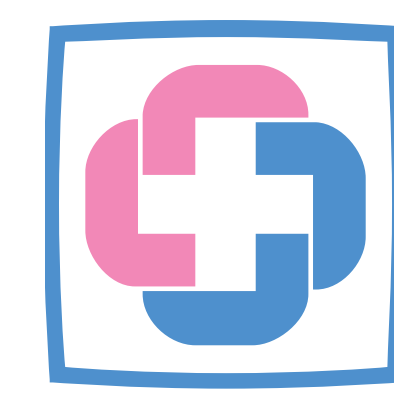




Singapore Healthcare Management 2016

E-Portering

An Intelligent iOS Mobile Phone Application



KK Women's and Children's Hospital
SingHealth

Tey Yew Wei, KK Women's and Children's Hospital
Tan Tai Kiat, KK Women's and Children's Hospital
Cheryl Tan Qian En, KK Women's and Children's Hospital
Pearlyn Chua Pei Chen, KK Women's and Children's Hospital
Nurafiqah Binte Abdul Rahim, KK Women's and Children's Hospital
Serene Chin, Integrated Health Information Systems
Lee Choon Keat, Integrated Health Information Systems
Li Jinli, Integrated Health Information Systems

Introduction

The Patient Transport Services (PTS) department provides portering services to the hospital, handling the transporting of both patient and non-patient centric tasks. Patient centric tasks involve the moving of patients within the hospital, either ambulatory or assisted with wheelchair, bed-trolley or bed. Non-patient centric tasks include transferring of specimens, casenotes and reports.

Background

In the past, a request was raised in the PTS Online system and picked up by our controllers, who assigned it out by calling the Patient Transport Assistant (PTA). This assignment was based on Controller's memory of the PTA who was nearest to the sender's location, or they had to toggle to another screen to filter and check on each individual PTA who was present in that shift and assign the task out to those without or with minimal tasks on hand.

Requestor Screen

1. Requestor fill in the necessary information for transfer task in the old PTS Online system before clicking submit.

Controller Screen

2. Controller call and assign the transfer task out to PTA based on their memory of the PTA's last known location, presence and least number of task.

Controller Screen

1 down, another 10 more logbooks to update ...

5. At the end of the shift, PTA hands over logbook for Controller to perform data entry of the timings.

PTA Logbook

3. PTA writes down the **limited information**, as shown below, before moving out.
 (i) Time of request receipt, (ii) Item for transfer, (iii) Sender's Location, (iv) Recipient's Location.

4. Time of arrival and completion and also acknowledgement from both Sender and Recipient are obtained once PTA reaches the designated locations.

Objective

To reduce the time spent on job assignments and data capturing in transfer tasks.

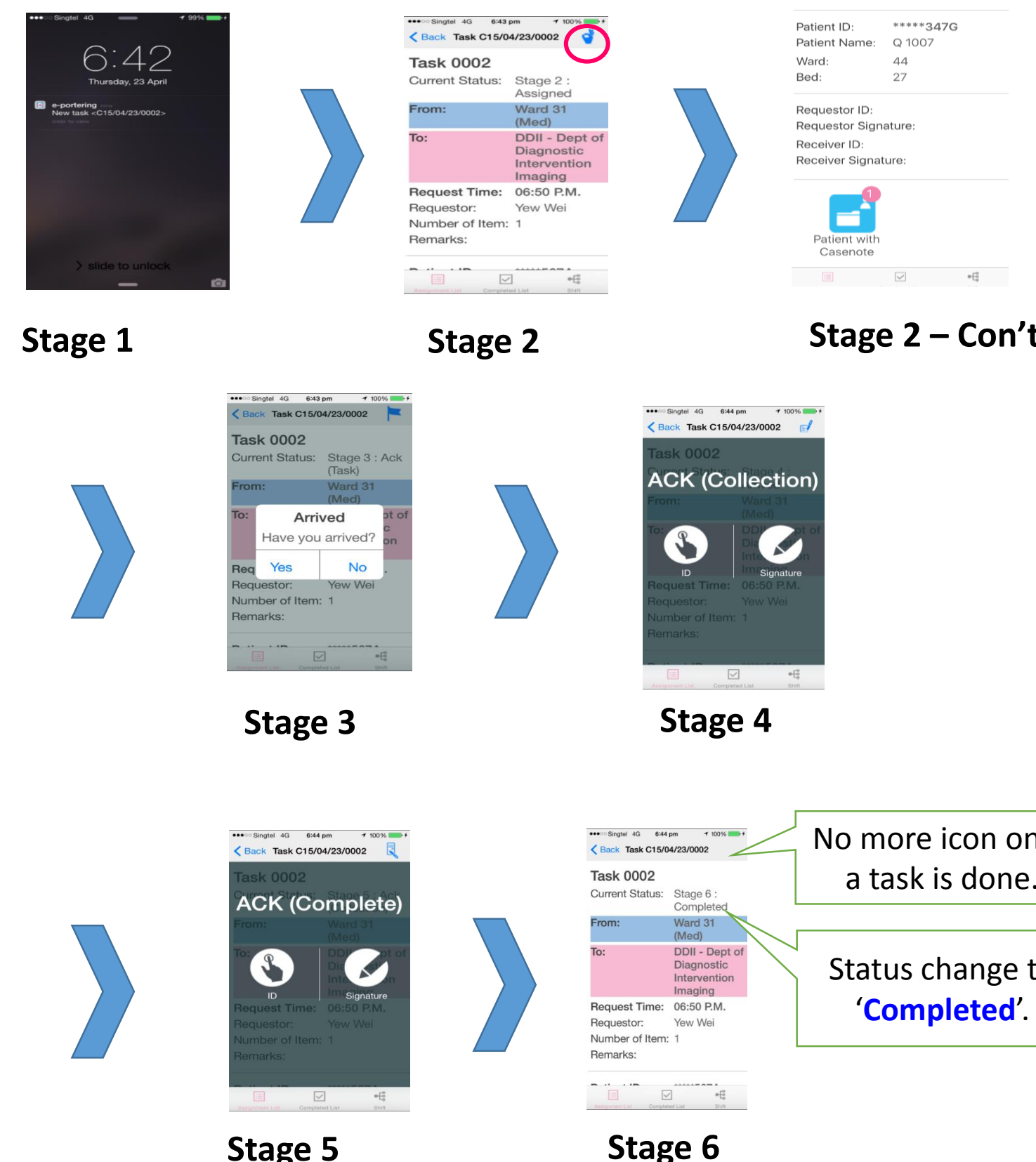
Implementation

Requestor Screen

Requestor fill in the necessary information for transfer request in the new E-Portering system and the request will be sent out to the PTA's iPhone automatically via 3G/4G network upon submission.



PTA iPhone 6+



Which PTA has the least task, who is nearest to Sender, who has the least number of task on hand?

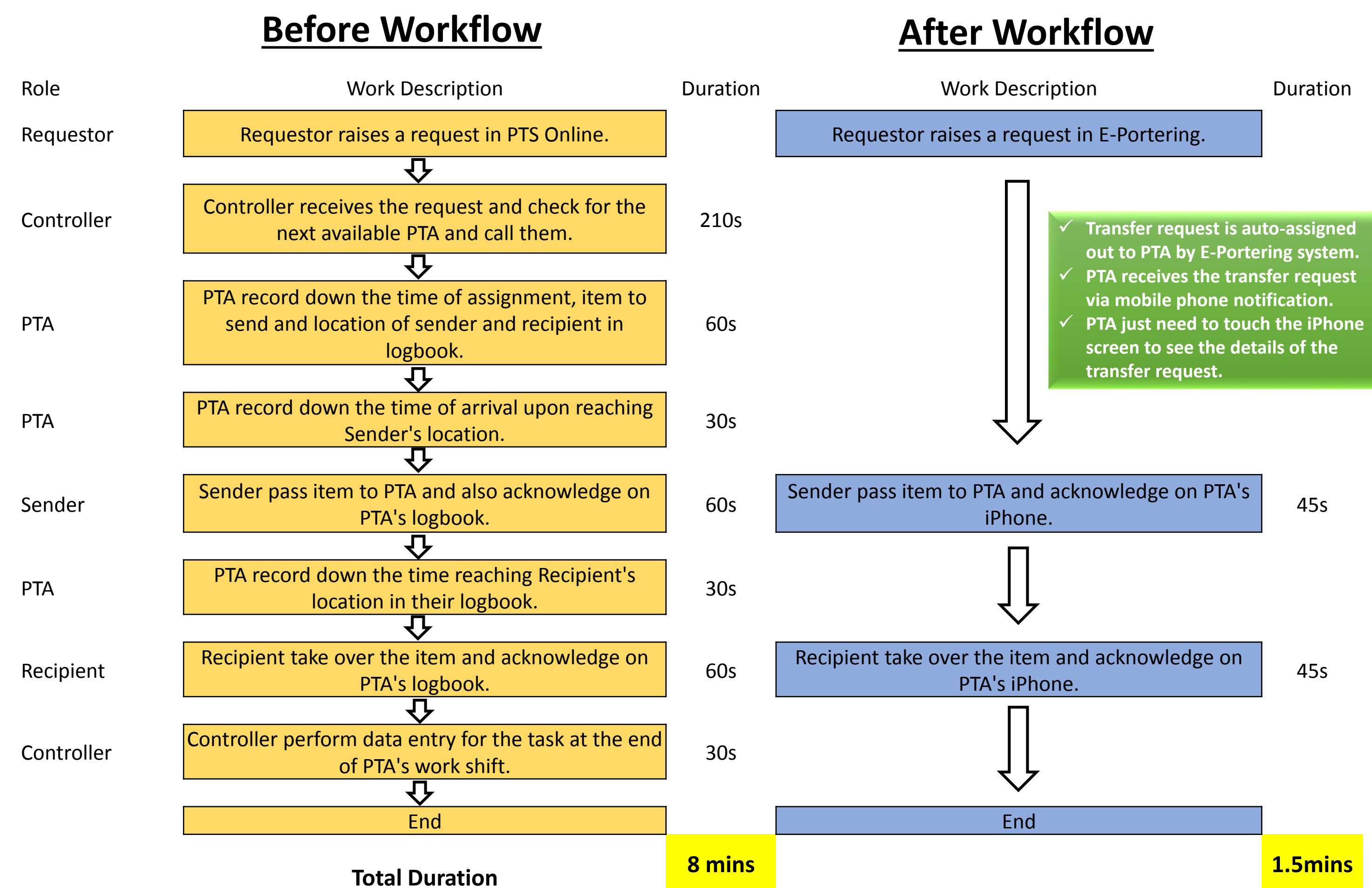
Controller calling PTA and read out the request.

Controller thinking on the best PTA to assign the request to.

PTA transcribe the request and fill in all necessary fields for Controller to perform data entry at the end of the shift.

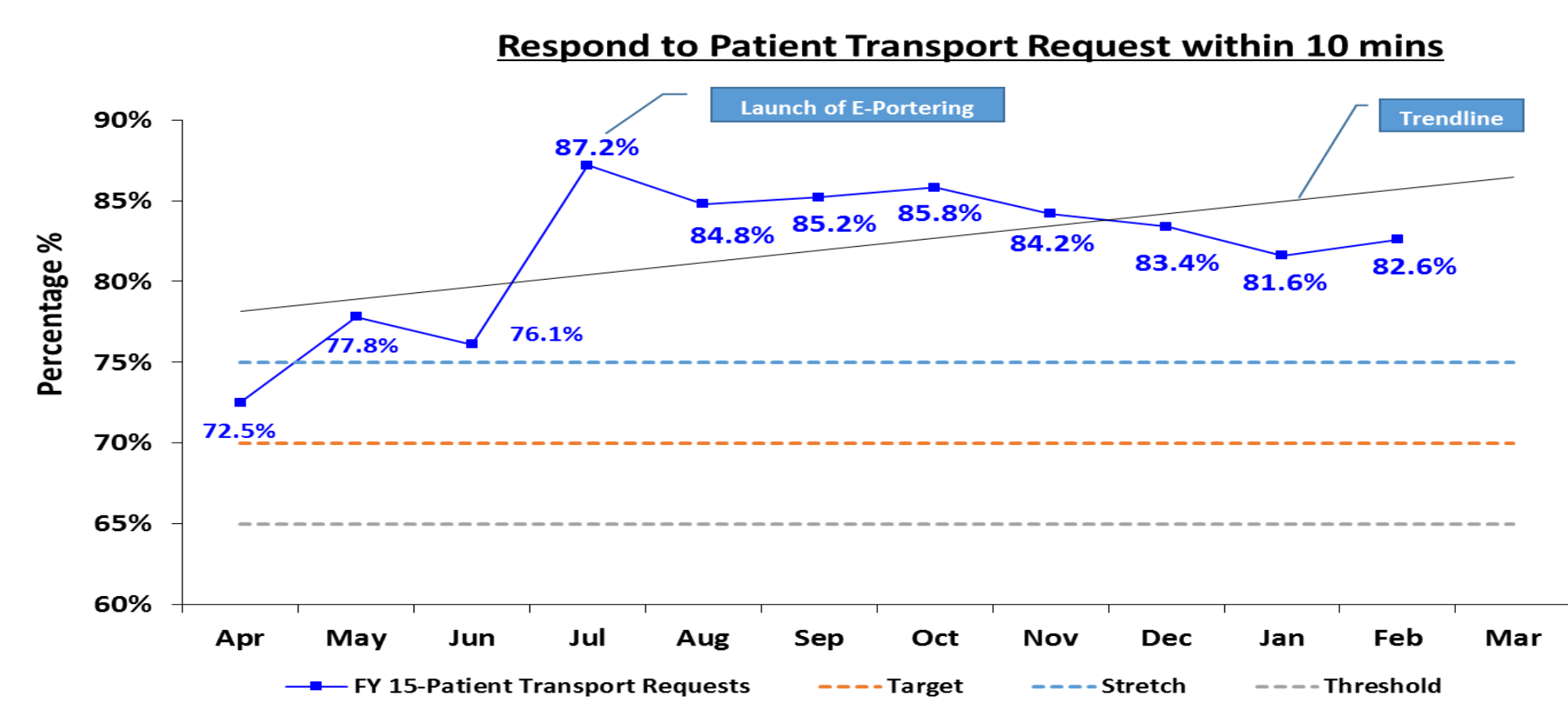
Methodology

The team uses Process Re-engineering methodology to automate non-value added task such as decision making in task assignment and calling PTA by Controller, logbook entry and also data entry effort. The changes in the workflow are as shown below.



Results

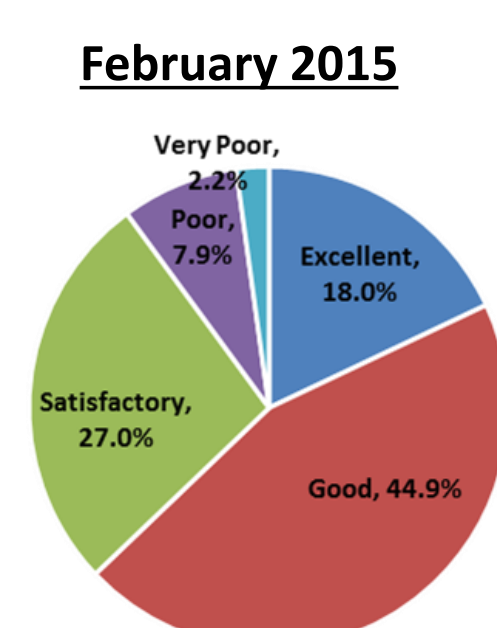
- E-portering greatly reduced the PTS department's time spent on each task from 8 minutes to 1.5 minutes. Also, the number of Controllers have reduced from 2 to 1 when we switched to E-Portering. The total time **avoidance** achieved was **21,297 hours per year** which worked out to be **134 man-days per year** or **\$12,842 per year**. The time avoidance achieved allowed PTA to respond to patient-centric task faster.
- The **response time to patient-centric tasks** has **improved** since the launch of E-Portering in July 2015. The system matches a PTA's ability of the task, presence, the number of tasks on hand and proximity to the sender's location, before sending a notification out to their iPhone.



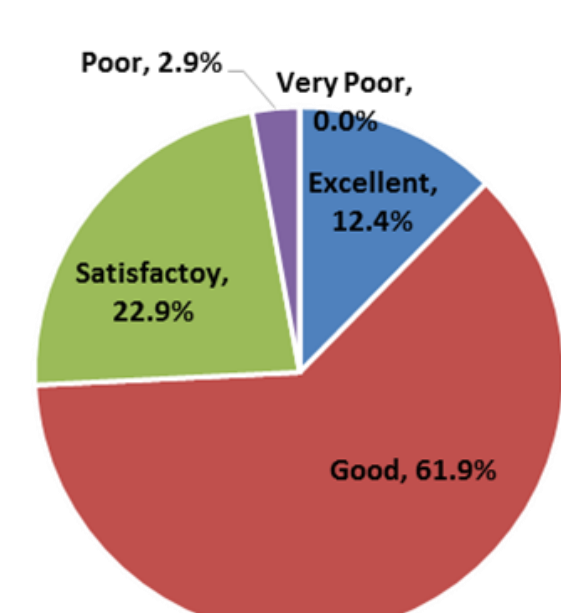
- The **translation to transcription errors** were **prevented**, as the transfer task went directly from the requestor straight to the PTA's iPhone. The use of icons also helped both requestor and PTA to quickly identify the nature of the transfer task. **Sender was happier** as PTA reached them with the necessary transfer tools and system allowed them to check on the identity of the incoming PTA.

KKH Internal Customer Service Survey

Question: How would you rate the overall standard of services provided by PTS ?



February 2016



Good + Excellent = 62.9%

Good + Excellent = 74.3% (↑11.4%)

Conclusion

Automation of process workflow using IT can help to reduce the time needed to complete tasks and achieve efficiency.