NEOTRAIN QUALITY IMPROVEMENT INITIATIVE TO IMPROVE EOSIN(EARLY ONSET SEPSIS IN NEONATES) CARE

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BACKGROUND:

National Institute of Clinical Excellence guidelines on neonatal sepsis recommends administration of antibiotics within 1 hour of suspecting sepsis.

Achieving this target can be challenging in a busy NICU. Adult and Paediatric services have addressed this by introducing 1-hour sepsis care bundles.

AIM:

To improve adherence to NICE sepsis standard for administration of antibiotics within 1 hour of suspecting sepsis

QI METHODOLOGY:

A quality improvement methodology of process mapping and fishbone analysis was used to study workforce pathways and system tools to identify barriers.
Four Plan-Do-Study-Act (PDSA) cycles were run in two six monthly blocks between 02/2017 to 07/2017 and 08/2018 to 01/2019.

Cycle 1: Baseline issues and QI strategy defined.
Issues identified: delay in time to treatment, measurement of second CRP, reporting of blood culture within 36 hours.
Action: An environmental restructuring, a Sepsis Screening Pit-stop was implemented. An educational initiative 'Neo Train' was started and posters displayed clinical areas.

Cycle 2: Significant delay in transport and processing of blood culture were leading to delay in reports.
Action: Persuasion of stakeholders: pottering services and microbiology department to streamline this process to obtain blood culture results
within 36 hours
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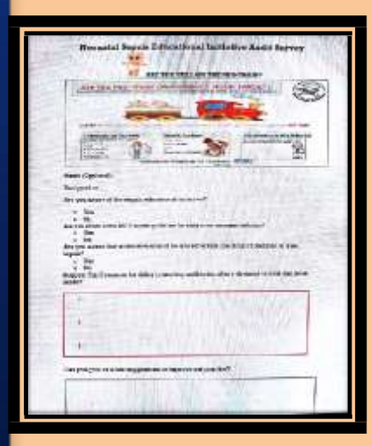
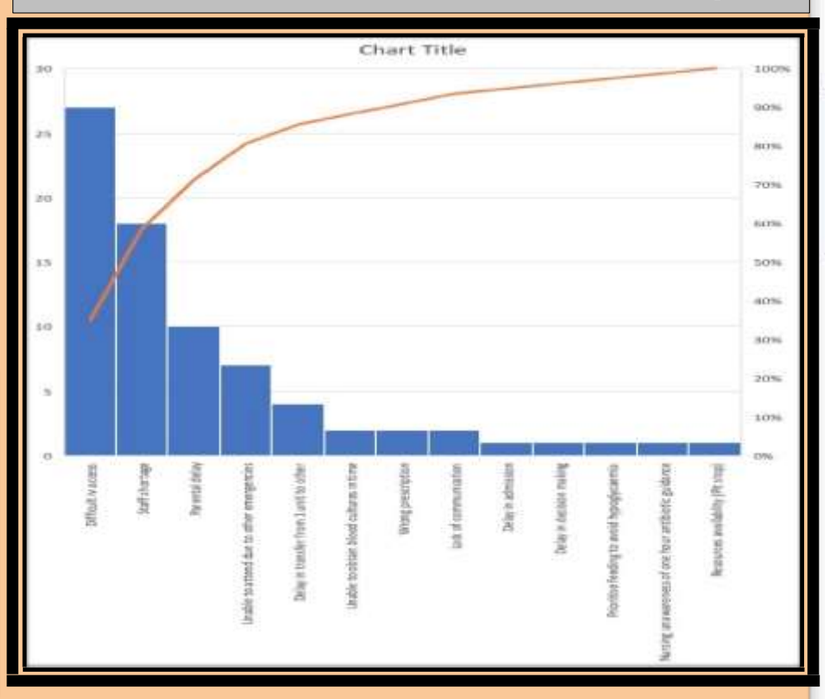
Cycle 3: Pareto chart-based staff survey were used to understand aspects of human behavior. Incomplete documentation identified.
Action: Staff education undertaken. A sepsis booklet was created and implemented.

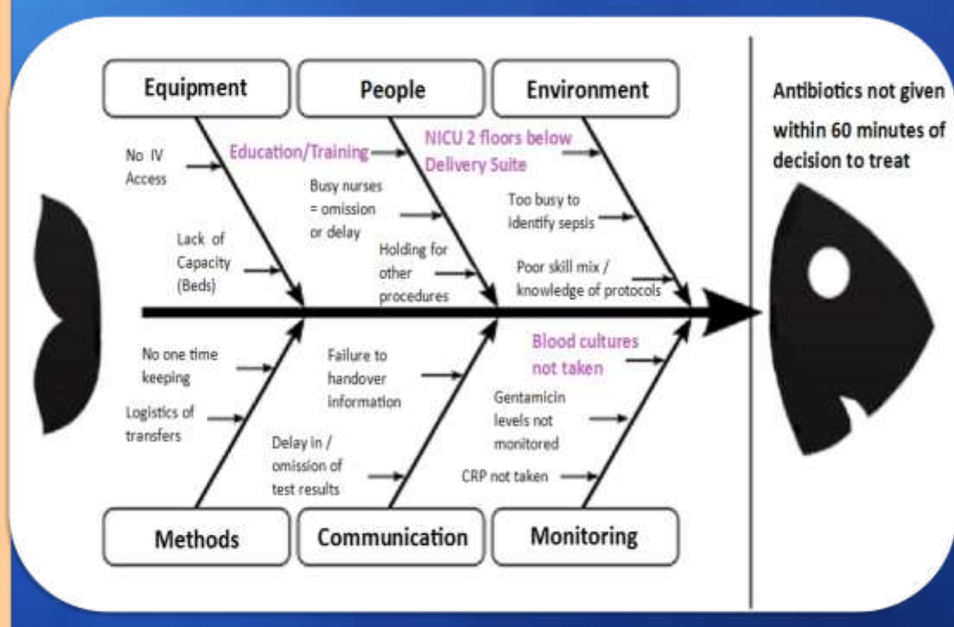


Pareto chart-based survey

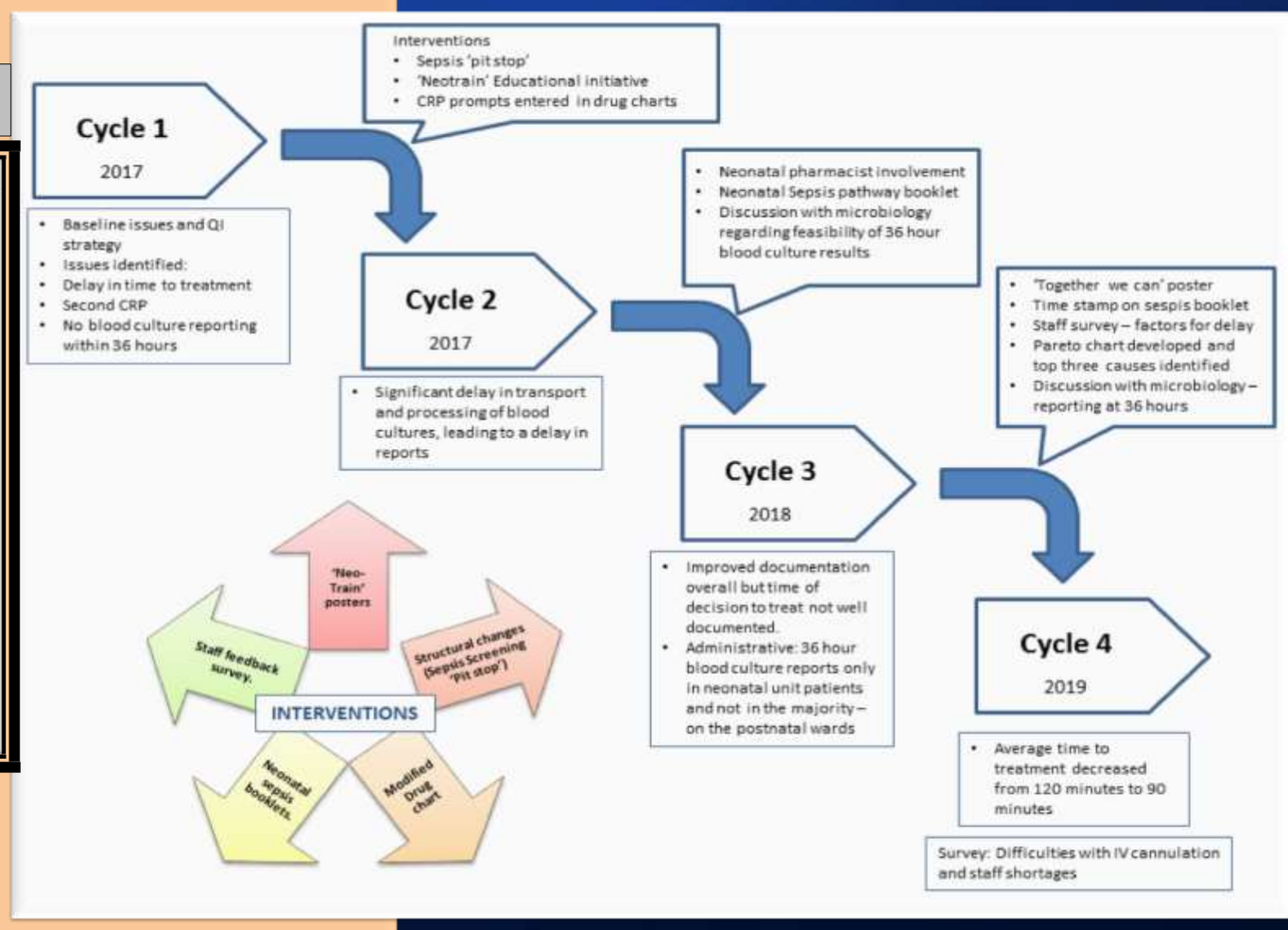


Cycle 4: 36 hours blood culture reports not available for babies on postnatal.
Action: Negotiation with micro department to further improve their reporting.

FISH BONE ANALYSIS



SUMMARY OF AUDIT CYCLES



RESULTS:

1. The outcome improved the average time of antibiotic administration from 120 minutes to 90 minutes.

2. Early reporting of blood culture results of neonates from postnatal ward which helped in early discharge from the ward when cultures were negative

CONCLUSION:

- A Plan-Do-Check-Act quality improvement initiative for service innovation was used to improve care pathway for babies with risk factors or concerns regarding neonatal sepsis.
- Value stream mapping helped to identify barriers and potential key areas for improvement.
- Key feature for the success of the **Neo-train Quality Improvement initiative** was its use of a multidisciplinary team approach to strategically design and deliver the implementation program.