Blood culture (BC) is the most important microbiological investigation in the management of sepsis. Patients presenting with severe sepsis or shock have positive BCs. Fast and accurate positive results provide valuable information to guide optimal antibiotic therapy early and improve patient outcome. At GOSH BCs are taken from any critically ill patient suggestive of sepsis or with a deteriorating clinical picture.

### Aim

The study aimed to implement Quality improvement (QI) methodology to improve BC transport time from baseline average of 239 minutes to 120 minutes by November 2019. We evaluated BCs collected in wards in relation to the length of their transport time.

### Methods

1. Employed stakeholder mapping and driver diagram to identify primary and secondary drivers
2. Developed a real-time quality improvement dashboard of key measures: Average BC TT (minutes) and percentage of BC transported with 120 mins (%) depicted through Statistical Process Control (SPC) charts.
3. Staff surveys and interviews to identify key themes of understanding and practices among staff.
4. Interventions: Trial of interventions in two wards (Fox and Robin), and upon achieving gradual improvements, Trust wide roll out of communications: increased awareness of appropriate use of the chute; impact of turnaround times; visual aids; posters; screen savers; and face to face training.
5. Retrospective study of 11,011 BCs over 12-month period; average TT before and after was assessed.
6. % of BC transported within 120 minutes was studied.

### Results

5383 BC taken pre-intervention from 01.03.2018-31.08.2018 and 5628 BC taken post-intervention from 01.09.2018-01.02.2019 were compared.

- % transported within 2 hours improved from 44% to 58% (time-reduction)
- Transport time reduced from 239 mins (pre - intervention) to 146 mins (post-intervention)

### Conclusion

Our approach has raised awareness; improved data collection; cleared staff misconceptions that BC can be sent via the chute and that organisms only start to grow when incubated quickly!

### Acknowledgments

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