

Change in red cell pedipack use in Ireland over the past decade

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Background:

- Over the past 15 years the evidence for the benefits of red cell transfusions to treat anaemia in the Very Low Birth Weight (VLBW – born at less than 1500g) population in the Neonatal Intensive Care Unit (NICU) has changed substantially
- 2006: Large randomised PINT study (Premature Infants in Need of Transfusion) showed more transfusions at a higher transfusion threshold but no other benefit
- 2020: Even more recent evidence - the TOP (Transfusion of Preterms) and ETTNO (Effects of Transfusion Thresholds on Neurocognitive Outcomes) studies - further strong evidence that a lower transfusion threshold is safe both in the NICU and with regards neurodevelopmental outcome at two years corrected.
- Blood products in Ireland are provided by the Irish Blood Transfusion Service, and neonatal non-emergency small volume transfusions are provided through pedipacks: fresh adult unit of red cell concentrate is split, immediately prior to release from the IBTS.



Aim:

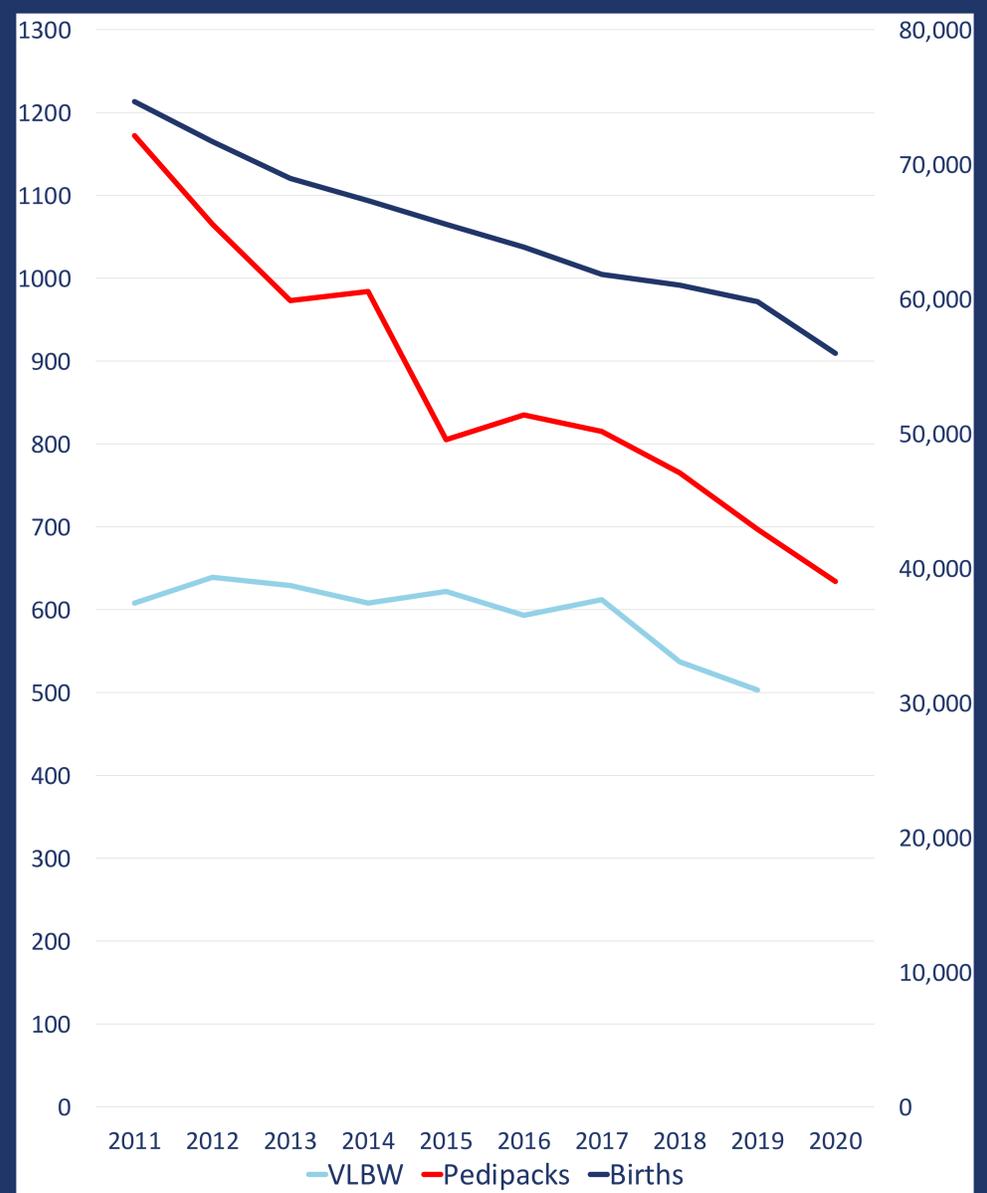
- Identify any change in pedipack release from the IBTS between 2011 and 2020.

Methods:

- Retrospective review of pedipack units released from IBTS between January 2011 and December 2020.
- Cases identified on the IBTS system.
- National birth numbers retrieved from Central Statistics Office (CSO)
- Number of VLBW infants obtained from National Perinatal Epidemiology Centre (NPEC) and Healthcare Pricing Office's National Perinatal Reporting System

Results:

- Over the ten-year period of this review in Ireland
- 8,745 pedipacks released from the IBTS
- 2011 there were 1172 pedipacks released
- 2020 there were 634 pedipacks released.
- 45% reduction in pedipacks released
- 25% reduction in live births
- 17% reduction in VLBW births



Conclusion:

- Substantial and significant reduction in neonatal red cell concentrate release from the IBTS
- Reduction in pedipack release greater than the reduction in both overall and VLBW birth rate
- Transfusion is a high risk and costly activity in the NICU
- As evidence has demonstrated the safety of reduced red cell transfusion thresholds, these figures demonstrate application of evidence in Ireland