMBRIA SPECIALIST EMERGENCY CARE HOSPITAL	4	4	1 (25%)	3	0
QUEEN ELIZABETH HOSPITAL, GATESHEAD	3	2	1 (50%)	1	1
SOUTH TYNESIDE DISTRICT HOSPITAL	2	1	1 (100%)	0	1
UNIVERSITY HOSPITAL OF NORTH DURHAM	4	4	3 (75%)	1	0
WEST CUMBERLAND HOSPITAL	1	1	1 (100%)	0	0
JAMES COOK UNIVERSITY HOSPITAL	56	54	42 (77.8%)	12	2
ROYAL VICTORIA INFIRMARY	77	73	53 (72.6%)	20	4
SUNDERLAND ROYAL HOSPITAL	28	28	22 (78.6%)	6	0
UNIVERSITY HOSPITAL OF NORTH TEES	7	7	7 (100%)	0	0

National Benchmarking

Table 5.2.3: Administration of antenatal magnesium sulphate, by NNAP reporting year (2016-2017)*.

NNAP Year	NNU	Mothers	With outcome	Administration of magnesium sulphate		Missing data (%)
				Yes (%)	No (%)	
2016	182	4,242	3,506	1,868 (53.3%)	1,638 (46.7%)	*736 (17.4%)*
2017	176	4,276	3,935	2,522 (64.1%)	1,413 (35.9%)	*341 (8%)*

*Results presented here for 2016 and 2017 are both calculated using the 2017 measure derivation method so that they are directly comparable.

Our challenge

- April 2020: Achieve target of 85% eligible mothers receive MgSO4 and a stretch target of 95% in high achieving units.
- Based on individual units and not network

What does this mean?

- Fewer babies with cerebral palsy
- Improved quality of life of preterm babies and their families