Improvement on the Process of Cord Blood Grouping

Singapore Healthcare Management 2016

Sng C. G. S.[1]
Koh M.Z.[1]
Heng M. L.[1]

1. Department of Pathology and Laboratory Medicine, KK Women's & Children's Hospital, Singapore

KK Women's and Children's Hospital
SingHealth

INTRODUCTION

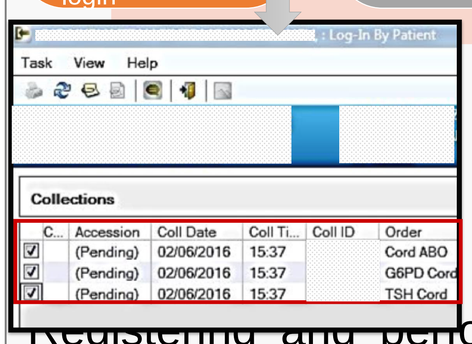
As part of newborn testing, Clinical Laboratory routinely processes glucose-6-phosphate dehydrogenase (G6PD), Thyroid Stimulating Hormone (TSH) and ABO blood grouping tests on cord blood specimens. The initial workflow as shown below:

Cord blood specimens
- Ordered under one laboratory accession number
- All tests must be selected during login

Tests done in separate labs
- Biochemistry (BC) Lab – G6PD and TSH
- Blood Bank – ABO grouping

Ordering and reporting of ABO results
- MT order ABO tests in INNOVA
- MT perform and verify ABO result in Biochemistry Result Entry

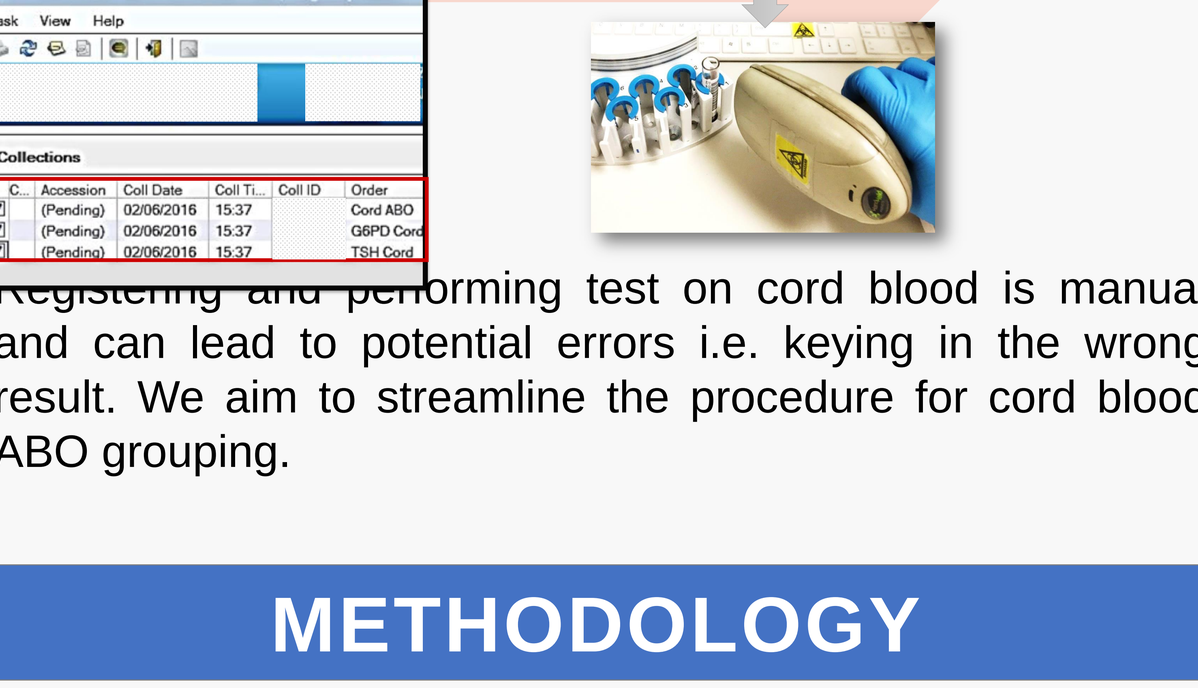
Once all three tests are completed
- All three results printed in one printout and dispatched to the ward



Registering and performing test on cord blood is manual and can lead to potential errors i.e. keying in the wrong result. We aim to streamline the procedure for cord blood ABO grouping.

METHODOLOGY

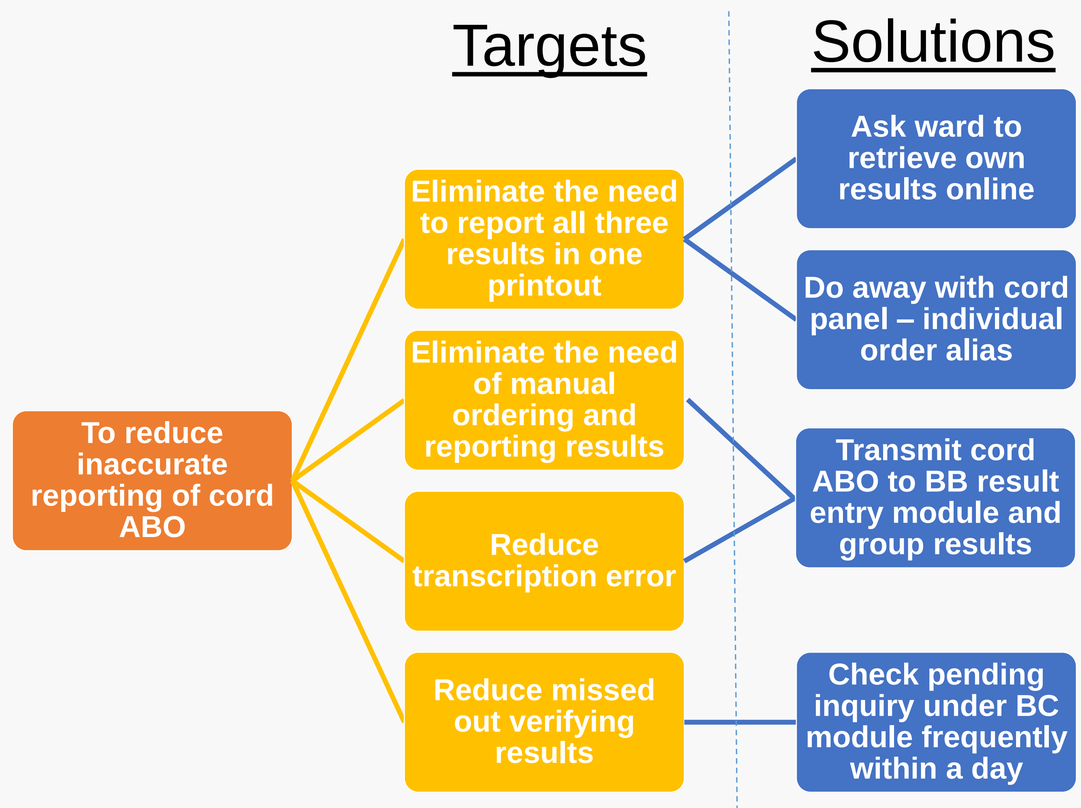
Fishbone diagram was used to study and identify the root causes of the problem.



After identifying the possible root causes, we have highlighted few main important issues (in red) which we would like to address to.

RESULTS

Based on the fishbone diagram, we identify and set targets to address the root cause. With the targets listed, we look into possible solutions and consider the feasibility of each of them.



After engaging Information Technology team, improvements are made on various areas:

1. Transmission on cord ABO test orders and results between LIS and INNOVA.
2. Cord ABO results are reported under the Blood Bank Result Entry module.
3. All 3 results (G6PD, TSH and ABO grouping) can be grouped together to facilitate the online viewing and printing of results by the doctor.

CONCLUSION

With the installation of automated transmission and the change in LIS reporting modules, transcription errors are reduced as MTs are no longer required to manually process and report cord ABO tests. Positive feedback The change also makes processing less labour-intensive and saves time while greatly improving patient safety.