Optimising Anaemia Management in the Antenatal Period: A QI Approach

Wisdom Chan[1], Sarjit Singh[1], Kerry Litchfield[2], Mary Smith[3], Martin Shaw[1,2], Rachel Kearns[1,2]
[1]University of Glasgow, [2]NHS Greater Glasgow and Clyde, [3]NHS Lothian

Background

- Iron deficiency anaemia in pregnancy increases risk of maternal and neonatal morbidity and mortality.
- Pregnancy Anaemia Management Scotland (PrAMS) introduced to:
  1. Improve antenatal testing for anaemia
  2. Improve treatment of antenatal anaemia

We aimed to evaluate if the PrAMS intervention reduced the prevalence of anaemia at delivery.

Methods

Data from 5 NHS Greater Glasgow and Clyde hospitals

P: All deliveries reaching 24 weeks gestation
I: post-PrAMS (deliveries after 1st October 2021)
C: pre-PrAMS (deliveries before 1st October 2021)
O: haemoglobin <105g/L at delivery

Statistics: Interrupted time series (logistic regression)

***Figure 1**: prevalence of anaemia at delivery*

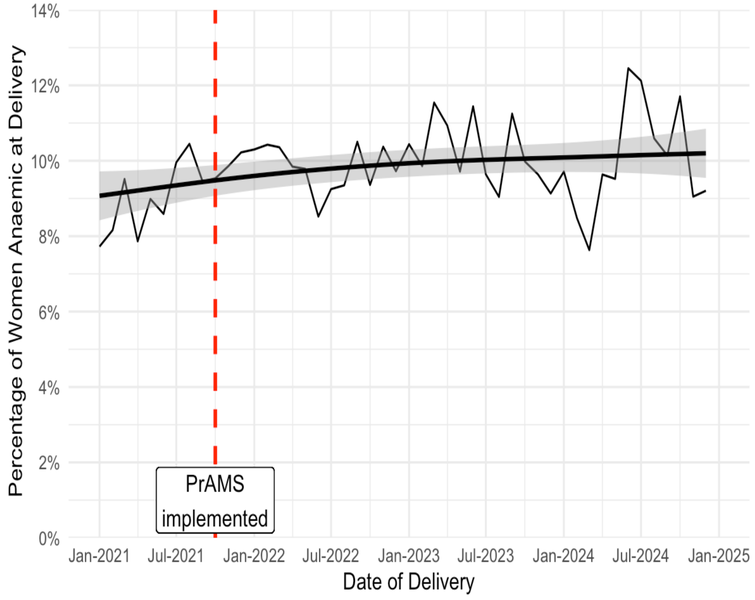
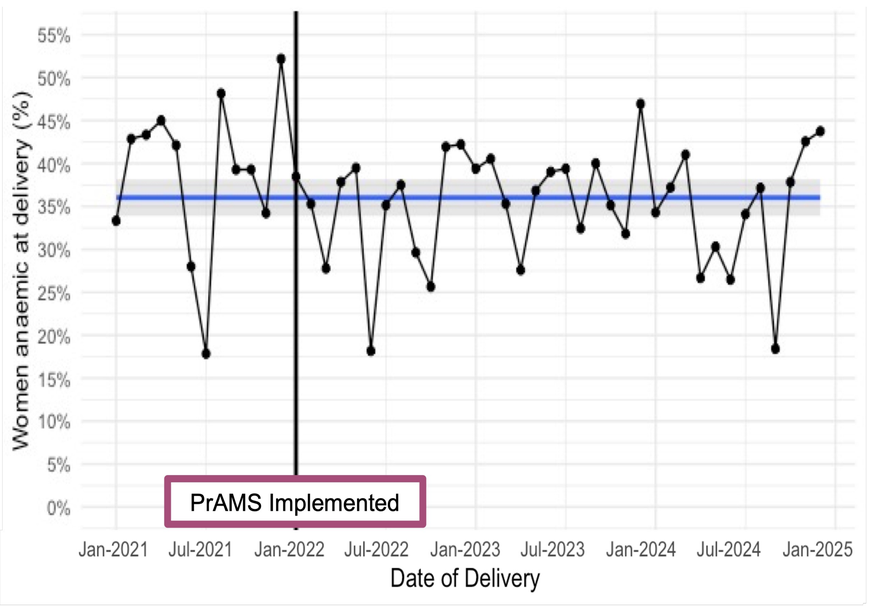


***Figure 2**: prevalence of anaemia at delivery (in women anaemic at booking)*



Results

- **55,609 deliveries** (12,853 pre-, 42,756 post-intervention)
- Anaemia at delivery *(Figure 1)*: **9.2% → 9.7%**
- Interrupted time series:
  - Step change: OR 1.055, 95% CI 0.935–1.193, **p=0.390**
  - Slope change OR: 1.000, 95% CI 0.999–1.000, **p=0.865**
- Mean haemoglobin at delivery: **116.9 → 118.0 g/L**
- Results consistent when stratified by:
  - Anaemia at booking *(Figure 2)*
  - Ferritin at booking
  - Women at all gestational ages
- Data completeness improved:
  - No delivery haemoglobin: **4.1% → 2.2%**
  - No delivery ferritin: **42.2% → 7.4%**

Conclusions

- PrAMS intervention:
  - Improved testing for antenatal anaemia
  - Did not lower prevalence of anaemia at delivery
  - Provided a baseline for future research / QI projects