

Project Title

JCH Footwear Prescription Project

Project Lead and Members

Project lead: Christel Leong

Project members: Arnold Hu, Han Shuyi

Organisation(s) Involved

Jurong Community Hospital

Healthcare Family Group Involved in this Project

Allied Health

Applicable Specialty or Discipline

Podiatry

Project Period

Start date: May 2023

Completed date: Jul 2023

Aims

Reduce time taken for patient to obtain appropriate footwear, thus earlier mobilization and rehabilitation for patient. Eliminate PT's waiting time of approximately 3~4 hours for the sample footwear to be delivered to patient's bedside. Reduce PT's waiting time from 1~2 hours by 50% to 30min~ 1 hour by increasing the supply of sample footwear. Free up Pod's time by approximately 20~35mins per footwear referral

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

As footwear prescription involves multiple departments (podiatry and physiotherapy), some bottle necks and limiting factors within the workflow result in unnecessary time wasted and longer patient waiting time for appropriate footwear prescription. These factors can be identified and eliminated or reduced, such as the limited quantity and storage location of footwear samples in this case. Interventions has reduced patient waiting time to less than a day. Inter-discipline training and two-way feedbacks are important in the success of this new workflow, to improve workflow efficiency and reduce time taken as it allows for one department to take charge of the workflow with the support from the other department. This new workflow ultimately improves patient care as patient rehabilitation is carried out promptly.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Quality Improvement, Job Effectiveness, Workflow Redesign

Training & Education

Learning Approach, Inter-professional Education

Keywords

Footwear, Prescription, Waiting Time, Referral, Training, Podiatry

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JCH FOOTWEAR PRESCRIPTION PROJECT

MEMBERS: CHRISTEL LEONG, ARNOLD HU, HAN SHUYI

- SAFETY
- QUALITY
- PATIENT EXPERIENCE
- PRODUCTIVITY
- COST

Define Problem, Set Aim

Problem/Opportunity for Improvement

Patients are usually transferred to Jurong Community Hospital (JCH) for wound care and rehabilitation, amongst other reasons. Patients with special weight bearing statuses require various medical grade footwear to facilitate safe ambulation and discharge. To ensure safe rehabilitation, patients may be given only non-weightbearing exercises, prior to obtaining appropriate footwear that supports the special weightbearing status. This can lead to increased risk of muscle deconditioning, dependent on how long the patient takes to obtain appropriate footwear. Primary team refers patient to both podiatrist and physiotherapist for prescription of these footwear.

Podiatry (Pod)

- prescribes the appropriate footwear, based on weightbearing status and size, to the patient
- stocks and loans footwear samples to patients for assessment. Samples are being stored at Podiatry room in B11 rehab gym.

Physiotherapy (PT)

- waits for Pod to deliver the sample footwear to patient's bedside prior to commencement of assessment.
- assesses that the patient is able to use the footwear safely, based on their falls risk and gait.

Subsequently, Pod will put through the order in EPIC for Pharmacy to send up the new footwear to the patient.

Since November 2021, an improved workflow for prescription of medical grade footwear, was implemented and has since proven effective in reducing patients' waiting time to obtaining appropriate footwear in inpatient tower B wards. When a patient transfers from tower B to C, they might not have yet obtained appropriate medical grade footwear or their weight-bearing status could have changed. Therefore, steps were taken to carry over these improvement points to JCH footwear prescription workflow.

Opportunities to reduce patients' wait time are present based on the workflow (Figure 1),

- PT has to wait for sample footwear from Pod before starting assessment
- Pod has to deliver the sample footwear from Tower B Podiatry room to Tower C respective patients' bedside.
- Footwear samples are shared between Tower B and Tower C. And there are currently only 1 or 2 samples for each footwear size and type. If multiple PTs require the same footwear, they will have to wait for the sample to be available.

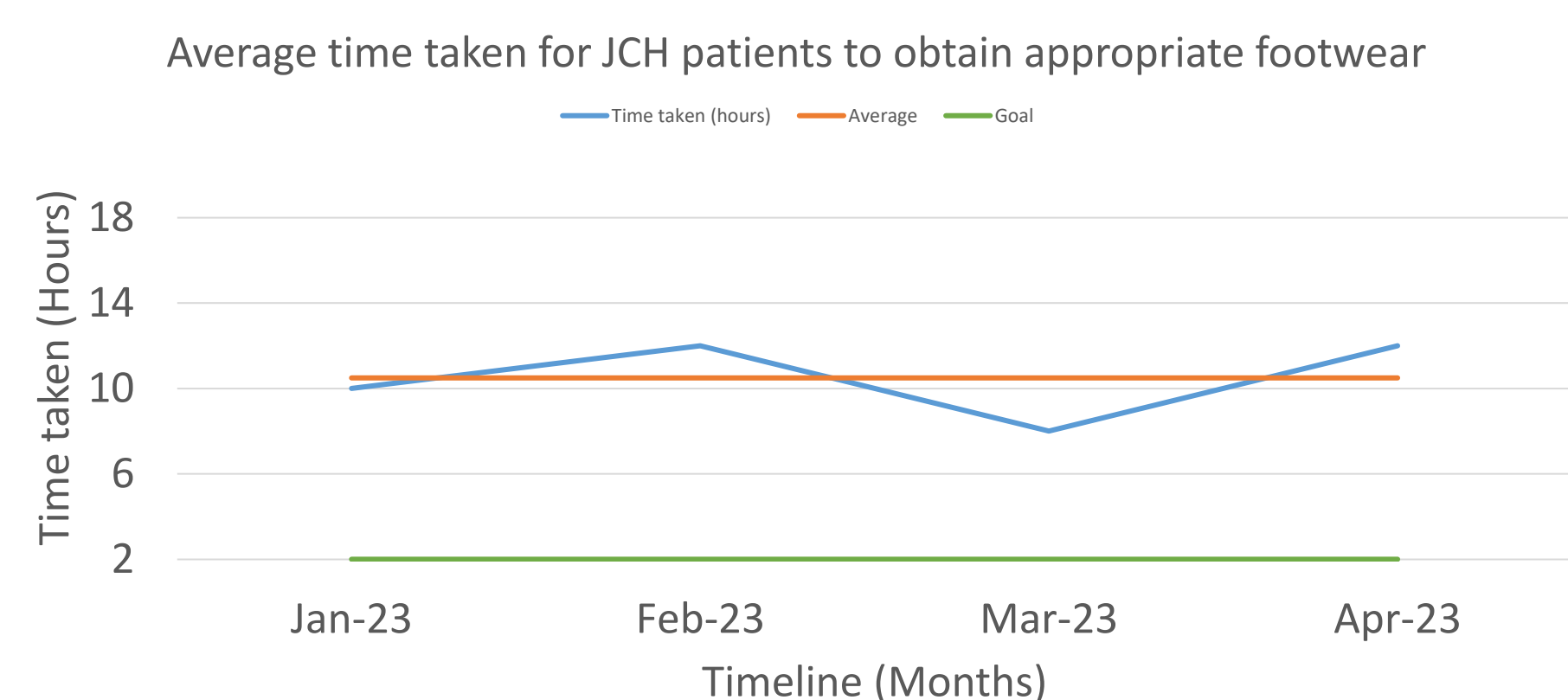
Aim

- 1) Reduce time taken for patient to obtain appropriate footwear, thus earlier mobilization and rehabilitation for patient
- 2) Eliminate PT's waiting time of approximately 3~4 hours for the sample footwear to be delivered to patient's bedside
- 3) Reduce PT's waiting time from 1~2 hours by 50% to 30min~1 hour by increasing the supply of sample footwear
- 4) Free up Pod's time by approximately 20~35mins per footwear referral

Establish Measures

What was your performance before interventions?

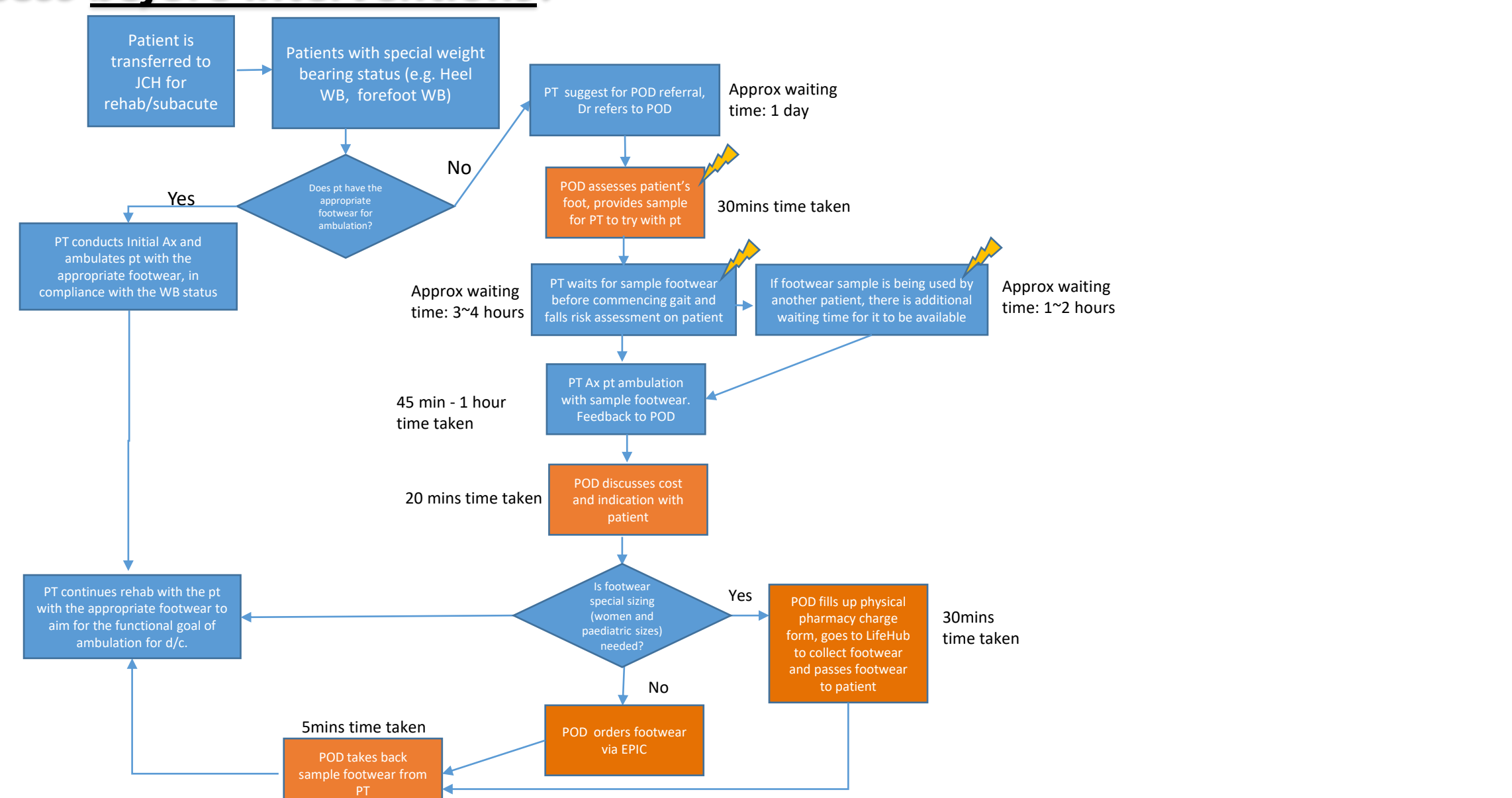
3 types of measures: Outcome, Process, Balancing
Establish baseline. Run charts preferred. See example below



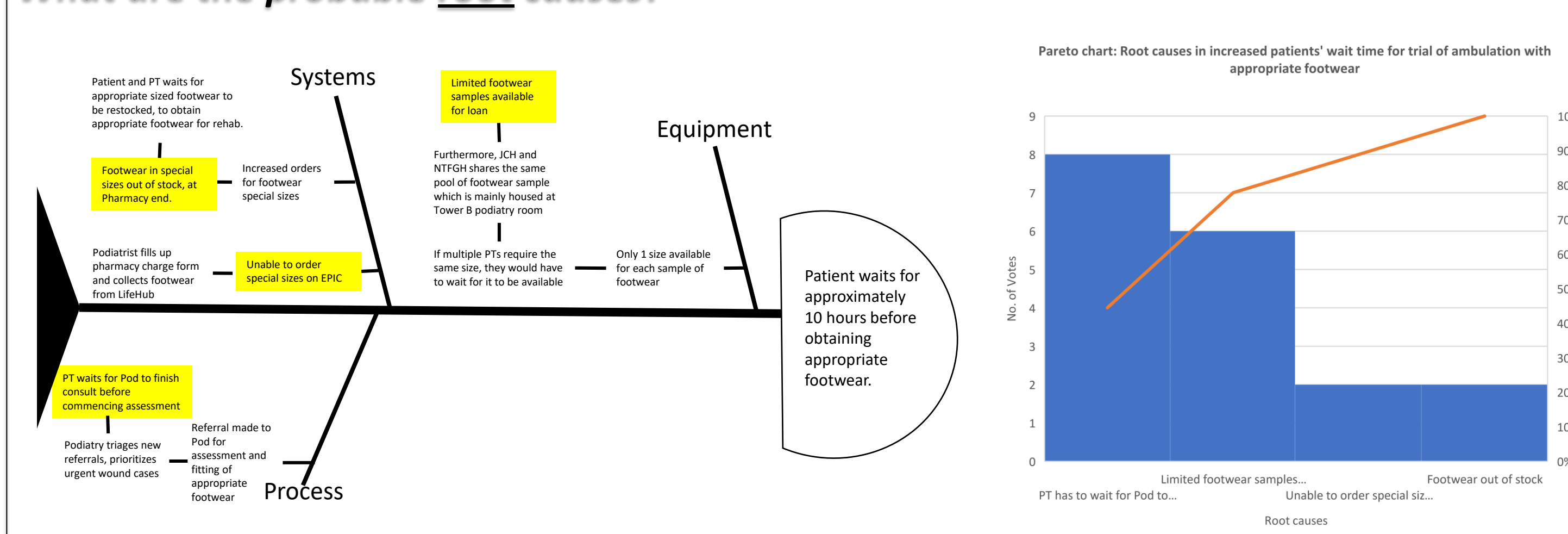
Analyse Problem

What is your process before interventions?

Figure 1. Current footwear workflow. Note: Total process typically takes more than 1 day, as both allied health (PT and POD) gets referred at different time points. Waiting time is further exacerbated by the limited quantity of footwear samples.



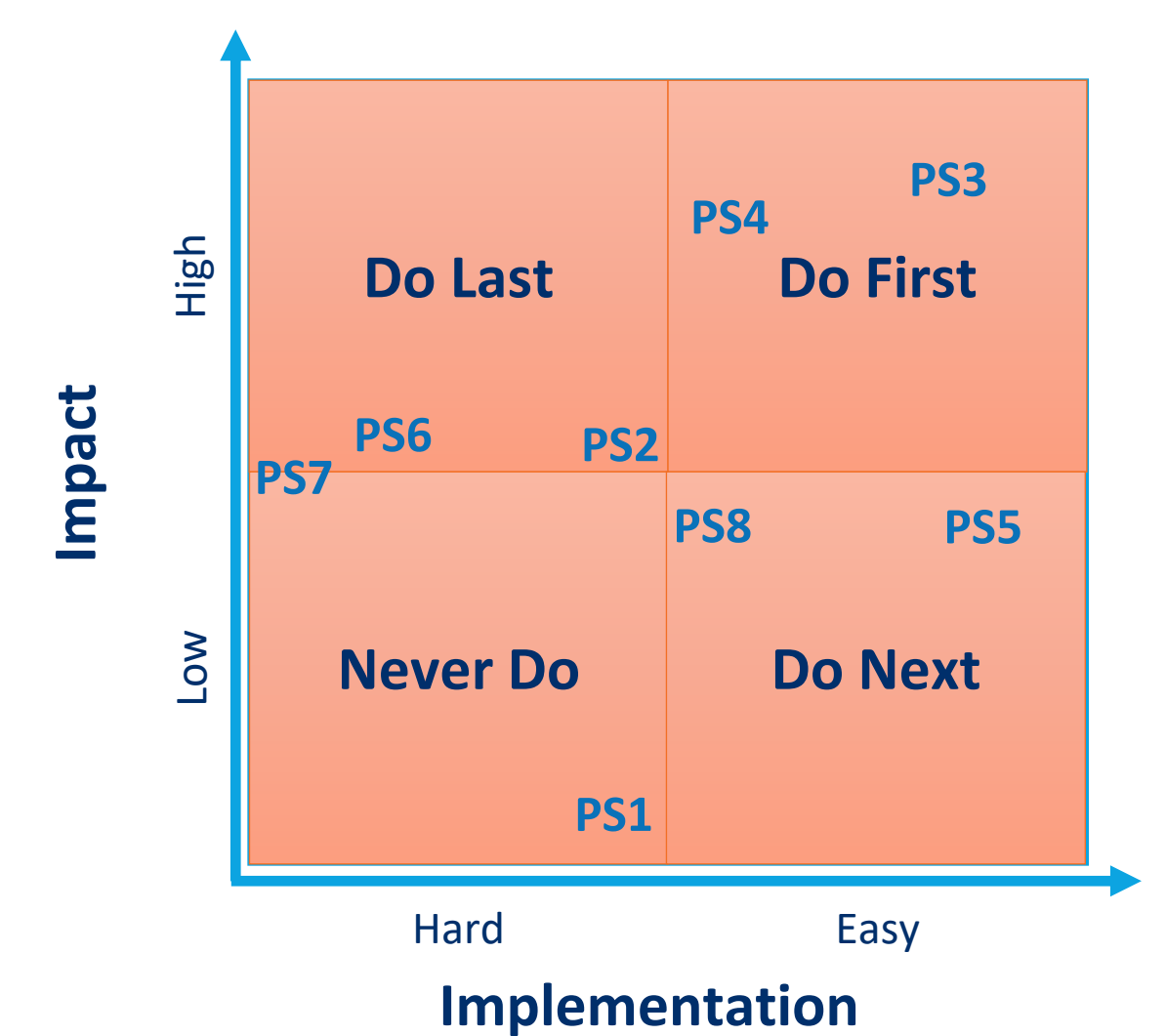
What are the probable root causes?



Select Changes

Based on the root causes identified, the team developed 8 possible solutions, ranked and implemented according to the Impact vs Implementation matrix.

| Root cause | Potential solutions |
|--------------------------------------------------|---------------------------------------------------------|
| PT waits for Pod to finish complete consult | PS1 Pod to see footwear referral first |
| | PS2 PT to contact Pod if urgent review is necessary |
| | PS3 PT to be trained in footwear assessment and fitting |
| Delivery of sample footwear to patient's bedside | PS4 PT to have their own footwear sample supply |
| | PS5 PT to collect footwear sample from Podiatry room |
| Limited footwear samples available | PS6 Increase footwear supply |
| Unable to order special sizes over EPIC | PS7 To inbuild EPIC order button for special sizes |
| | PS8 JCH PT to be able to pick up footwear from Lifehub |

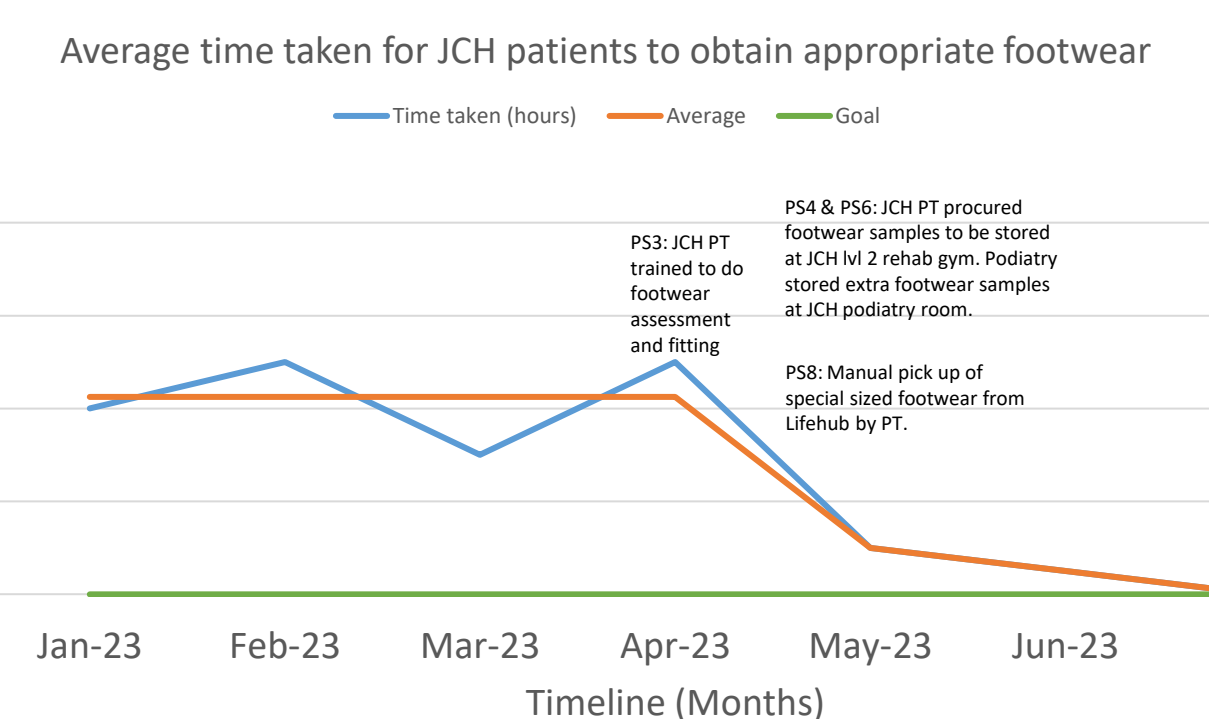
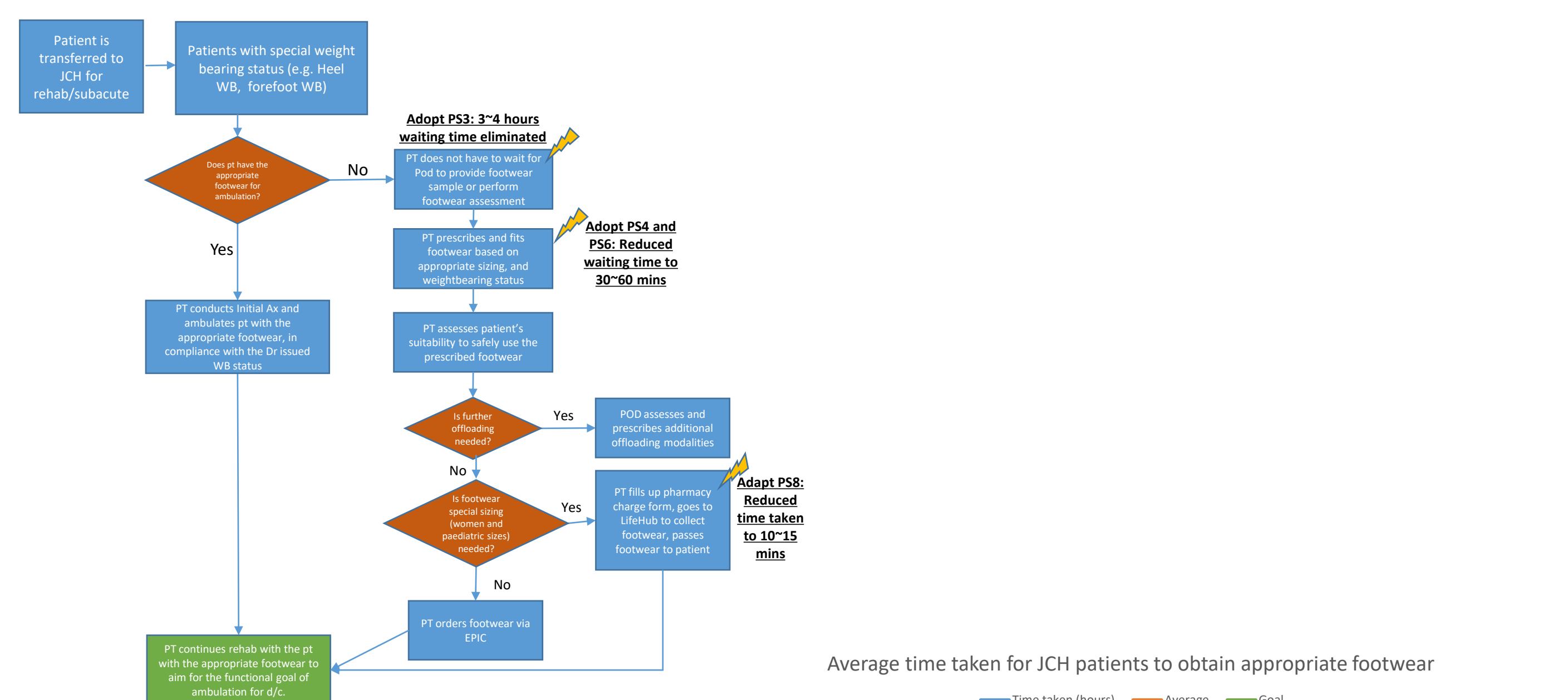


Test & Implement Changes

How do we pilot the changes? What are the initial results?

| CYCLE | PLAN | DO | STUDY | ACT |
|-------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| | What is the aim of this cycle? What do you need to do before you execute the test change? (Who, What, Where, When) | Was the test change carried out as planned? What are the feedback & observations from participants? | What are the results? Use run charts to illustrate. What did you learn from this cycle? | What is the conclusion from "Study"? What is your plan for the next cycle (adopt / adapt / abandon)? |
| 1 | Aim: Reduce JCH PT's waiting time before completion of podiatry's consult Using PS3 | Pod Rep gave JCH PT training on how to do footwear assessment and fitting. Pilot period from May - June 2023. | PT's waiting time of 3~4 hours is eliminated as PT no longer has to wait for Pod to review the patient. PT is able to fit and prescribe appropriate footwear based on weightbearing status. | Adopt. JCH PT in-charge to train incoming JCH PT. PT to collaborate with Pod if further offloading modifications needed. |
| 2 | Aim: Increase footwear supply Using PS4 and PS6 | JCH PT obtained their own set of wound sandal samples, stored at JCH Rehab gym, for easy access. Podiatry also obtained more wound sandal samples, with some samples also stored at Podiatry room of JCH Rehab Gym. | Waiting time for sample footwear to be delivered to patient's bedside reduced by 50% from 1~2 hours to 30~60 mins. Time taken to coordinate delivery of sample footwear between PT and Pod is also eliminated. If PT sample footwear not available, they can borrow from Pod supply as well. | Adopt. To further increase supply of sample footwear, if needed in the future. |
| 3 | Aim: JCH PT to be able to pick up footwear prescriptions from Lifehub Using PS8 | Pod gave training to JCH PT on how to obtain and fill up pharmacy charge form to manually purchase wound sandal special sizing from Lifehub. | Time taken to deliver special-sized wound sandal to patient reduced by 50% from 20~30 mins to 10~15 mins, as JCH rehab gym is nearer to Lifehub. | Adapt. Time is still spent to physically collect special-sized wound sandal from Lifehub. |

Figure 2. New footwear workflow



Spread Changes, Learning Points

As footwear prescription involves multiple departments (podiatry and physiotherapy), some bottle necks and limiting factors within the workflow result in unnecessary time wasted and longer patient waiting time for appropriate footwear prescription. These factors can be identified and eliminated or reduced, such as the limited quantity and storage location of footwear samples in this case. Interventions has reduced patient waiting time to less than a day. Inter-discipline training and two-way feedbacks are important in the success of this new workflow, to improve workflow efficiency and reduce time taken as it allows for one department to take charge of the workflow with the support from the other department. This new workflow ultimately improves patient care as patient rehabilitation is carried out promptly.