

# INCREASED SPECIMEN REJECTION IN SOC A43

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**WORKPLACE / PATIENT SAFETY**  **INNOVATION AND PRODUCTIVITY**  
 **PATIENT EXPERIENCE**  **GREEN & SUSTAINABILITY**

## Define Problem, Set Aim

### Problem Statement

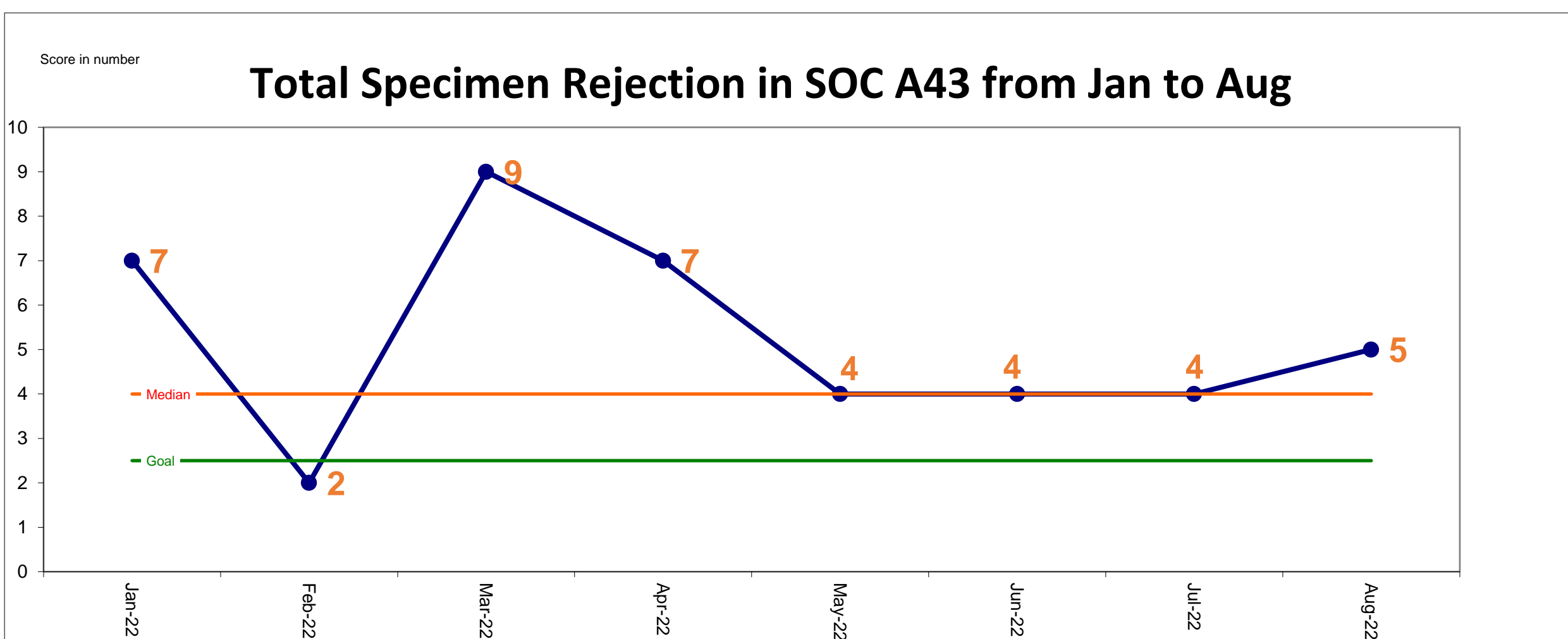
From January to August 2022, there were 42 rejected specimen in SOC A43 clinic, averaging five rejections per month. This resulted to increase workload and stress experienced by staff when coordinating repeated procedures. Additionally, leading to inconvenience to the patients as the need for repeated procedure will lead to discomfort, anxiety and additional travel time. Patient will experience increased wait time for the test results and potential for delayed diagnosis and treatment.

### Aim Statement

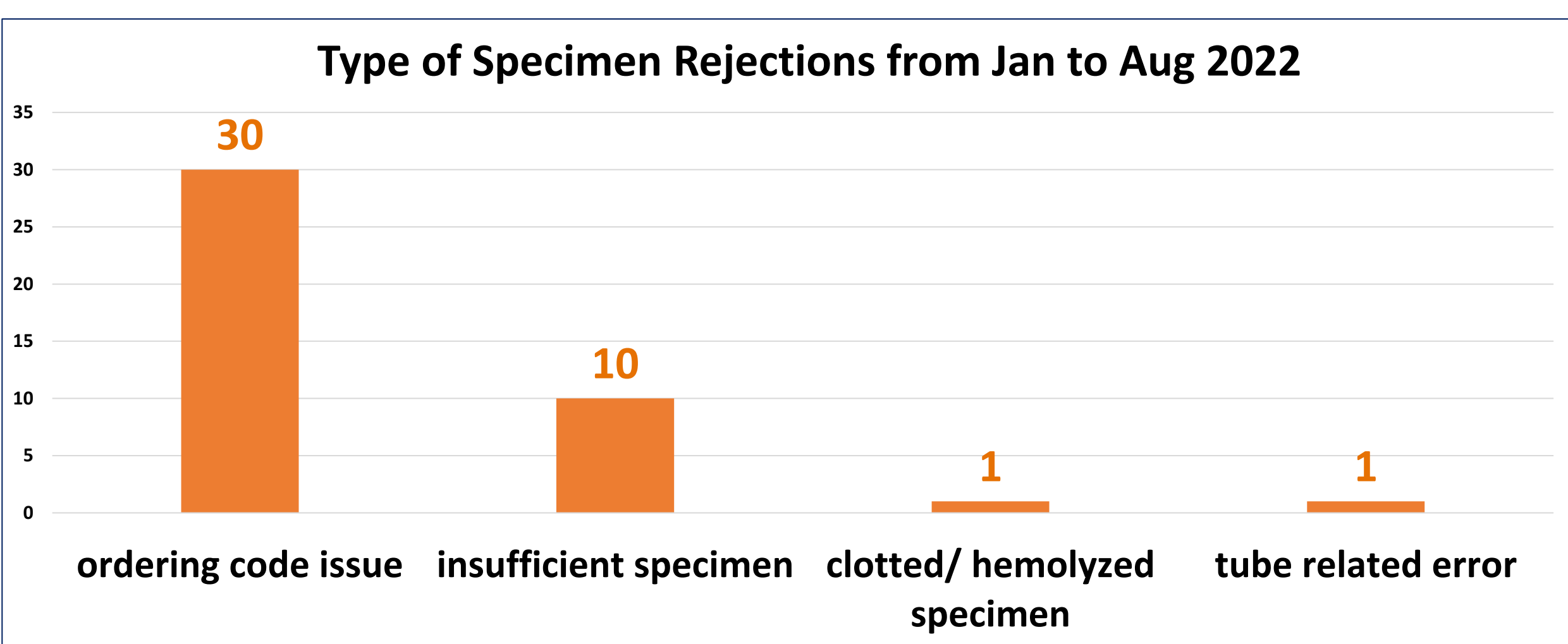
The project team aims to reduce to at least 15 specimen rejection over a period of 6 months

## Establish Measures

### Outcome Measure



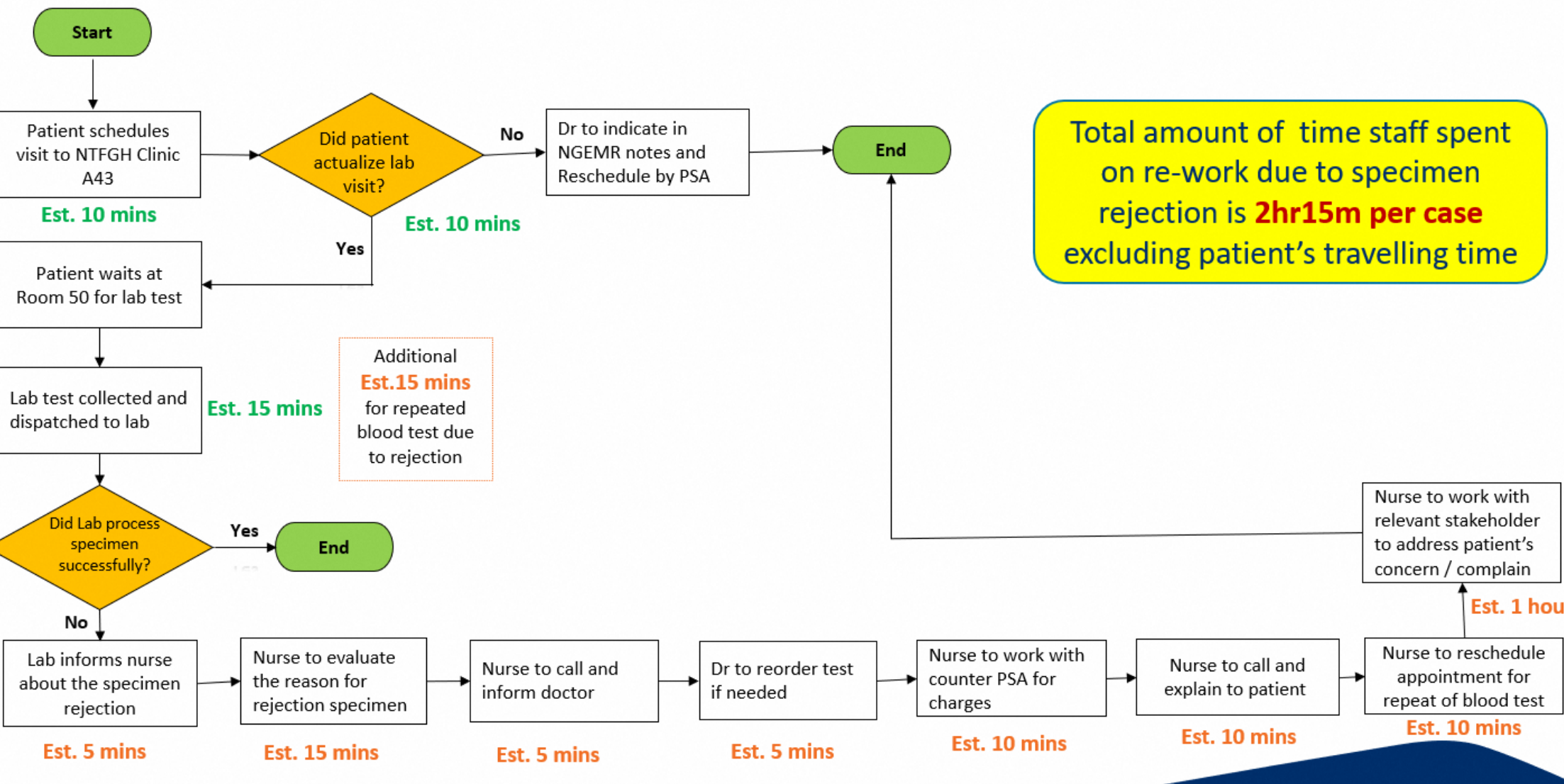
### Process Measure



## Analyse Problem

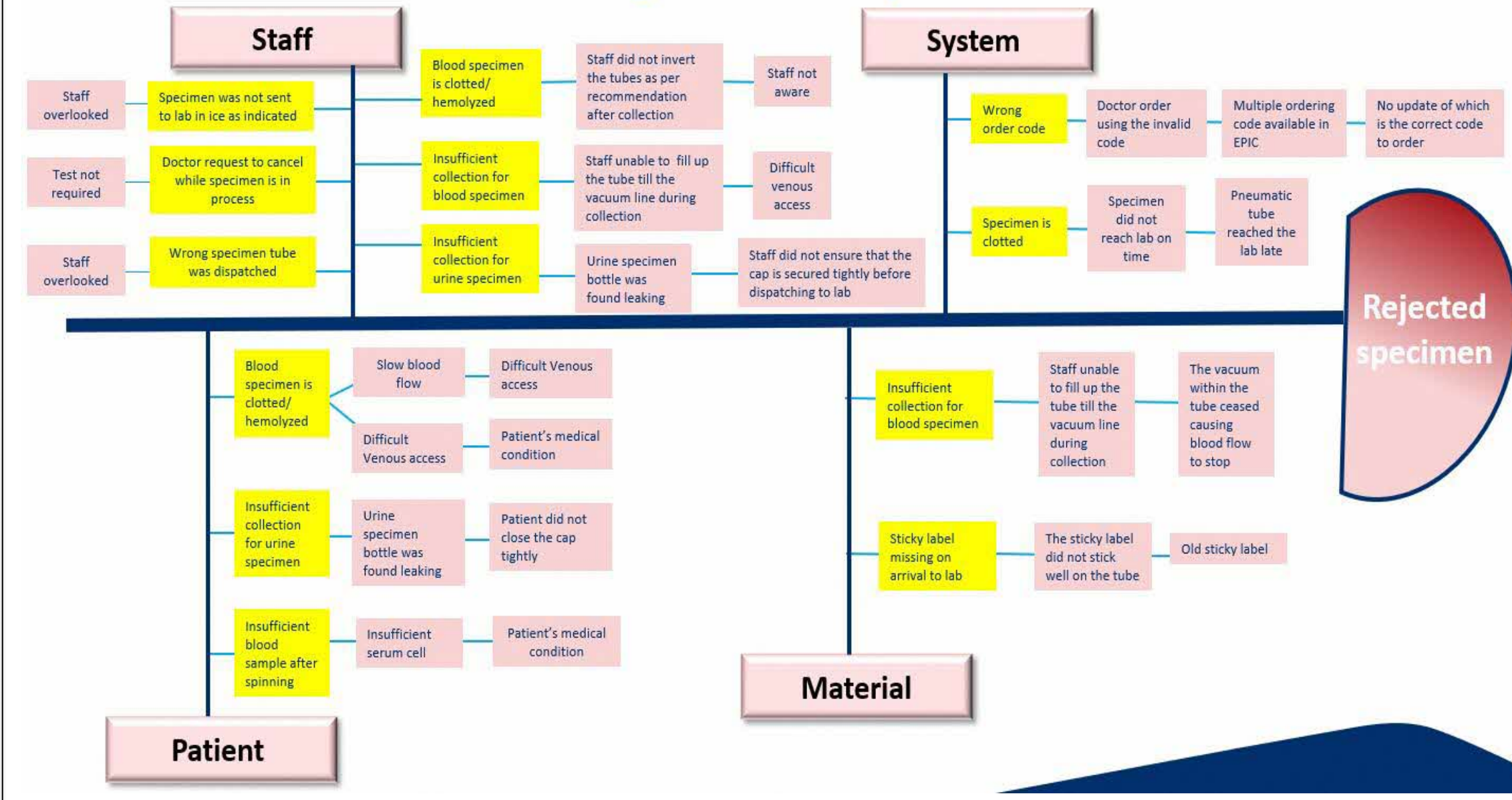
### Process before interventions

#### Blood Taking Process with Rejected Specimen at SOC A43



### What are the probable root causes?

#### Annex C: Fishbone Diagram Template



## Select Changes

What are all the probable solutions? Which ones are selected for testing?

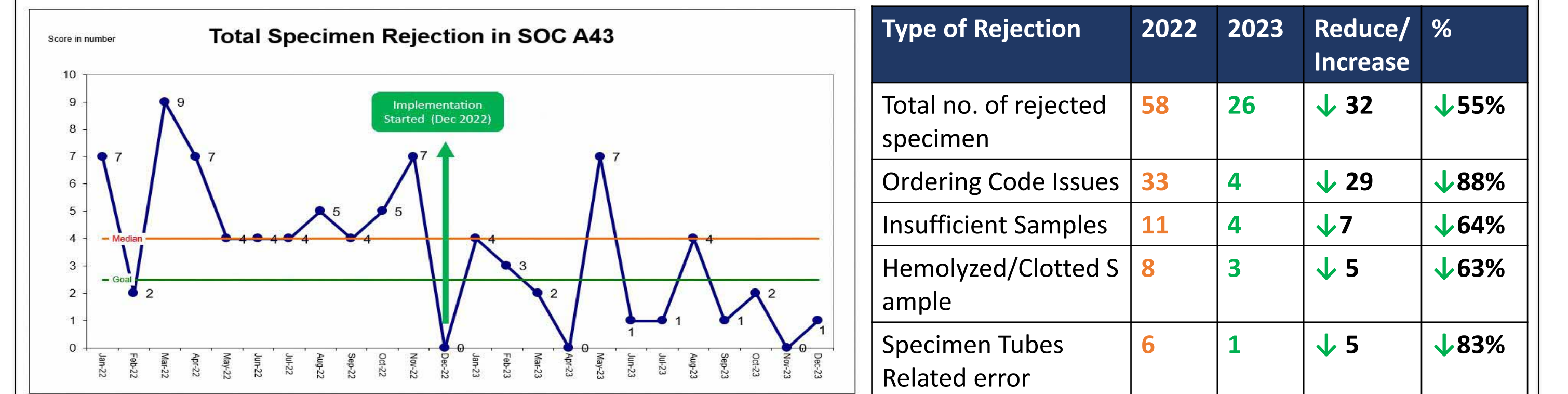
Root Cause	Potential Solutions (PS)	Impact	Implementation
Root Cause 1: wrong order code	PS1: 1. Call lab personnel to verify on the correct order code. 2. Share with the doctors on the correct order codes for future orders. 3. Check the patient's blood test orders one day before to ensure order codes are valid. 4. Work with lab personnel to remove invalid order codes to reduce confusion.	High	Hard
Root Cause 2: insufficient specimen	PS2: Reinforce to staff: 1. to fill the specimen tubes until the vacuum is exhausted and blood ceases to flow 2. to send an additional tube to lab for certain blood tests that are commonly reported to be insufficient 3. to strictly follow the instructions indicated in the EPIC for all specimen collection 4. perform leakage test before dispatching urine sample. To advise patient: 1. to follow the leaflet for guidance on the collection of salivary test 2. to tighten the cap of the urine bottle after collection	High	Easy
Root Cause 3: hemolyzed and clotted sample	PS3: Reinforce to staff: 1. to use the correct specimen tube in the correct sequence 2. on the correct technique to mix the specimens gently 3. to invert gently the anticoagulated tube 8 to 10 times immediately after collection 4. to send the specimens to the laboratory promptly	Low	Hard
Root Cause 4: specimen tube related error	PS4: 1. Replace the older specimen sticky label with a new sticky label 2. Collect additional tube when the vacuum ceases and the blood does not fill to the line required. 3. Emphasize to the team to ensure that the right type of tube is used as per EPIC.	Low	Easy

## Test & Implement Changes

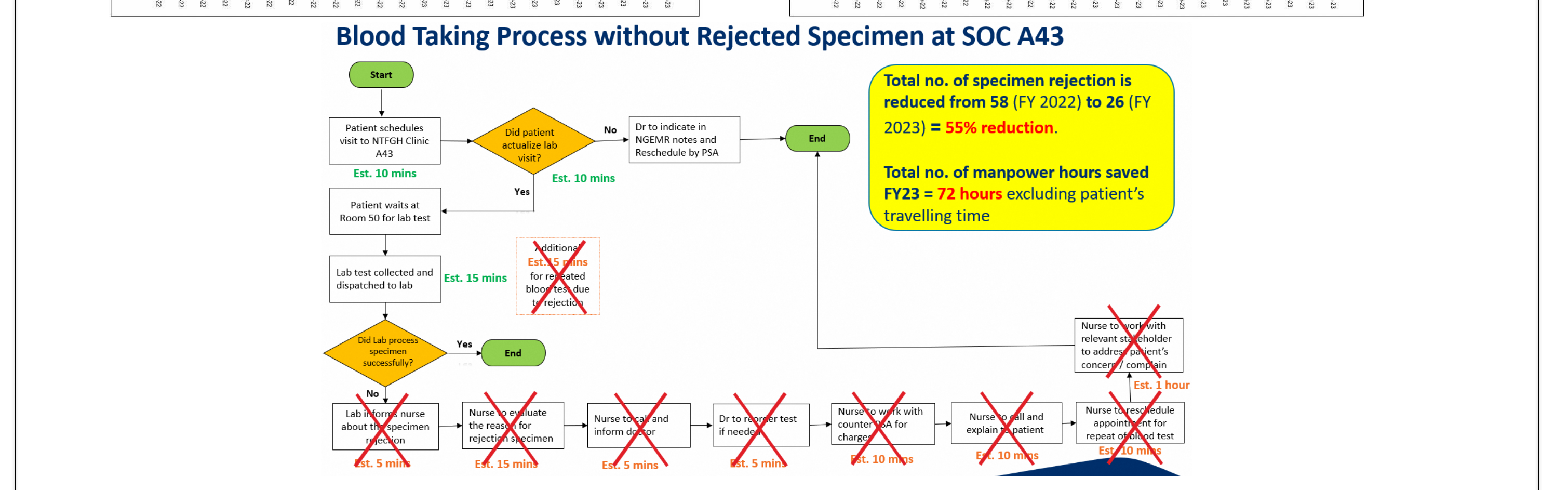
### PDSA Cycle

Cycle	Plan: "What will happen if we try something different?"	Do: "Let's try it."	Study: "What happened?"	Act: "What's next?"
1	Eliminate specimen rejection due to wrong order codes. Reduce occurrence of insufficient specimen collection.	1. Call lab personnel to verify on the correct order code. 2. Share with the doctors on the correct order codes for future orders. 3. Check the patient's blood test orders one day before to ensure order codes are valid. 4. Work with lab personnel to remove invalid order codes to reduce confusion. Reinforced to staff: 1. to fill the specimen tubes until the vacuum is exhausted and blood ceases to flow 2. to send an additional tube to lab for certain blood tests that are commonly reported to be insufficient 3. to strictly follow the instructions indicated in the EPIC for all specimen collection 4. perform leakage test before dispatching urine sample. Advise given to patient: 1. to follow the leaflet for guidance on the collection of salivary test 2. to tighten the cap of the urine bottle after collection	There was a reduction in specimen rejection due to wrong order codes from 32 in Year 2022 to 3 in Year 2023. There was a reduction in specimen rejection due to insufficient specimen from 11 in Year 2022 to 4 in Year 2023. There was 3 specimen rejection in Feb 2023 as staff did not send an additional tube for the specific blood test that are commonly reported to be insufficient. Staff sent as per requirement stated in EPIC and was not aware that an additional tube is required.	Team decides to adopt this change. For certain blood tests that are commonly reported to be insufficient - updated the lab personnel to review the number of specimen tubes required for specific blood investigations in the Epic system - work in progress
2	In May 2023, there was 7 specimen rejection for a single patient due to wrong patient sticky label. Team plan to eliminate specimen rejection due to wrong patient sticky label. Reduce occurrence of insufficient specimen collection.	1. Reinforce to all staff to perform 2 patient identifiers before pasting the specimen label onto the specimen tube 2. RO perform random audit to monitor compliance to performing 2 patient identifiers. 1. For certain blood tests that are commonly reported to be insufficient - updated the lab personnel to review the number of specimen tubes required for specific blood investigations in the Epic system.	There was a zero in specimen rejection due to wrong patient label from June to December 2023. Work in progress	Team decides to adopt this change. Work in progress

### Outcome Measure



### Process Measure



## Spread Changes, Learning Points

Specimen rejection has significant consequences including patient discomfort and additional travel time, unnecessary time spent on re-work, and delay in diagnosis and treatment of patients. With the monitoring of the number, common causes of specimen rejection and sharing of the mitigating factors monthly, SOC A43 achieved a 55% reduction in specimen rejection. The reduction in specimen rejection has saved 72 hours of the ground staff's time previously spent on rework, freeing them up for more productive tasks. This has also had a positive impact on patient experience by reducing delays and improving efficiency.

Moving forward, we continue to monitor the number and causes of specimen rejection, review the mitigating factors and implement the changes accordingly. Additionally, we have shared the successful measures implemented in reducing specimen rejection with SOC A32 which has a relatively bigger scale of patients. If successful, SOC will explore spreading the change to other clinics.

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