

Reducing Mixed Bacterial Growth in MSU Samples During Pregnancy: A Quality Improvement Project

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Background:

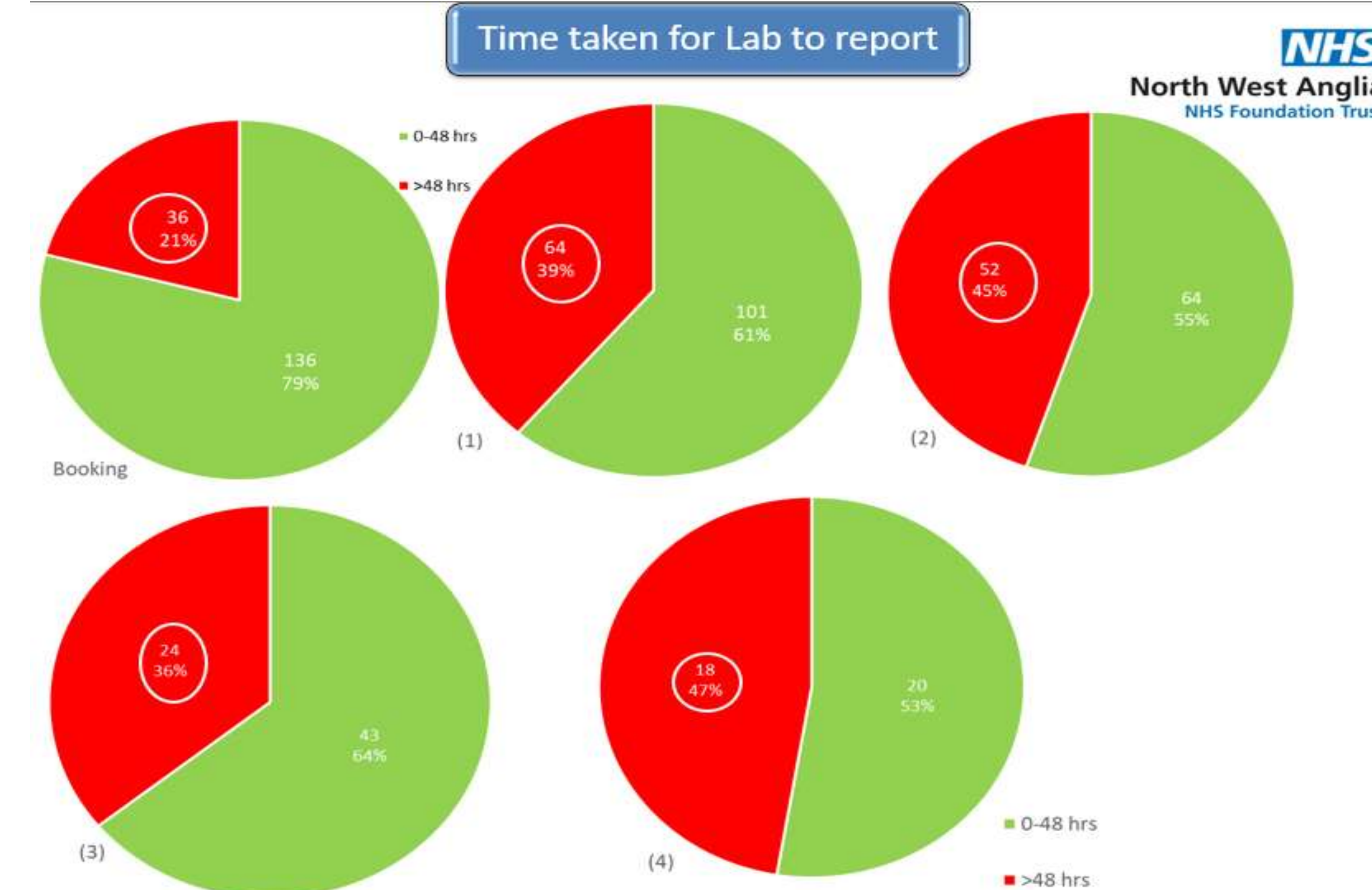
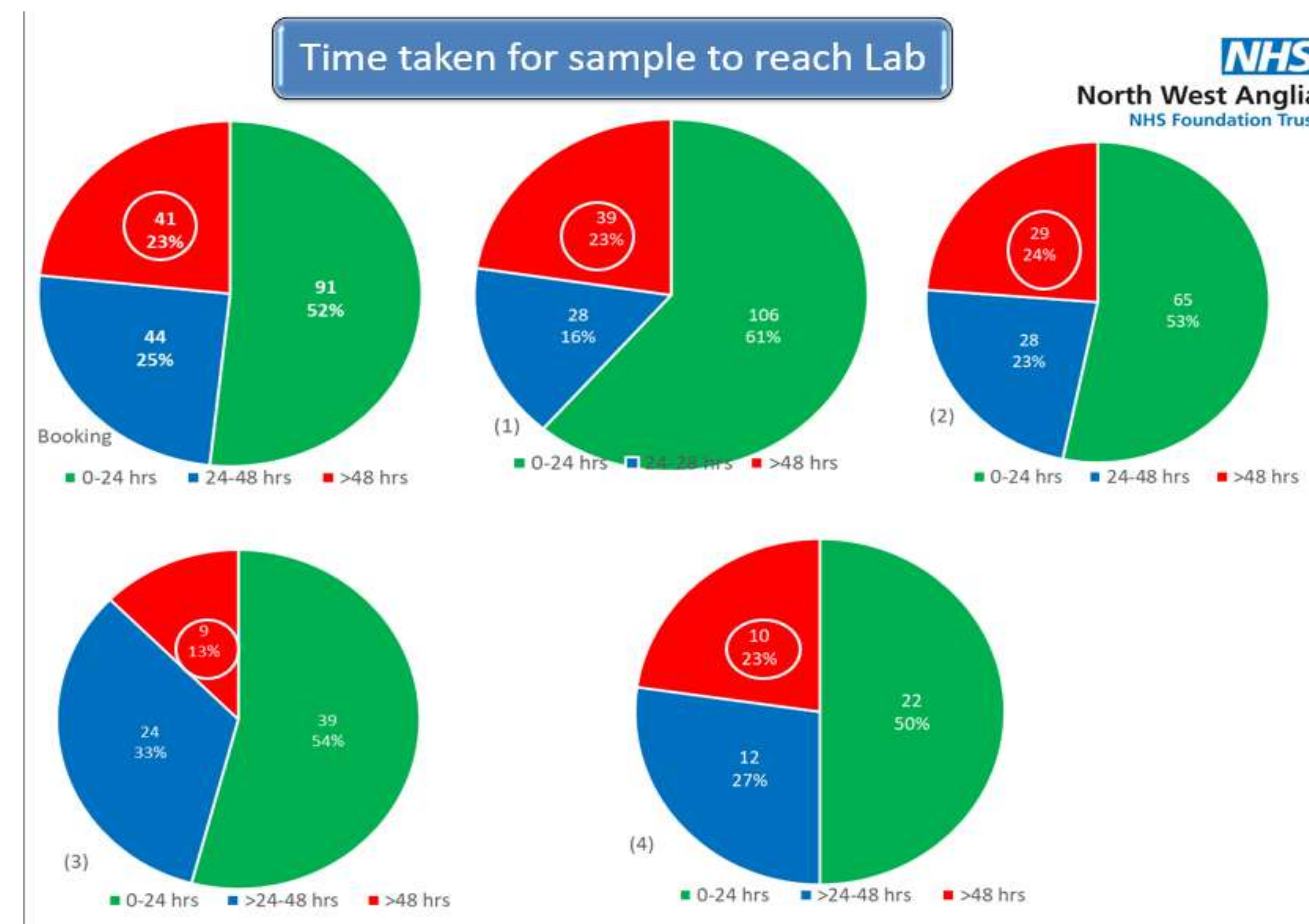
- Mixed Bacterial Growth (MBG) in midstream urine (MSU) samples among pregnant women compromises diagnostic clarity, increases antibiotic use, and burdens both clinical and lab teams.
- Initial review of MC&S samples from all areas of maternity pansite, over 1 week, concluded 70% mixed growth (195 out of 277).
- This initiated the QIP project leading escalation to lab, collection of data and reviewing the current practices.

Aim

To reduce MBG rates and improve urine sample quality by addressing key factors and reduce such reports by 50% in the next 3 months

Methodology:

- Retrospective review of 200 urine samples sent for MCS during pregnancy
- Reviewed the follow criteria: Site, age, ethnicity, parity, BMI, pre-disposing risk factors, gestation birth, urine result, time taken for sample to reach lab, time taken by lab to release results, area sample collected from, number of samples sent and babies requiring SCBU admission



Key Findings

- Time taken for sample to reach lab on average was 33.9 hours and a reporting on an average took 58.3 hours and MBG was reported in 58.6% of the cases.
- The possible reasons for MBG are faulty collection techniques, time for sample to reach lab, time for laboratory analysis and the temperature at which sample was stored

Learning

- Long delay promotes bacterial multiplication, colony formation and hence false positive MBG's
- MSU samples arriving in the lab within 3 hours of collection were more likely to be reported as culture negative.
- Receipt of urine samples in the lab >6 hrs was associated with 3 fold increase in MBG.
- Refrigeration of samples to 4 degree reduce rate of contamination by 50 %.

Interventions:

- Sterile collection pots
- Boric acid preservatives
- Staff education
- Patient info packs
- Clinical Governance presentation

Future Objectives:

- Reduced MBG rates
- Improved sample quality
- Better antibiotic stewardship
- Cost savings
- Ongoing site-wide improvements