

ROYAL BOURNEMOUTH HOSPITAL

**Improving the Proportion of Smoke Free
Pregnancies**

Project Surgery

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Our aims

WHAT DO WE NEED TO IMPROVE AND WHY?

- To improve the monitoring and recording of carbon monoxide (CO) readings at 36 weeks from 46.2% (Jan 2019) to 80% by (December 2019), in order to help identify the smoking status of pregnant women and to ensure they are offered appropriate smoking cessation support.

HOW DO WE DO THIS?

- As an interim measure - improve the submission rates of the current manual process
- Longer term solution - implement new processes and systems to utilise the existing electronic maternity system to improve the monitoring and recording of 36/40 CO readings

Background

CURRENT PROCESS

- **ALL** pregnant women at 36 weeks are offered CO screening.
- Midwife records reading in women's handheld notes and completes a 'slip'.
- This form is submitted to the Maternity Admin team for referral to smoking cessation service (where necessary) and data collection purposes.
- Baseline data showed 46.2% compliance in Jan 19

- Currently do not use maternity system to record 36/40 CO readings (although this **is** used for all booking CO readings)

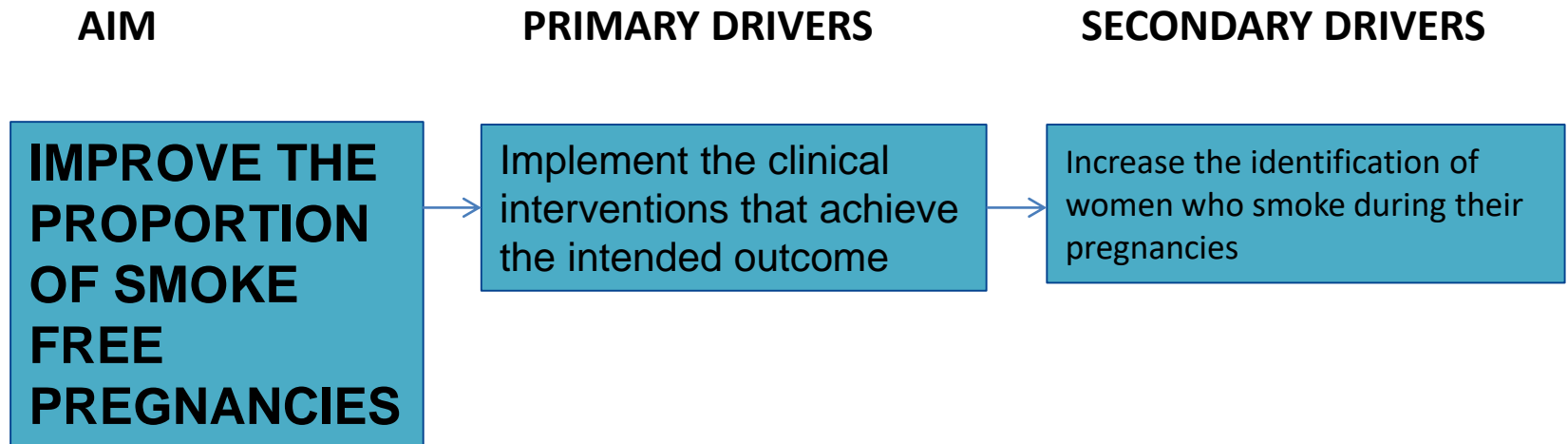
NATIONAL SMOKING IN PREGNANCY OBJECTIVES

- National aim to reduce smoking in pregnancy to 6% by 2022
- National priorities with Maternal and Neonatal Health Safety Collaborative and Saving Babies Lives – objective to ensure all women are offered CO screening at 36/40

Benefits to patients and staff

- ***Expected benefits of implementing changes to the way in which CO readings are taken and recorded at 36 weeks include:***
- Improved rates of identifying all smokers and subsequent referral to the smoking cessation service for behavioural and nicotine replacement therapy support and advice to quit.
- Identification of all non-smokers with a raised CO reading of 4ppm or above and provide referral to Maternity Day Assessment Unit/consultant for review as necessary eg. secondhand smoking/ faulty home appliances/ lactose intolerance
- Electronic input of readings will lead to improved quality of data analysis and collection , which can be used to aid decision making re: future QI work

Driver Diagram



Improvement Approach

QI TOOLS USED:

- Process mapped the current system to highlight areas for improvement
- Staff engagement:
 - Liaised with Community Midwives to identify possible reasons why CO readings not being taken or reported eg, any potential barriers to using existing electronic systems
 - Clinical Leaders asked to identify those Community Midwives, who are familiar with Maternity system and willing to participate in trial
- PDSA cycles:
Document trial objectives and process – including: trial start and finish date, test plan for test input, determine how test data will be validated.

Regular meetings with the midwives to ensure happy with process and test plan.

Analysis of results and presentation to MNHSC team

Measurement

- SPC charts produced to assess success of PDSA cycle in improving submission rates of the manual process
- Report generated from electronic system to ensure test data input and captured correctly.
- Checks and Balances – Using test data/documentation we analysed the impact of inputting data electronically vs the length of appointment timings – to sure that any change would NOT slow the process for midwives

PDSA

Interim measure to improve submission of CO readings using manual system

- **PDSA Cycle 1** – Email and daily ‘huddle’ reminders to all midwives reiterating the importance of submitting 36 week CO readings and the current process
- **PDSA Cycle 2** – Clinical Leaders informed of non-compliance and followed-up with midwives concerned to ascertain reasons why

To test use of existing electronic maternity system to capture CO readings

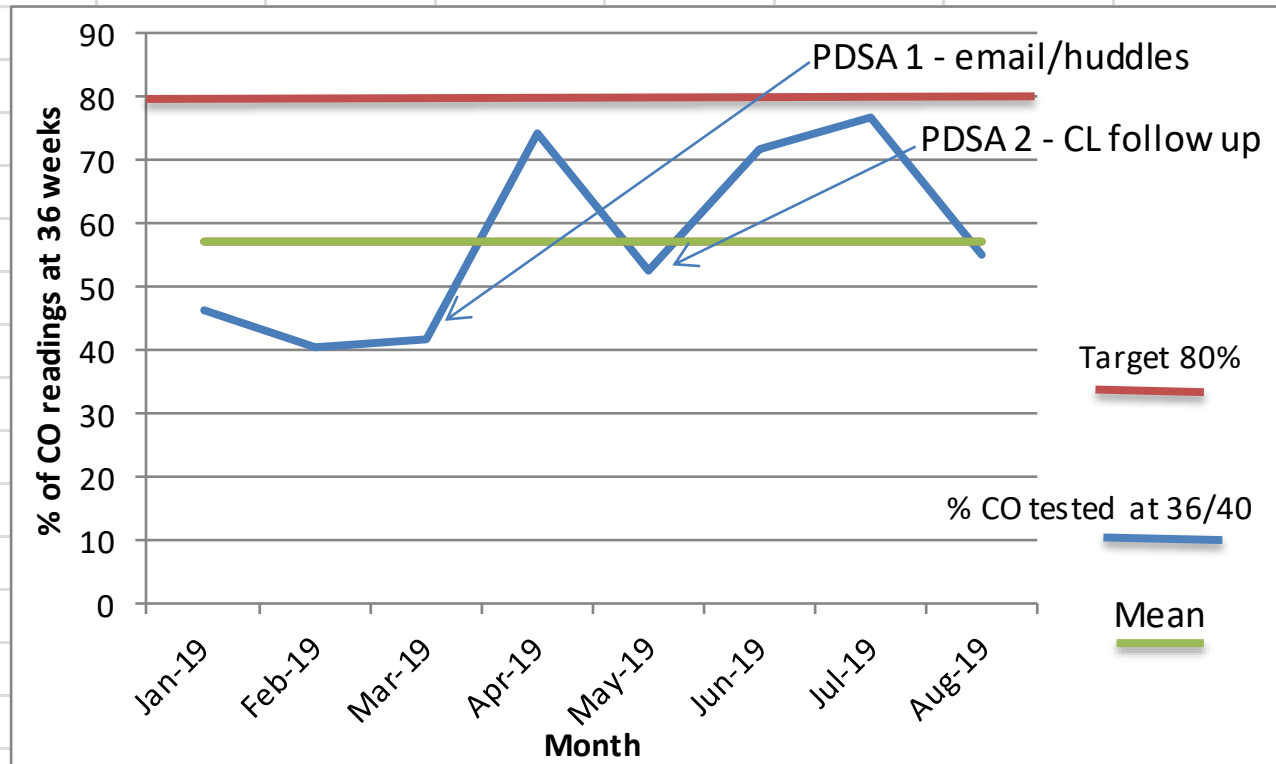
- **PDSA Cycle 1** – 1 midwife to test input of 1 x CO reading into system
- **PDSA Cycle 2** – Test duration – 1 month - 3 midwives in 3 different GP surgeries/Children’s Centres to test input of total of 12 women’s 36/40 appointment (including CO reading)
- **PDSA Cycle 3** – planning to extend the trial using less ‘tech savvy’ midwives and from different locations to check connectivity.

Outcome/Learning

Manual submission rates

PDSA resulted in improvement in our submission rates – **76.6%** in July 19

% Women CO tested at 36 weeks



Outcome / learning

Results of PDSAs re: recording the CO readings electronically:

- Assumptions that we could record CO reading using 'Quick observations' section of our maternity system were proved incorrect.
- System limitations - unable to modify the existing system as application is being replaced in near future .
- Connectivity to maternity system from remote locations was in general very good, however 1 midwife did experience a slow connection and had to input data back at maternity unit.
- Recording the 36 week appointments electronically did not impact on appointment timings
- Validated input of 12 CO readings by generating system report to confirm CO data captured correctly.

Challenges & Lessons Learnt

- Proposed future changes to the maternity system have limited our ability to make system modifications to facilitate input of CO readings.
- Trust IT support is under pressure – potentially will impact any solutions needed to improve system connectivity
- Staff changes - need to embed training re: smoking in pregnancy and the importance of submitting CO readings and referring those with a raised CO reading.
- Recording of CO readings needs to become part of the procedure – not to be seen as a separate task.

Key Messages & Future Steps

- **Communicate** what you are doing and reasons why – use daily huddles/ emails/ newsletters/ mandatory midwife updates
- **Small tests of change** – enable you to quickly identify what does/ does not work.
- **To ensure sustainability** – changes need to be part of process – not a separate task eg, CO reading part of 36 week appointment process.
- **Future Steps**
Next PDSA cycle to include other locations/ different midwives – if successful – spread to include all 36 week CO readings and appointments being input electronically.
- Learn from other Trusts who also have to meet this 36/40 CO objective