

Project Title

“Finding Cinderella”: Reducing the Rate of Uncollected Customized Insoles Achieves Many Improvements for a “Happy Ending”

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Organisation(s) Involved

Tan Tock Seng Hospital

Project Category

Process Improvement, Quality Improvement

Keywords

Process Improvement, Quality Improvement, Quality Improvement Tool, Workflow Redesign, Workflow Improvement, Root Cause Analysis, Cause-and-effect Diagram, Pareto Chart, Multi-voting, Uncollected Customized Insole, No Show, Insufficient Storage, Financial Loss, Optimize Storage Space, Improve Patient Communication, Quality Improvement Methodology, Tan Tock Seng Hospital, Allied Health, Podiatry

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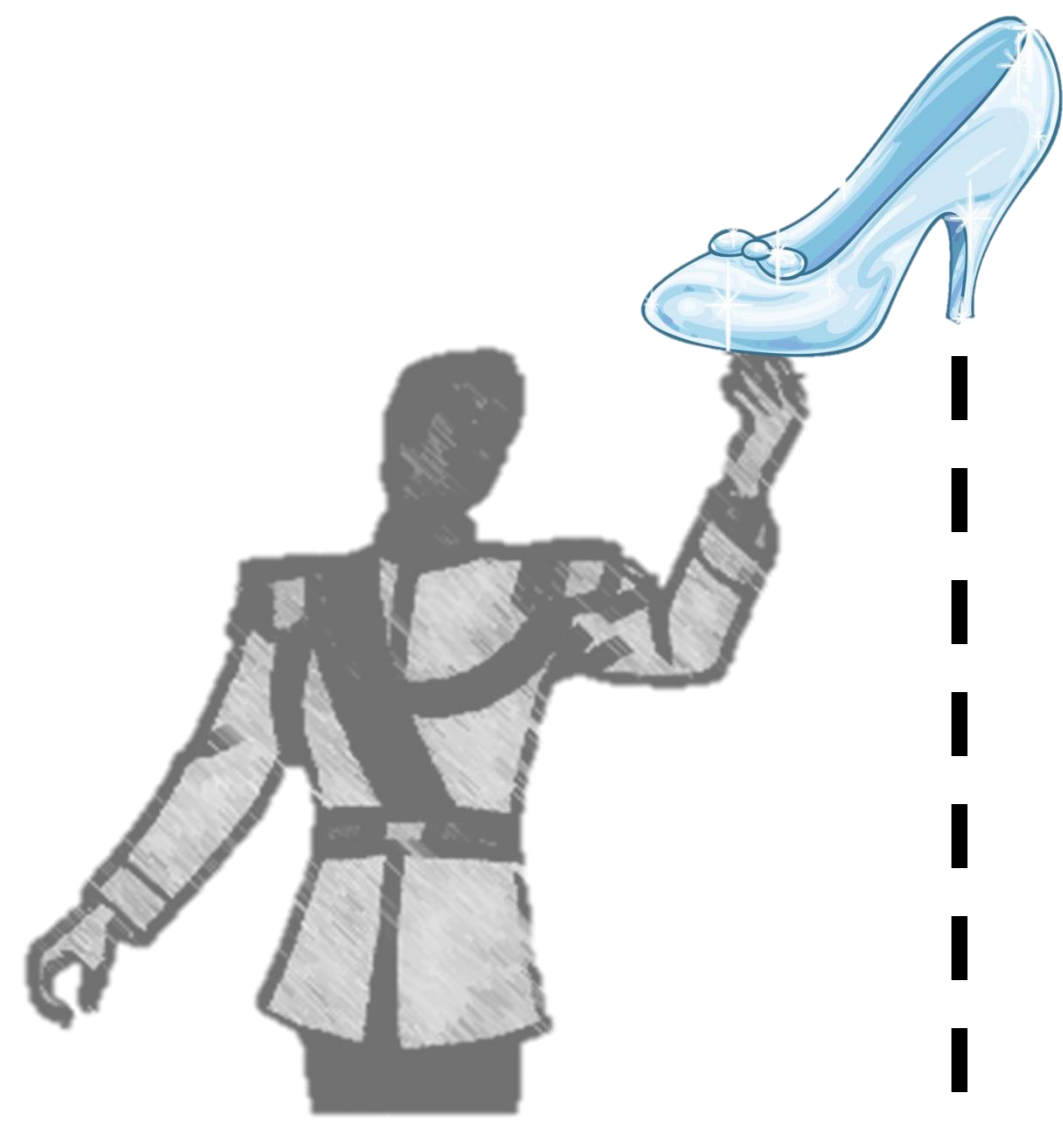
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BACKGROUND

- TTSH Podiatry Service manages patients with a wide variety of foot conditions using customised insoles – i.e. plantar fasciitis, Achilles tendonitis and diabetic foot ulcers.
- 8% of patients fail to return for insole fitting. Uncollected insoles are discarded 1 year after cast date.
- Without these customised insoles, the patient’s condition may deteriorate, compromising care and safety.
- Other problems include:
 - > Financial lost to patients
 - > Waste of appointment slots due to no shows
 - > Insufficient storage space to store accumulating uncollected insoles



AIM: Reduce & Sustain the Rate of Uncollected Customized Insoles

METHODOLOGY

- Baseline statistical data on the volume of fabricated and uncollected customised insoles were obtained prior to project implementation.
- Quality improvement tools were then used to identify possible root causes.



Root Cause Analysis involving a Cause-and-Effect diagram was conducted by a team of staff involved in the various touch points of the service delivery.



Using the Pareto Principle, root causes were identified and prioritised through multi-voting.

> The main causes identified in order of priority:

1. No clear workflow
2. No overall in-charge to monitor progress of uncollected insoles
3. No proper housekeeping of storage area
4. Problem not identified earlier

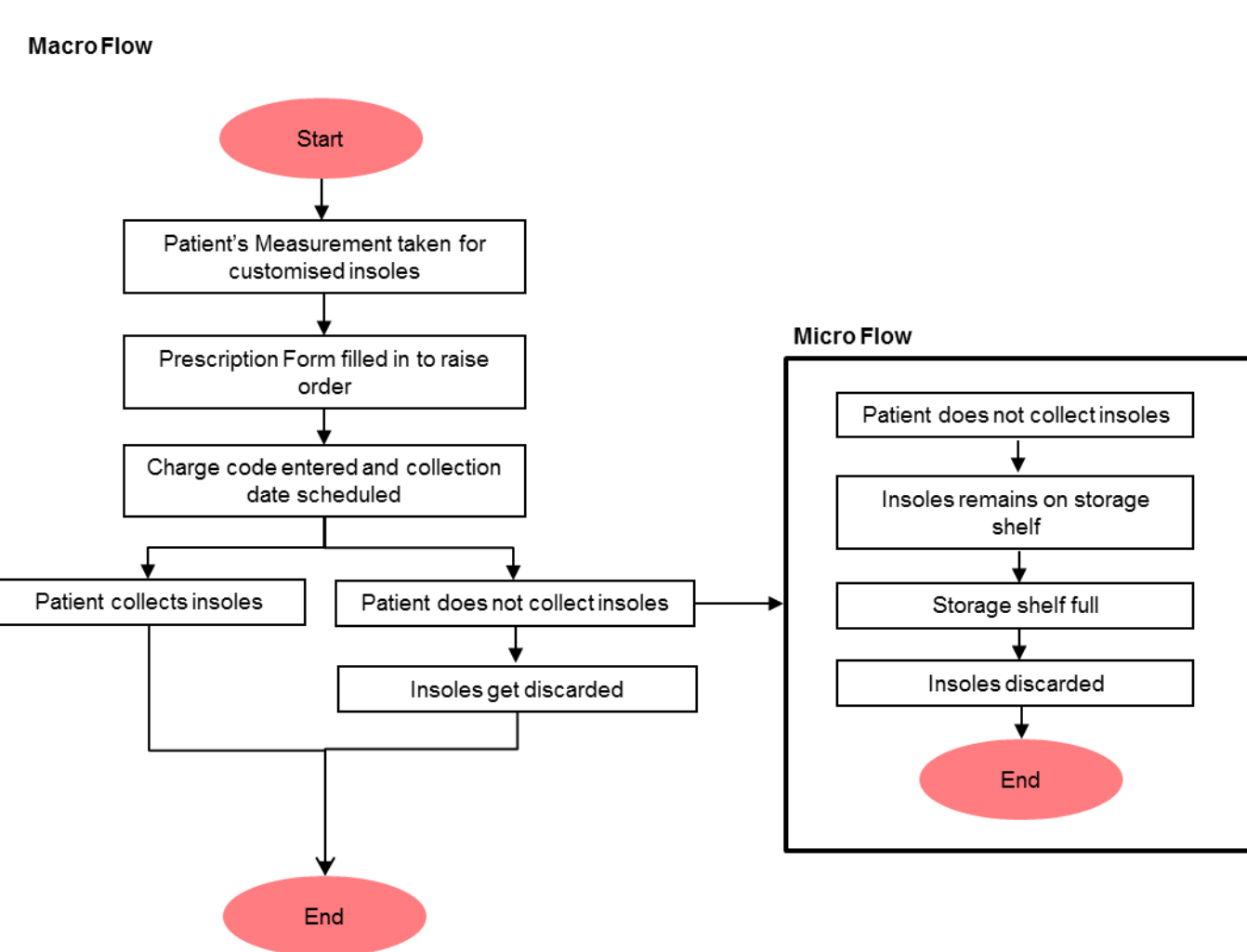


Figure 1: Workflow (Pre-Intervention)

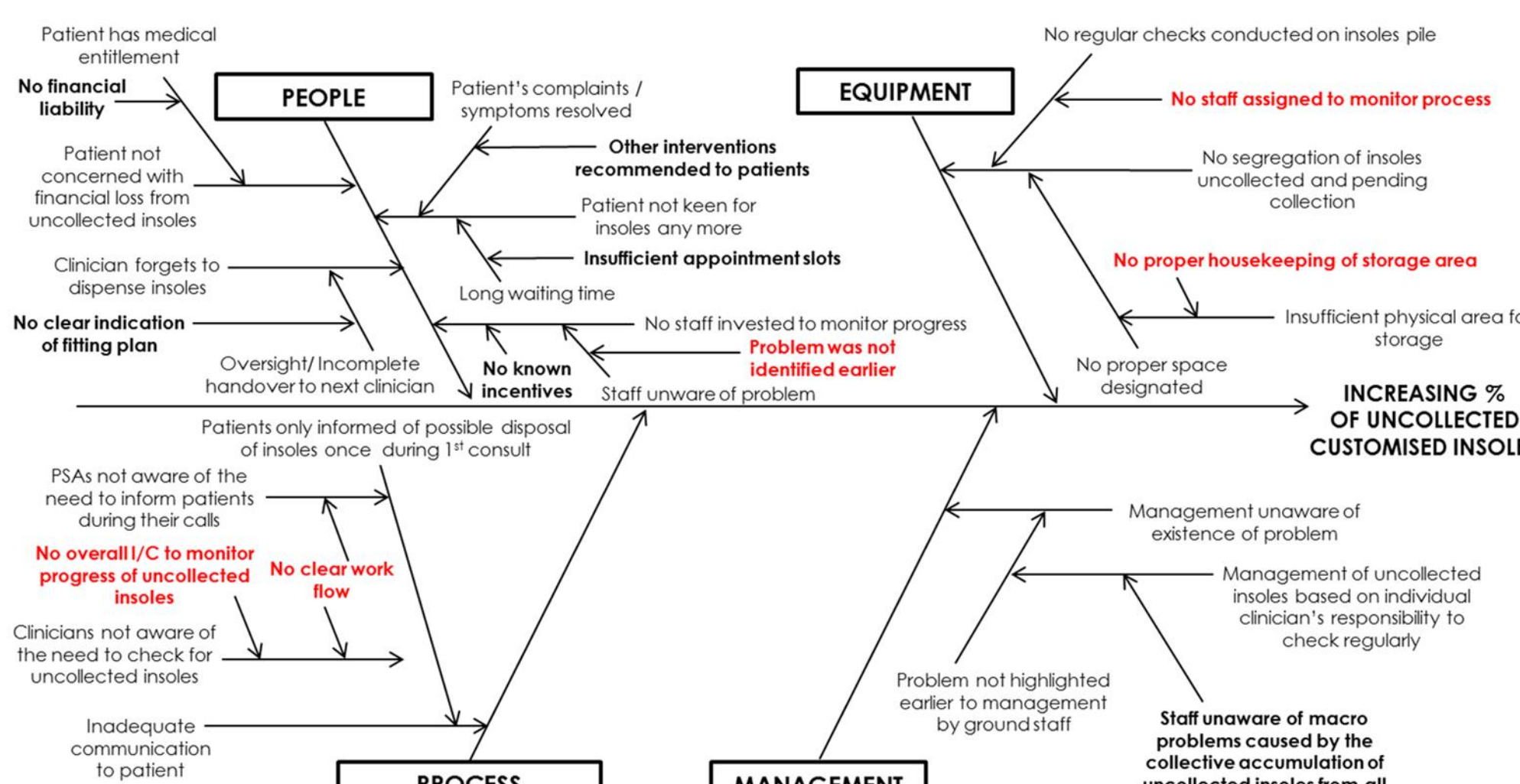


Figure 2: Identifying Root Causes using a Cause-and-Effect Diagram

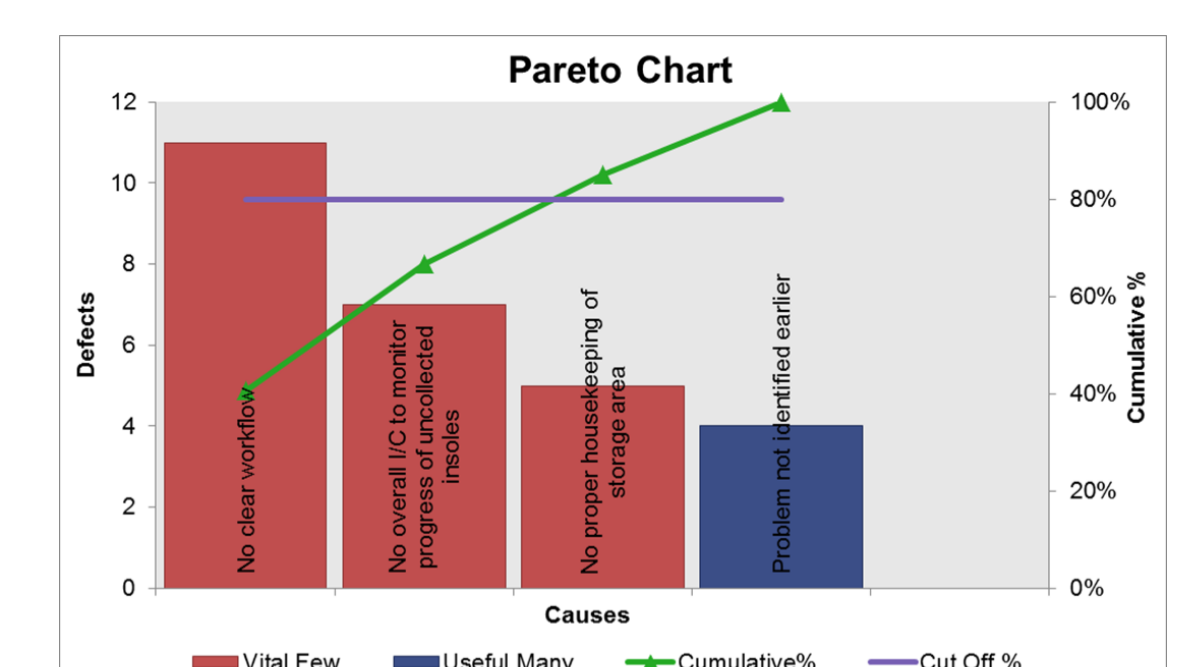
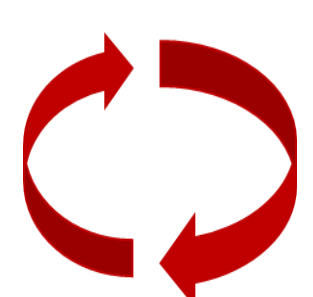


Figure 3: Identifying Significant Root Causes using a Pareto Chart

INTERVENTION



1. Improved Workflow

- Workflow revamped to eliminate gaps and improve work clarity.

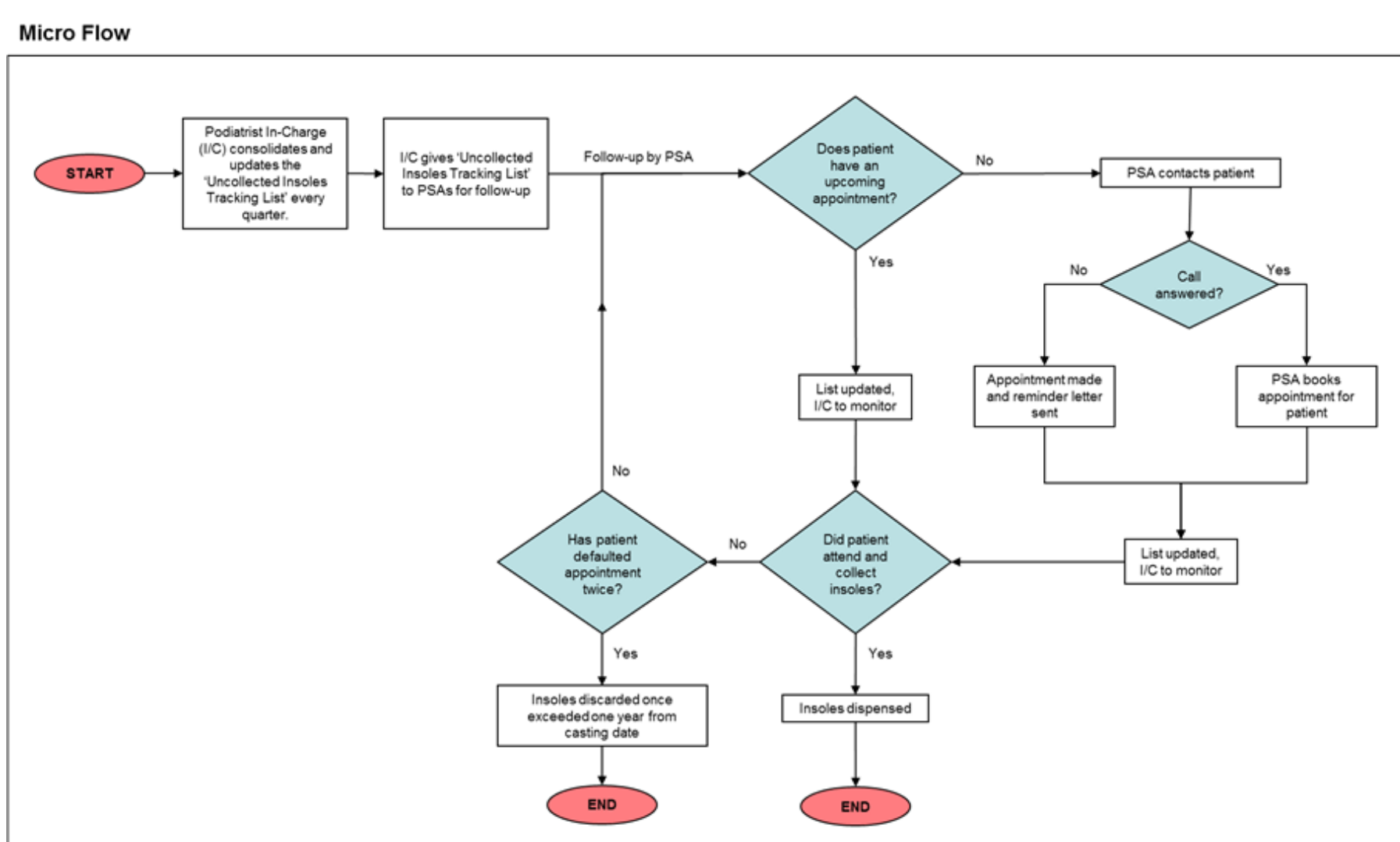
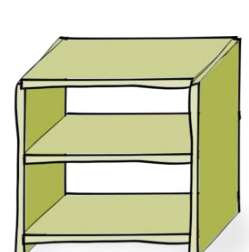


Figure 4: Improved Workflow and Patient Communication



2. Improved Patient Communication Flow

- Patients informed during consult that uncollected insoles will be discarded one year from casting date.
- PSAs will contact patients who defaulted their appointments to re-schedule their collection date (maximum 2 calls made per patient).
- Reminder letters, stating the discard policy, will be sent to uncontactable patients.



3. Improved Storage Space Utilisation

- Designated storage area – Uncollected insoles segregated from other uncollected devices
- Clear labelling on storage shelves
- Proper housekeeping maintained



Figure 5: Storage Space Pre and Post Intervention

RESULTS

- After a six-month implementation period:
 - > Median percentage of uncollected insoles reduced from **8.1% to 1.1%**. This was sustained at an **average 0.79% or less than 2 insoles per month**.
 - > Translated into cost avoidance **savings of at least \$8,614 and 15 hours** of appointment slots per year (as compared to initial \$13,930 and 23 hours).

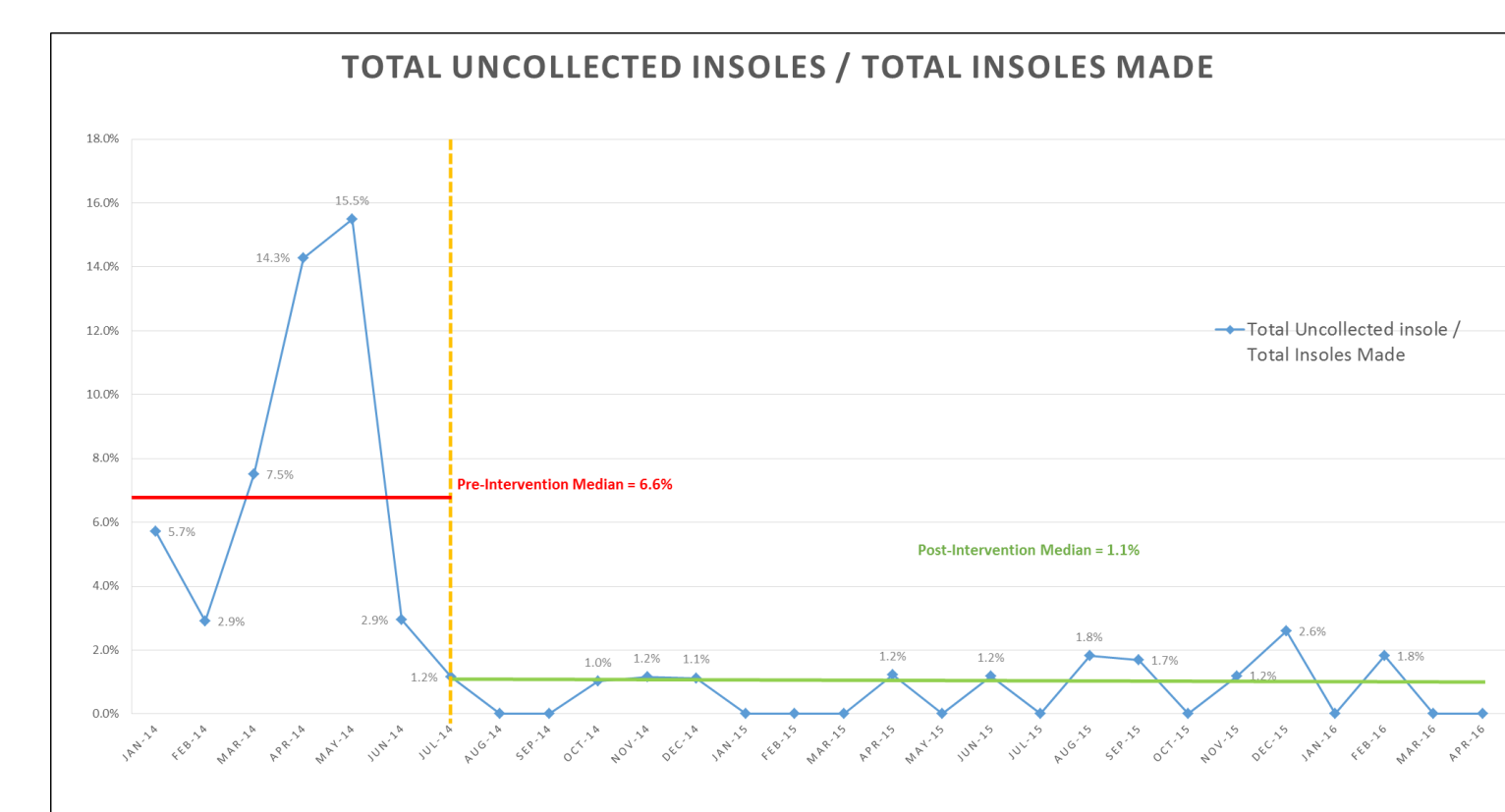


Figure 6: Run Chart of Uncollected Insoles on Total Insoles Made

CONCLUSION

Initiatives implemented showed significant positive outcomes in accomplishing the project's aim. Positive results from this project may be spread to other work areas which offer patients with customized products but face similar issues such as defaulting treatment and storage space.



Happy Ending!