

# Reduce the prevalence of blood transfusion sampling & form errors by 25% within ED in 6 months (May 2024 - November 2024)



Patient Safety & Quality Team in collaboration with Gloucestershire Royal Hospital Emergency Department  
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## Background & Safety Concerns

16% of total Blood Transfusion samples received at the lab are NOT processed every month with 22% coming from ED. 343 samples rejected in 3 months were from ED (Dec 2023 - Feb 2024). 376 samples were rejected in ED, spanning May 2024 – July 2024. (18% total, 24% from ED).

This impacts on the lab team, the nursing team, the patient having to go through the process again and the cost implications associated with this process as well as patient flow and delays in results and availability of blood.

For the purpose of this project we are focusing on blood samples requested for 'Group & Save'.

Group and save blood sampling follows a different process. Group and saves have the sample bottle label with a separate form, both to be written by hand. 'other' bloods follow the process of having them taken then a label and form being requested electronically and printed off.

Baseline data was obtained from Pathology/DATIX for incidences relating to blood transfusion sampling and form errors between. May-Aug 2024 & Sept-Nov 2024.

We initially performed observations to see if there was an area for focus to help formulate the PDSA cycles. We also created a QR link to a questionnaire for staff in ED, around blood sampling at the start and end of the project.

## Quality Improvement Aim

Reduce the prevalence of blood transfusion sampling & form errors by 25% within ED in 6 months. We aim to focus on promoting behavioural change/human factors within ED.

| Primary Driver                                     | Secondary Driver                          | Change Idea  | Priority No. |
|--|---|--|--------------|
| Human Factors                                      | Organisational culture and values         | PDSA cycle HF training                                 | 1            |
|  | Systems and Processes                     | Introduction a phlebotomy trolley                      | 6            |
|  |   | Incorporating a venepuncturist for 1 task              | 4            |
| Time/Staff   | Time pressures on staff to complete tasks | Protective and raise awareness of individual           |              |
|  | Ward staff changes/ Skill mixes.          | Laminates in bay for prompts                           | 3            |
| Current Standards                                  | Trust Policy                              | Develop competencies for Group and save blood sampling | 5            |
|  | Quality Standards                         | Wearing of a tabard                                    | 2            |
| Patient Safety Incident Response Framework (PSIRF) | Measure against PSIRF initiative          | Staff & Communication                                  | HF 1         |
|  | Learning from Improvement                 | Further implementation of PDSA success cycle           |              |

- Outcome Measure:** Percentage of blood transfusion sampling & form errors in ED
- Process Measures:**
  - Number of staff trained in Human Factors
  - Number of bays with laminates put up, to act as prompts
  - How often trays or trolleys were utilised whilst taking bloods
- Balancing Measures:**
  - Cost of equipment: trolleys, trays
  - Time spent training staff/time spent off shop floor

PDSAs /Measurement –We have trialed 6 PDSA cycles and abandoned one at the initial observation phase.

From the cycles we found there is a cultural change that is needed. We have addressed this with a human factors approach;

Human factors training being embedded into ED training – Taking staff off shop floor to do training, increasing budget.

Cascade trainers – Time consuming

Laminate guides in prevalent areas of ED to support staff with the process

Provision of trays – cost implication

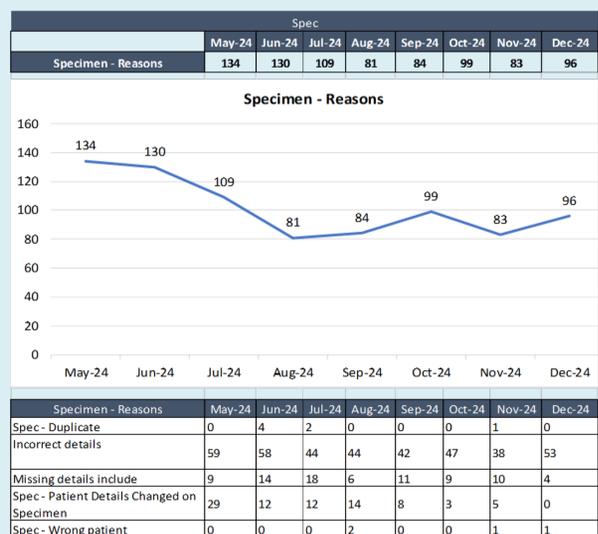
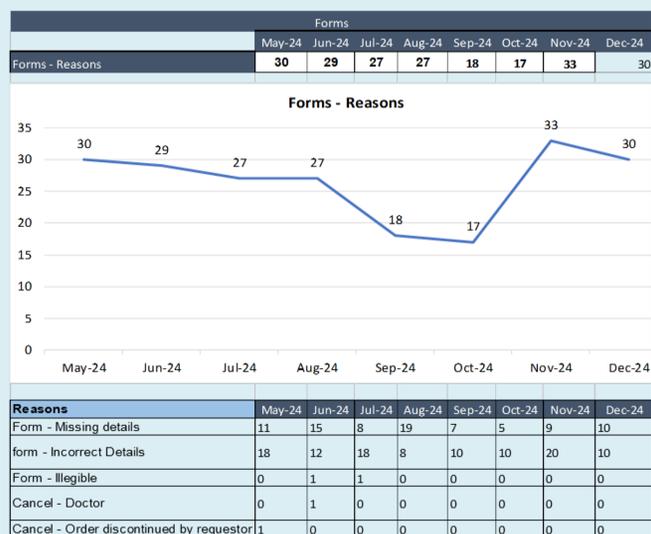
Trial of a phlebotomy trolley – potential cost implication

## Results

The QI objective of reducing the prevalence of blood transfusion sampling & form errors by 25% was achieved from July 2024 to present date. This data specifically relates to the sample specimen.

The QI objective of reducing the prevalence of blood transfusion sampling & form errors by 25% was achieved in September and October but has not lasted. This data specifically relates to the sample forms.

| Plan -When / Where / Who?                      | Human Factors training to staff                             | Wearing of a bright tabard   | Laminates in bays to act as prompts                 | Trays for ease of taking bloods                                   | Develop competencies for group & save  | Implementation of phleb trolley trial   |
|--|---|--|---|---|--|---|
| <b>Do - What is being tested?</b>              | To understand own behaviours and to promote self-awareness. | Promote protective time. Make others around aware of interrupting. | Support practice                                    | To be provided based on staff feedback following survey feedback. | To review data in December to see if competency/focused training can improve outcomes                  | If the use of this trolley aids staff to better carry out the tasks   |
| <b>Study - What happened?</b>                  | Training being cascaded to all staff, all banding involved. | We did not proceed with these following observations               | This idea was developed following ward observations | To support HF   | X2 staff in ED to be train the trainer signed off by end of Nov 2024.                                  | Trial dates, 19 <sup>th</sup> , 20 <sup>th</sup> and 23 <sup>rd</sup> December. Had access to this 1-4pm on the three days. |
| <b>Act - What now? Adopt / Adapt / Abandon</b> | Ongoing and embedded into staff development within ED.      | Abandon  | Implemented September 2024                          | Implemented September 2024  | Competencies as a whole are being reviewed by the trust so no further plans to consider for this cycle | Needs to be trialed for a longer period of time. Without time limitations.  |



## Next Steps

PDSA cycle 1- working well and now embedded within all training given to staff by the development team in ED – May

PDSA cycle 3 - positive feedback overall from staff around the laminates - September

PDSA cycle 4 - Feedback from staff has been positive - September

PDSA cycle 5 - longer term work needed to review - November

PDSA cycle 6 - feedback to collate – December

Things to look at next are comparing the data from last year to this year. If there is an increase of patients in certain months how does this affect the data, such as during winter months. A further trial is recommended for the use of the phlebotomy trolley.

As there is an increased amount of sample errors compared to forms this could be due to a number of reasons and needs to be explored further. We have noticed an ongoing decline in specimen rejection errors but the forms remain with high incidences.

The top errors are around incorrect documentation and this proves a need to consider alternative options to the handwritten format.