Laboratory Self-Service Electronic Collection Module (ECM)

Ong Shu Ting, Laboratory

Mission Statement

Automate lab registration with self-service ECM to achieve at least 20% time and 40% manpower savings.

ECM is redesigned with a new system interface with intuitive, and "minimal clicks" registration. There are two roll outs to this new ECM - known as self-service ECM.
1. First stage - Staff to use the self-service ECM, implemented since Dec 2021. The current IT infrastructure and design of existing service counters are not build for patient use, hence staff is still required to manage the system within the counters.
2. Second stage - Patient to use the self-service ECM. The first polyclinic designed for this is at Khatib Polyclinic in 2024.

Team Members

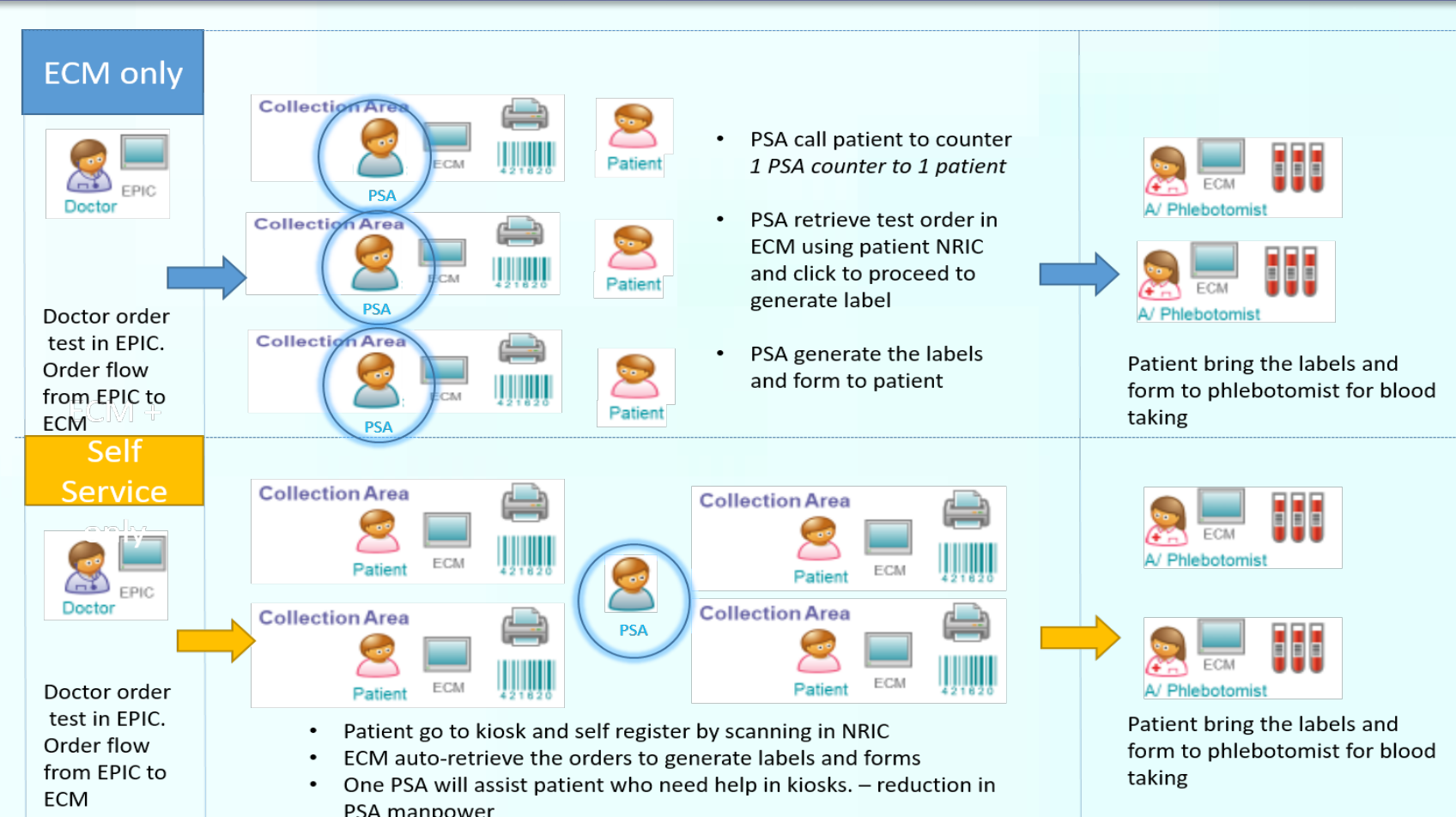|	Name	Designation	Department
Team Leader	Ong Shu Ting	Assistant Manager	Laboratory
Team Member	Martina Lim Lim Meow Choo Nurliza Binte Safrul Gamal Susan Teo Jenny Tay Peh Pin Pin	Senior PSA Senior PSA Senior PSA Senior PSA Senior PSA PSA	Laboratory
Sponsor	Lim Soh Har	Executive Director	-
Facilitator	Serene Kho	Deputy Director	Laboratory

Evidence for a Problem Worth Solving

1. To reduce on manpower reliance in view of manpower oversaturation in the industry, we are moving towards automation of counter processes such as the registration of patients before the clinical procedure is performed.
2. While the first stage of implementation only target staff use, we see that the processing time per patient can be reduced by 23% with a simpler and intuitive interface which requires minimal staff intervention and "clicks" to complete the registration process.
3. The second stage of implementation will target patient use where there will be at least 40% (2 headcounts) manpower savings. Patient will perform the registration themselves instead of having dedicated PSAs to attend to individual patient.
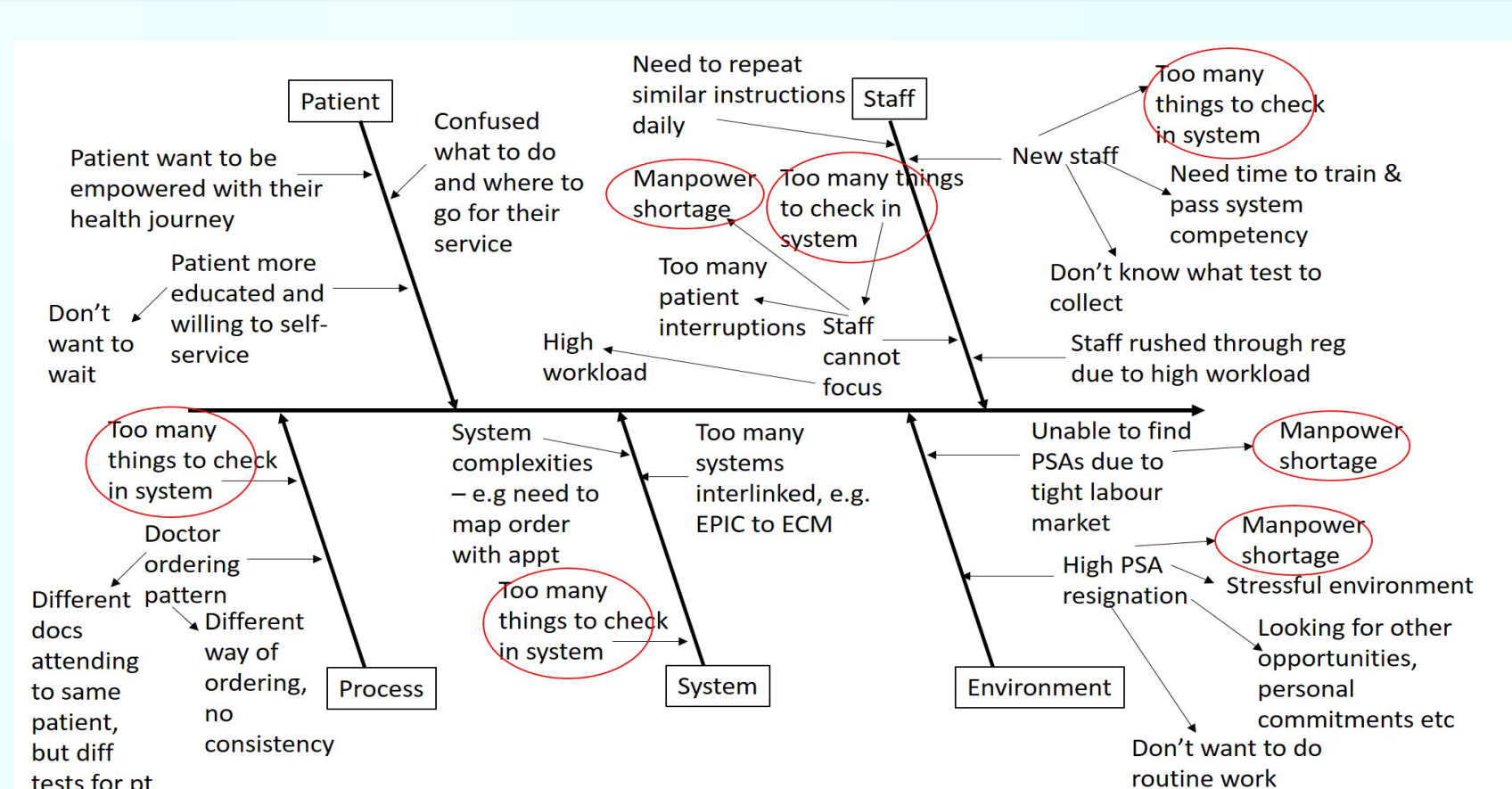
Current Performance of a Process

We faced difficulty to recruit PSAs to support the frontline counter functions, in view of oversaturation in the industry. While we are filling headcounts for new polyclinics, we also see high PSA turnover since the second half of 2021, in tandem with the great resignation wave. This resulted in lean manpower and we need to quickly overcome with automation of process and eliminate manpower reliance. Existing staff could be redeployed to new upcoming polyclinics or to perform more value-added roles which in turn boost staff satisfaction and retain talents.

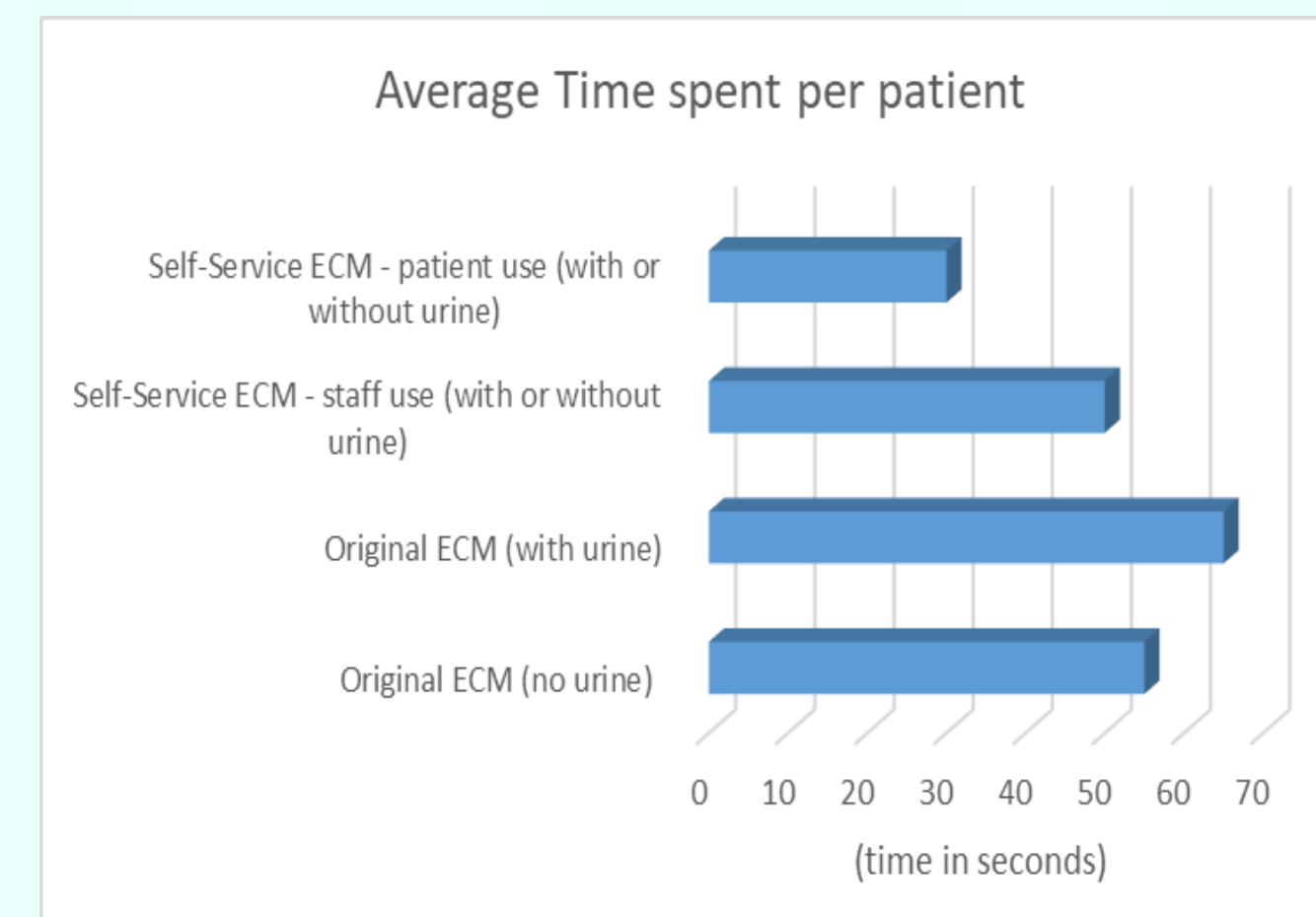## Flow Chart of Process

Cause and Effect Diagram

Implementation

PROBLEM	INTERVENTION	DATE OF IMPLEMENTATION
Staff need to select tests that need to be done on that day based on the system indicated 'performed date'.	With EPIC, there is no need to individually select the tests that need to be done as upstream EPIC only release to ECM. Staff will only need to release the tests in ECM for labels and form to be printed. ECM was also redesigned to be self service with a new user interface – more intuitive (for patient use) and "minimal clicks" interface.	Dec 2021
Manpower shortage	PSAs are able to serve similar patient workload with lesser manpower as the processing time per patient reduced by 23%, by using the self-service ECM. Khatib will implement patient self-service, target to reduce manpower by 40%	Dec 2021 Khatib – 2024

Results

First stage: 23% reduction in laboratory processing time if staff were to use the self-service ECM as compared to the original ECM

Cost Savings

Second stage: Target 40% PSA manpower savings (2 headcounts) at new Khatib Polyclinic as patients use the ECM themselves with only minimal PSA to assist patients. Eg: with the projected workload at new Khatib polyclinic which typically require 3 PSA service counters to support lab registration, we can save 2 PSA manpower, leaving only 1 to assist patient that need help.

Problems Encountered

There are tweets in workflow that were made for a self-service process, where the previous pre-checks by the PSAs were performed before any system collections. The correct collection of tests in ECM is dependent on doctor's ordering pattern in EPIC. E.g. if upstream orders were not made/mapped correctly, there could be potential test missed out. A work stream was formed with the polyclinics ops and clinical service team to address common issues of wrong/missed/incomplete doctor's orders.

Strategies to Sustain

While waiting for new Khatib Polyclinic to implement the second stage in 2024, NHGD is looking to expand the self-service ECM at lab teamlets to at least 2 other polyclinics by end 2022. There will be change of process where the phlebotomist will actualise the test orders in ECM, generate labels and order form, at the phlebotomy stations, without need to go to the PSA counter.