

## **Project Title**

Reduction of Time Taken for UBT Positive Patients

## **Project Lead and Members**

Project lead: Rachel Teo Ying

Project members: Deborah Anne Heng Yong En

## **Organisation(s) Involved**

Sengkang General Hospital

## **Healthcare Family Group(s) Involved in this Project**

Allied Health, Healthcare Administration

## **Applicable Specialty or Discipline**

Pulmonary, Research

## **Project Period**

Start date: Sep 2022

Completed date: Jul 2023

## **Aims**

- To ensure a standardized UBT workflow
- To reduce UBT (+) patient waiting time by 30mins

## **Background**

Urea Breath Test (UBT) is a non-invasive rapid diagnostic procedure used to detect the presence of *Helicobacter pylori* in the stomach. This bacterium infects the stomach lining and is a main cause of ulcers in both the stomach and duodenum. The test exploits the hydrolysis of orally administered urea by the enzyme urease, which *H pylori* produces in large quantities.

## **Methods**

See poster appended/below

## **Results**

See poster appended/below

## **Conclusion**

The improved UBT workflow has eliminated waiting time for UBT (+) patients and reduced overall test time from 40mins to 30mins. This has greatly increased the team's efficiency as shown by a time savings of 9,460mins (approx.158 hrs) that was made in 12 months post implementation. In addition, the time savings has provided an opportunity for the team to increase the number of UBT slots to cope with the demand.

## **Project Category**

Care & Process Redesign

Quality Improvement, Lean Methodology Workflow Redesign, Access to Care,  
Waiting Time

## **Keywords**

Urea Breath Test, Diagnostic Procedure

## **Name and Email of Project Contact Person(s)**

Name: Ms Rachel Teo Ying

Email: Rachel.teo.ying@skh.com.sg

# Reduction of Time Taken for UBT Positive Patients

**Team:** Rachel Teo Ying (Leader), Deborah Anne Heng Yong En (Co-Lead)

**Sponsor:** Ruby Poh Li Choo, Clinical Measurement Centre (Pulmonary Diagnostics)

## Introduction

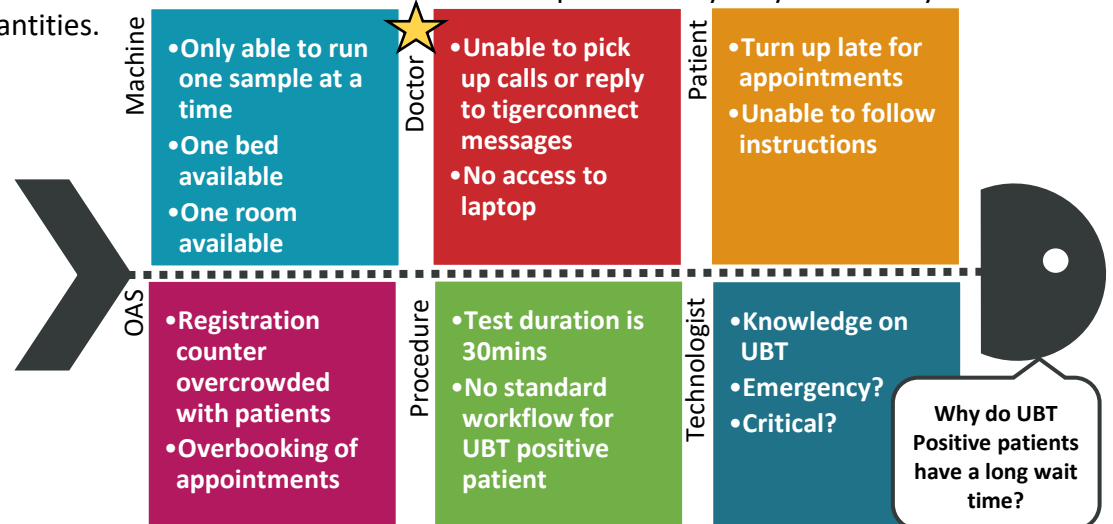
Urea Breath Test (UBT) is a non-invasive rapid diagnostic procedure used to detect the presence of *Helicobacter pylori* in the stomach. This bacterium infects the stomach lining and is a main cause of ulcers in both the stomach and duodenum. The test exploits the hydrolysis of orally administered urea by the enzyme urease, which H pylori produces in large quantities.

## Problem

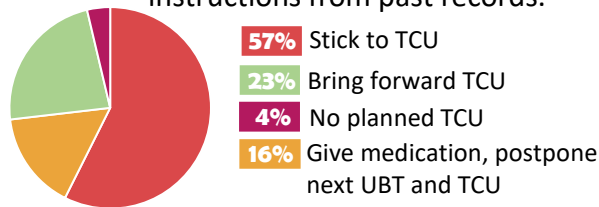
From the Cause-and-Effect diagram, the team identified that Doctor is the key interest for this project as they are often unavailable to provide advice on management plan to proceed for positive UBT results. Instructions from doctors tend to vary as they have different management plans for their patients. Doctors are also not always available to give advice on which management plan to proceed with, which results in unnecessary delays for patient with UBT (+) results.

## Aim

- To ensure a standardized UBT workflow
- To reduce UBT (+) patient waiting time by 30mins



**Analyse:** Identified patterns for Doctor's instructions from past records.



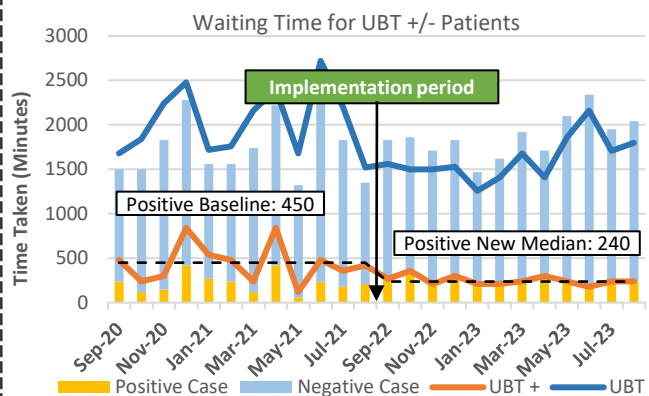
The team analysed UBT (+) cases from Jul 2020 - Sep 2021

## Discussion with Stakeholders:

After discussion with Gastro doctors on standardizing the UBT Workflow, it was decided that Pulmonary lab will email SOC to bring forward the TCU appointment only for positive UBT patient with TCU longer than 3 months.



**Results:** New workflow was implemented on 20 June 2022



### Time Savings:

**Time saved per Positive case:**

60mins – 30mins = 30mins

**Total time savings for 100 Positive cases:**  
100 x 30mins = 3,000mins

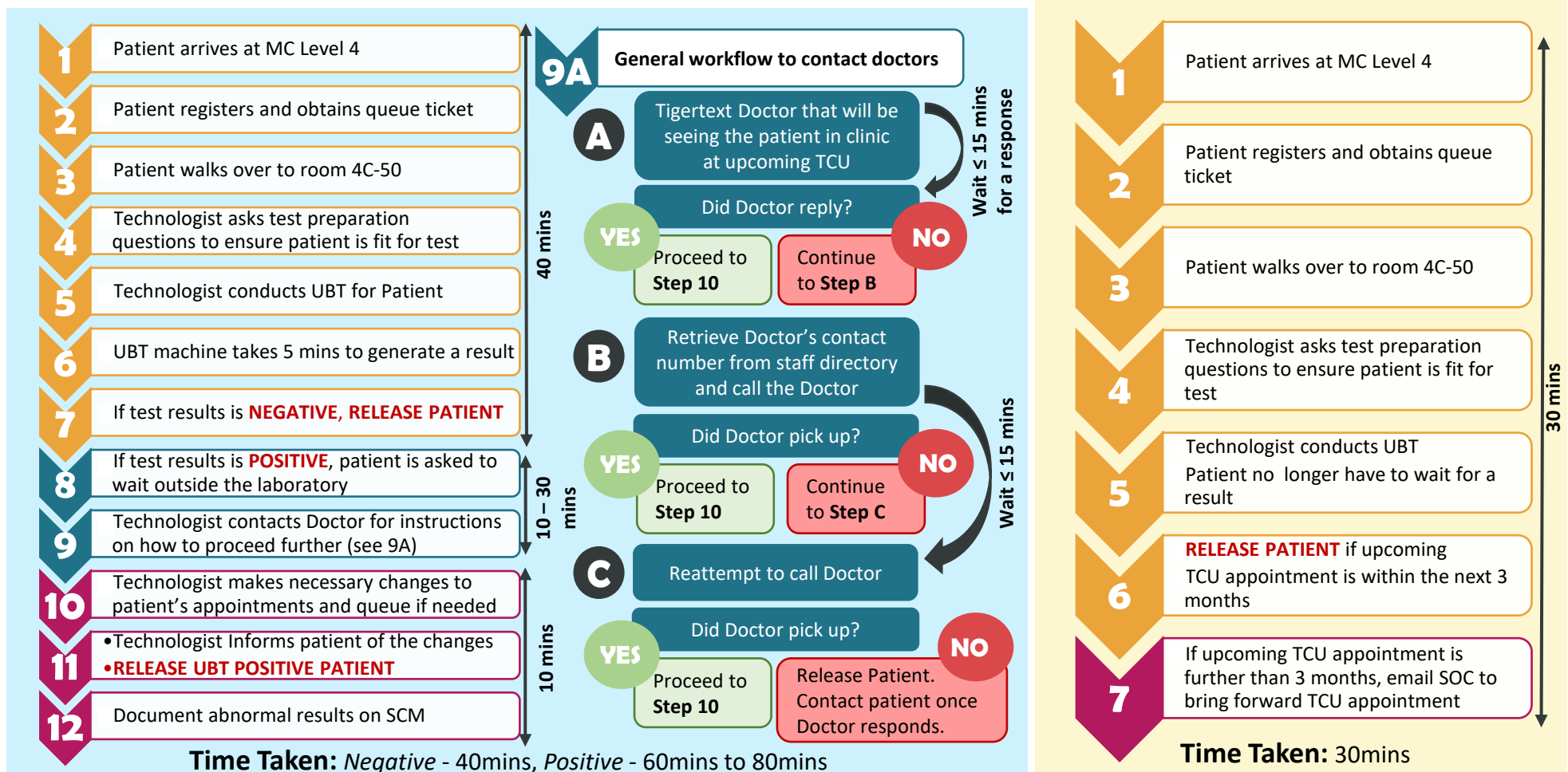
**Time saved per Negative case:**

40 mins – 30mins = 10mins

**Total time savings for 646 Negative cases:**  
646 x 10mins = 6,460mins

**Total time savings: 9,460mins**

**Despite an increase in caseload, the total time taken with the new workflow reduced!**



## Conclusion and Future Plans

The improved UBT workflow has eliminated waiting time for UBT (+) patients and reduced overall test time from 40mins to 30mins. This has greatly increased the team's efficiency as shown by a time savings of 9,460mins (approx.158 hrs) that was made in 12 months post implementation. In addition, the time savings has provided an opportunity for the team to increase the number of UBT slots to cope with the demand.