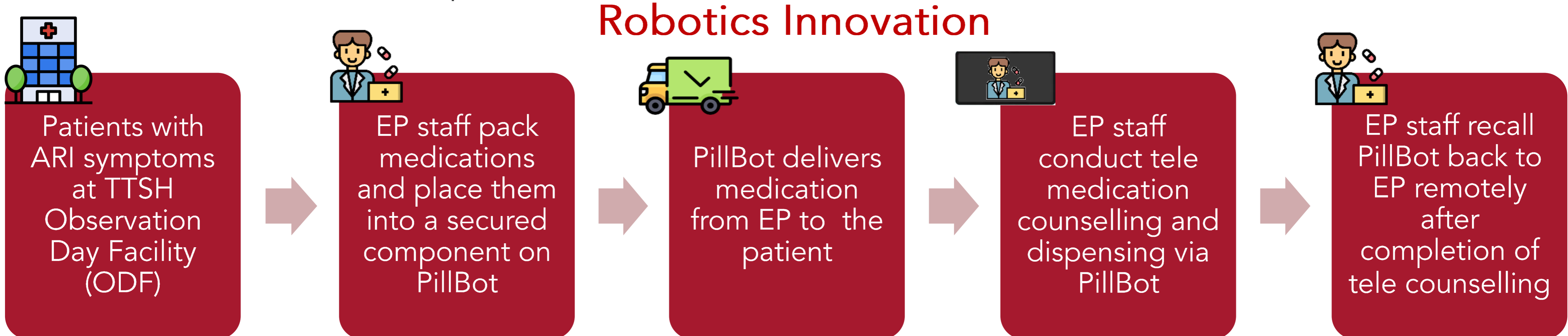


PillBot – Autonomous Medication Delivery and Dispensing Robot

Project Summary

As Covid-19 community cases increases, TTSH Emergency Pharmacy (EP) staff are subjected to higher risk of infection as they are required to perform face to face medication counselling and dispensing to patients with Acute Respiratory Infections (ARI) symptoms. It is also time consuming for staff to don in and out of (PPE) and to travel between pharmacy and to the patient's location.

PillBot project was conceptualised to minimize the unnecessary time spent traveling between locations, donning in and out of PPE and to reduce the frequency for EP staff to enter high risk areas to perform face to face medication counselling and dispensing.



Robotics Innovation

PillBot



Original PillBot (TEMI robot)



PillBot modified with a 3D printed storage box for medication delivery and transportation

End Users Experience

Patient (N=12)

89% of all the respondents rated "very good" (4* out of 5*) or "excellent" (5* out of 5*) for

1. Medication delivery experience via PillBot
2. Quality of video and volume
3. Overall experience

Staff (N=7)

The unanimously feedback from all EP staff showed that

1. EP Staff would like to utilise PillBot in their day to day work post trial
2. PillBot is user friendly
3. PillBot had improved overall productivity

Results of Trial

During the trial from 11th October 2021 to 14th November 2021

- PillBot had achieved 83% success rate with 221 successful trips out of 266 total trips.
- A successful trip is defined as the completion of both transportation of medications from EP to patients in ODF and the completion of tele-counselling.

Effects of Change

1. Up to **110** mins of time savings per day

2. Up to **\$10,950** cost savings per year

3. **Reduced** risk of staff infections to Covid-19

With the success of the trial and the benefits of PillBot, PillBot has been integrated into EP's Business As Usual (BAU) workflow since November 2021.