



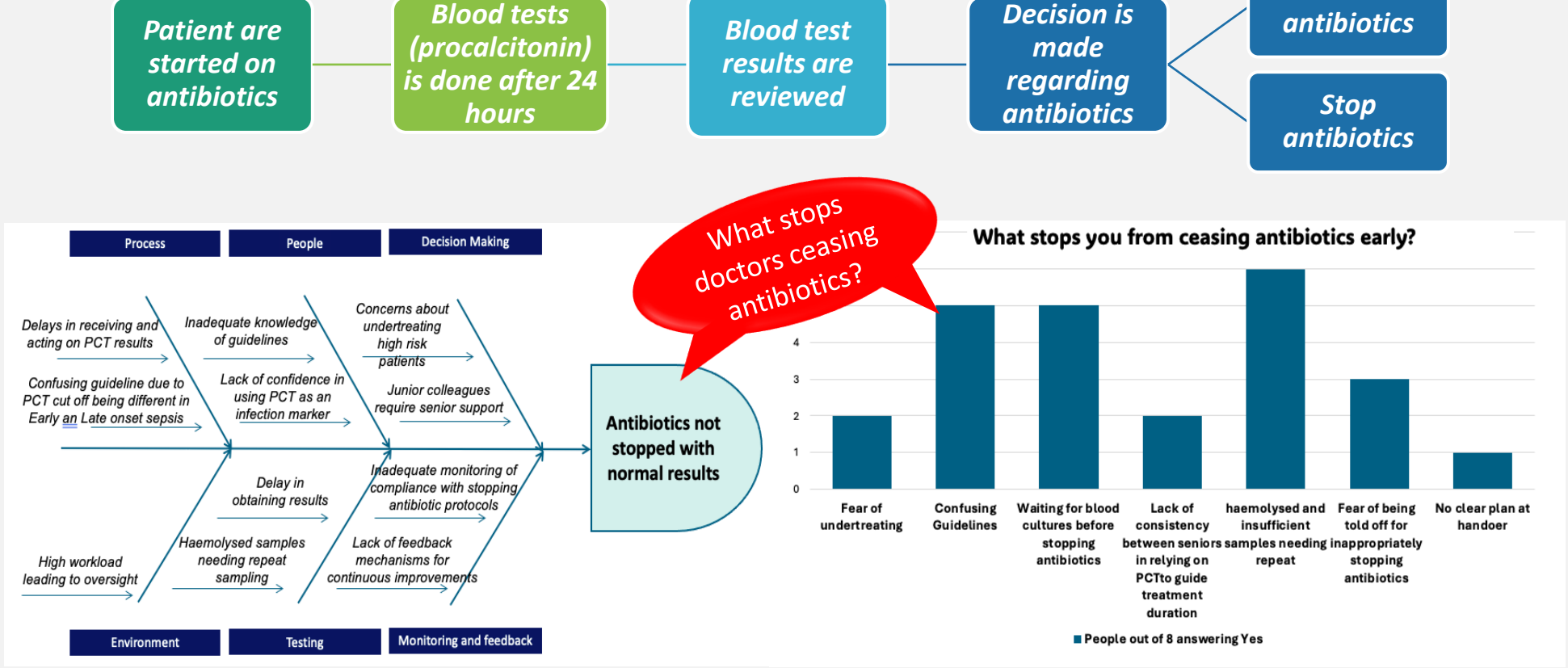
PCT Power: Enhancing Antibiotic Stewardship in 24 Hours for Late Onset Sepsis!

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BACKGROUND

Using antibiotics for too long in newborns has multiple downsides. Stopping antibiotics early with a blood test result can improve outcomes. Our neonatal unit has a procalcitonin test (PCT) but doesn't use the results to stop antibiotics soon enough.

DIAGNOSTICS



AIM & MEASUREMENT DEFINITION

Aim: Increase the percentage of late onset sepsis antibiotic courses safely stopped at 24 hours from median baseline of 25% to 50% by 31st August 2024.

Inclusions :

Patients on neonatal unit on antibiotics for late onset neonatal sepsis (LONS)

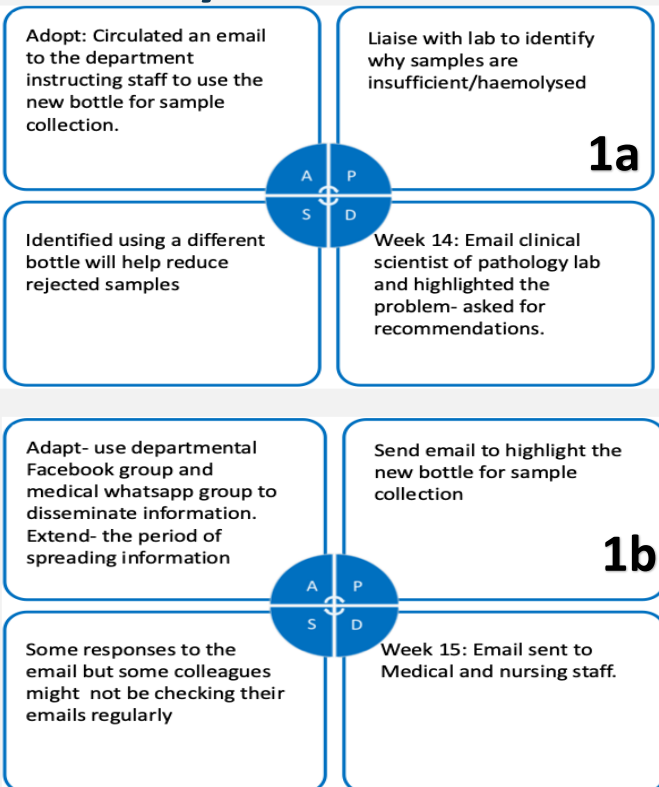
Exclusions

- Patients already receiving antibiotics who undergo a second round of infection screening (re-screening)
- Patients in whom antibiotics were not stopped at 24 hours due to justifiable clinical reasons
- Patients being treated for suspected late onset sepsis who did not have Procalcitonin test done at 0 and 24hrs from start of antibiotics

CHANGE IDEAS

1. Introduce a brief, daily "antibiotic stewardship huddle" for the clinical team to review all neonates on antibiotics.
2. Enhance staff understanding of stopping antibiotics after Procalcitonin results are negative rather than waiting for blood cultures by arranging departmental teaching.
3. Reduce confusion in Work with IT team to add an alert on patient record when patient has been on antibiotics for 24hrs
4. Interpreting Procalcitonin results by stopping its use in early onset sepsis and limiting use to late onset sepsis.
5. Improve quality of blood samples hence reduce the samples that need repeating, hence delaying when antibiotics could be stopped.

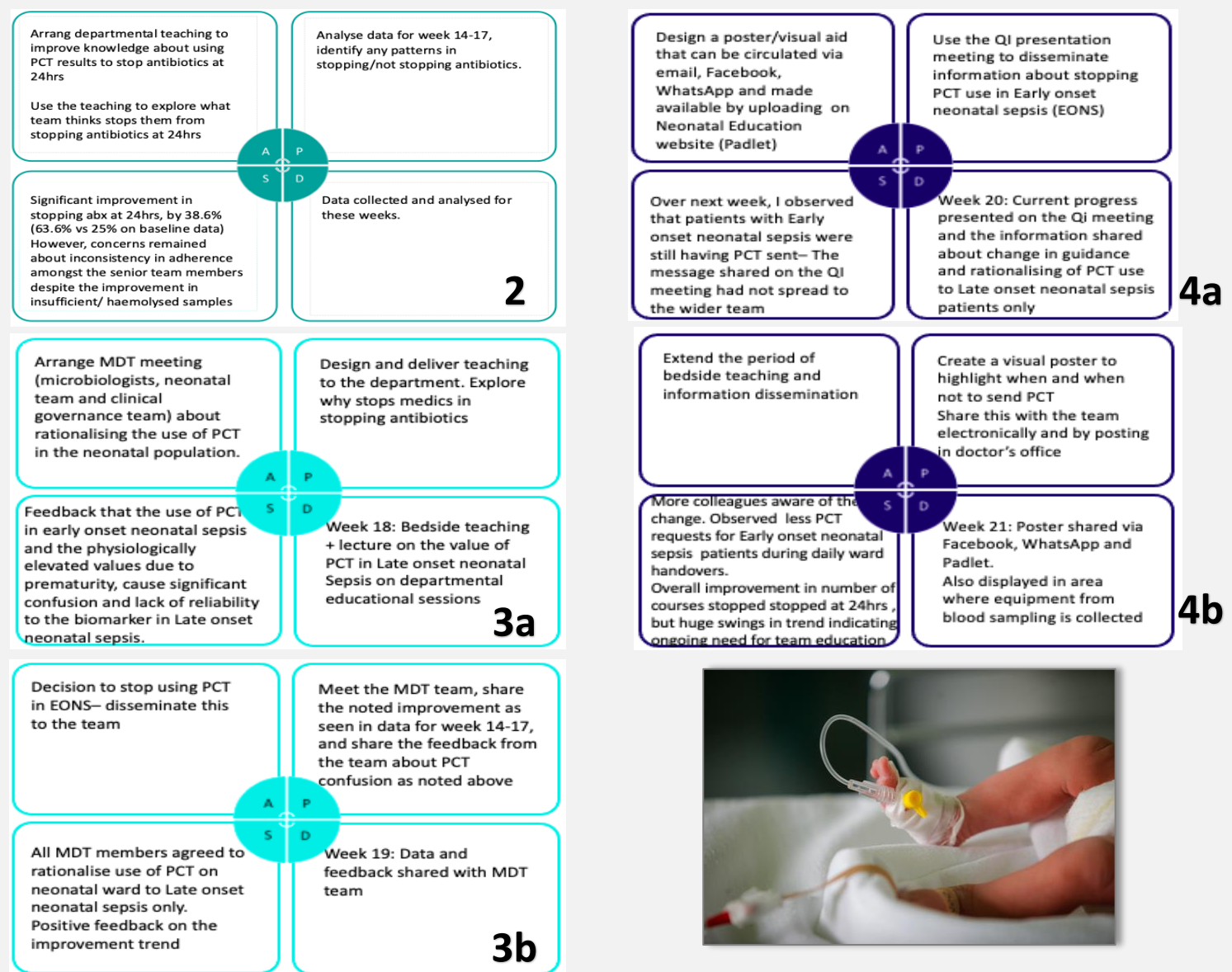
PDSA cycles



MY OBSERVATIONS

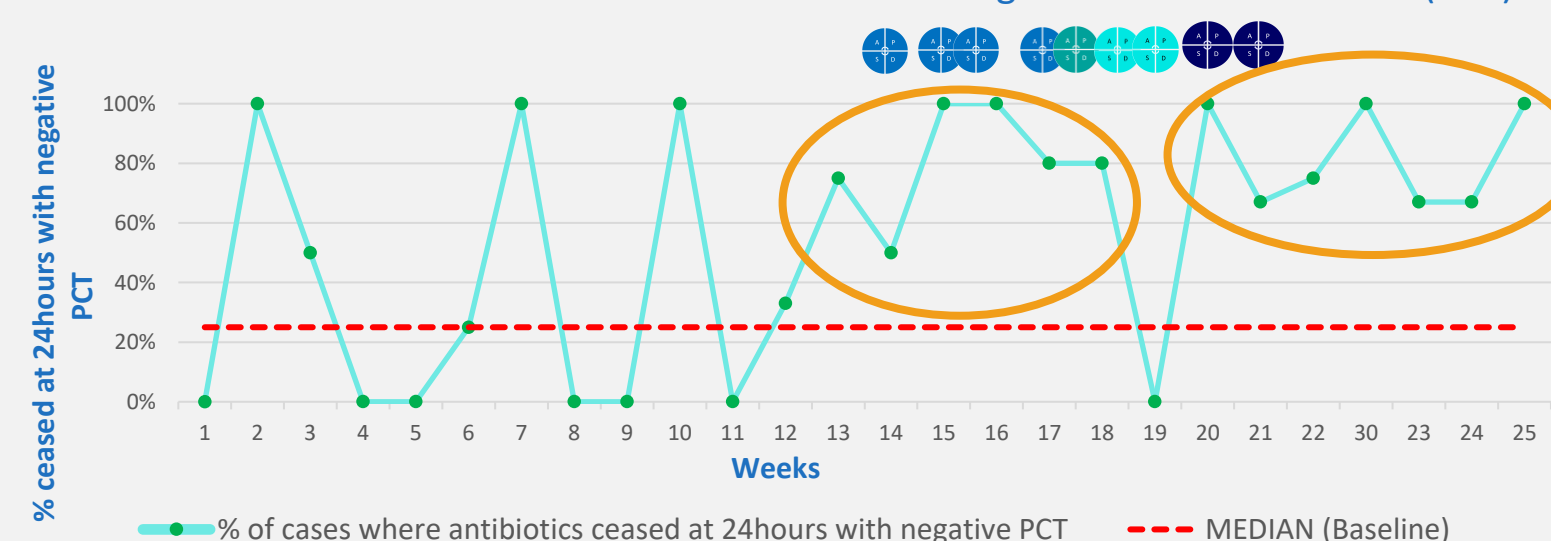


- Chosen location: Neonatal ward round. Time of day, 09:30am
- Antibiotics and other medications were reviewed on the ward round, providing an opportunity to consider antibiotic cessation.
 - There was a noticeable hesitation among some clinicians to stop antibiotics based on PCT alone, without having blood culture results back
 - Often PCT results needed repeating due to previous sample being insufficient or haemolysed. This caused a delay in getting results and made it impossible to stop antibiotics at 24hrs.
 - There was a lot of confusion between what was a "normal" PCT result as the cut off was different in early onset sepsis and late onset sepsis. This necessitated checking the guidelines each time which was time consuming.



RUN CHART

Antibiotics ceased at 24hours with negative Procalcitonin Test (PCT)



REFLECTIONS & LEARNING

There was a successful increase in cessation of antibiotics within 24 hours after a negative Procalcitonin result as demonstrated by the run chart. There was a clear shift of the data above the median baseline which was maintained over a period of 12 weeks with one 'astronomical' data point at week 19. 100% was reached on several weeks, however, week-to-week data fluctuations suggest some staff lack confidence in interpreting PCT results for neonatal sepsis, highlighting scope for further interventions. Ongoing periodic review will confirm sustainability and/or alert us to any deterioration in performance. It will also flag any astronomical points quickly and allow us to explore the circumstances for this.

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