

## **Project Title**

Automating Registration for Personal Protective Equipment Training

## **Project Lead and Members**

Project lead: Benjamin Tan Boon Cheng

Project members:

- Chua Wen Qi, Jasmine
- Leong Siew Cheong, Peter
- Foo Meow Ling

## **Organisation(s) Involved**

Yishun Health (Khoo Teck Puat Hospital, Yishun Community Hospital, Admiralty Medical Centre)

## **Project Period**

Start date: June 2018

Completed date: August 2019

## **Aims**

To reduce the time spent and errors by 50% through the use of Information Technology (IT) to automate the registration process for Personal Protective Equipment Training.

## **Background**

See poster appended/ below

## **Methods**

See poster appended/ below

## **Results**

See poster appended/ below

## **Lessons Learnt**

As each staff have different level of confidence when using a new IT system, our project team did the right thing to anticipate queries and feedback. Because we responded quickly to our users, the new system was quickly accepted by the hospital staff.

On hindsight, if we could identify a couple of employees who were not comfortable with using IT to be part of our design team, we may be able to reduce the users' anxiety of using the system when it went live.

## **Conclusion**

See poster appended/ below

## **Additional Information**

Embrace IT and allow automation to take over routine task whenever possible.

With the ever-increasing demand for healthcare, a good automated system will reduce errors and frees up healthcare professionals to focus on tasks that truly require the human touch or supervision.

As we increased our capacity to organize and manage more N95 Mask Fitting and PPE training sessions, we are more efficient in training our employees to be prepared to manage infectious diseases, outbreaks, and pandemics such as the COVID-19 pandemic.

As there was a surge in demand for N95 Mask Fitting and PPE training during the COVID-19 pandemic, the ICT organized many training sessions and refresher courses on and the registration system was utilized to manage thousands of registrations

## **Project Category**

Technology, Automation, IT, Robotics Innovation

**Keywords**

Technology, Automation, IT, Robotics Innovation, Process Improvement, Design Thinking, Infection Control, Healthcare Administration, Human Resource, Cost Effectiveness, Time Saving, Yishun Health, Khoo Teck Puat Hospital, Yishun Community Hospital, Admiralty Medical Centre, Registration Process, N95, Mask Fitting, Personal Protective Equipment, Transcription Error

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# Automating Registration for Personal Protective Equipment Training

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## 1. Background & Aims

Once a month, the Infection Control Team (ICT) conducts one to two sessions of N95 Mask Fitting and Personal Protective Equipment (PPE) Training for new employees.

Registration was done through emails. The ICT staff will check and reply emails, followed by transcribing and collating the registrants' particulars. This process took up an average of **120 minutes per month**. There was also an average of **5 transcribing errors** each month.

**Our Aims** - to **reduce the time spent** and **errors by 50%** when managing registration.

## 2. Method

Through **Design Thinking Process**, the ICT and Information Technology (IT) experts from Human Resource (HR) collaborated to automate the registration process.

From June 2018 to May 2019, the team met monthly to understand the user requirements, and define the problems in the registration process. The team took one year going back and forth along the Design Thinking Process – the team **continuously tested the prototype, reviewed it, identify glitches, added in new ideas, and revised it repeatedly** before launching the system in June 2019.

## 3. Results

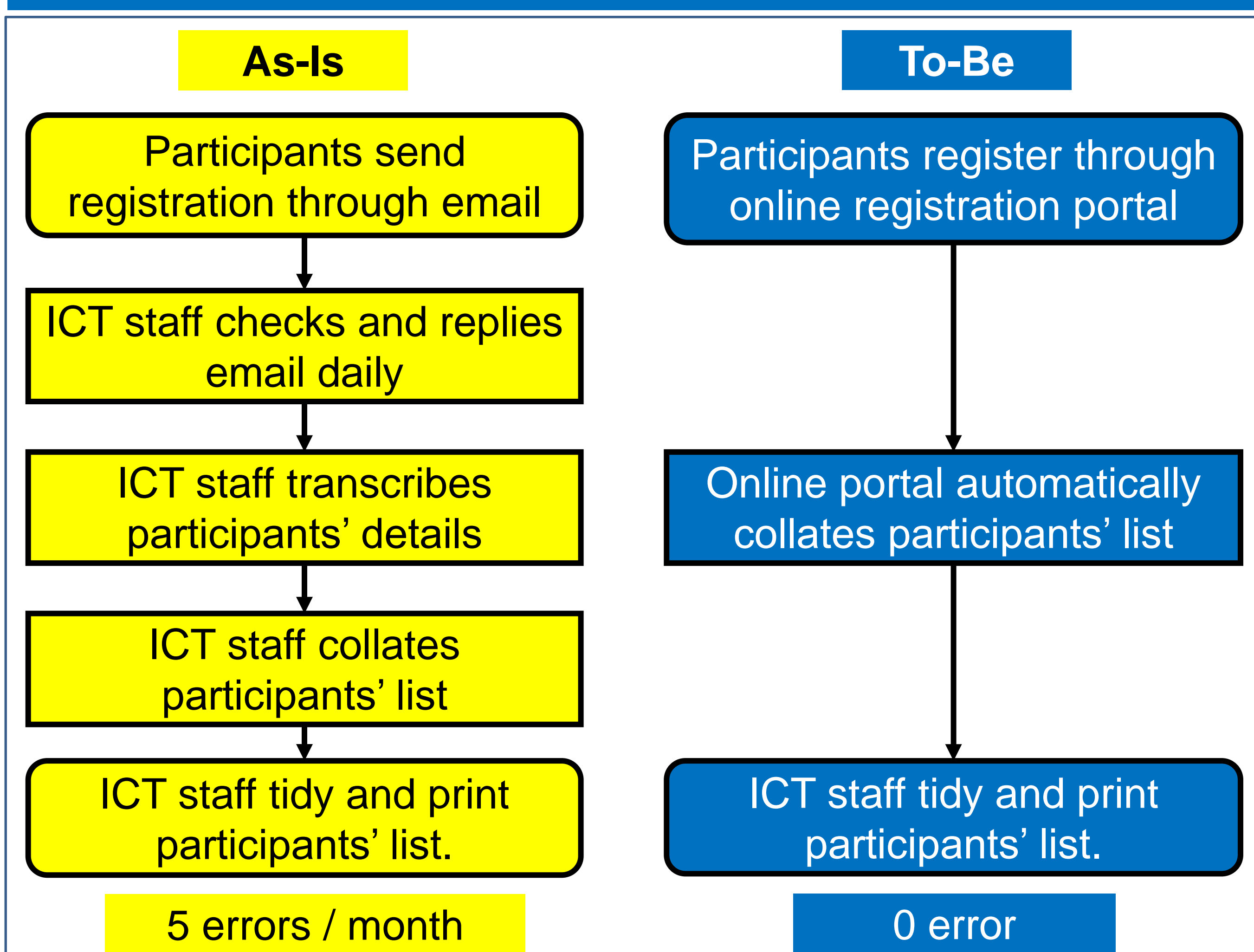


Figure 1 – As-Is To-Be Plans for the Project

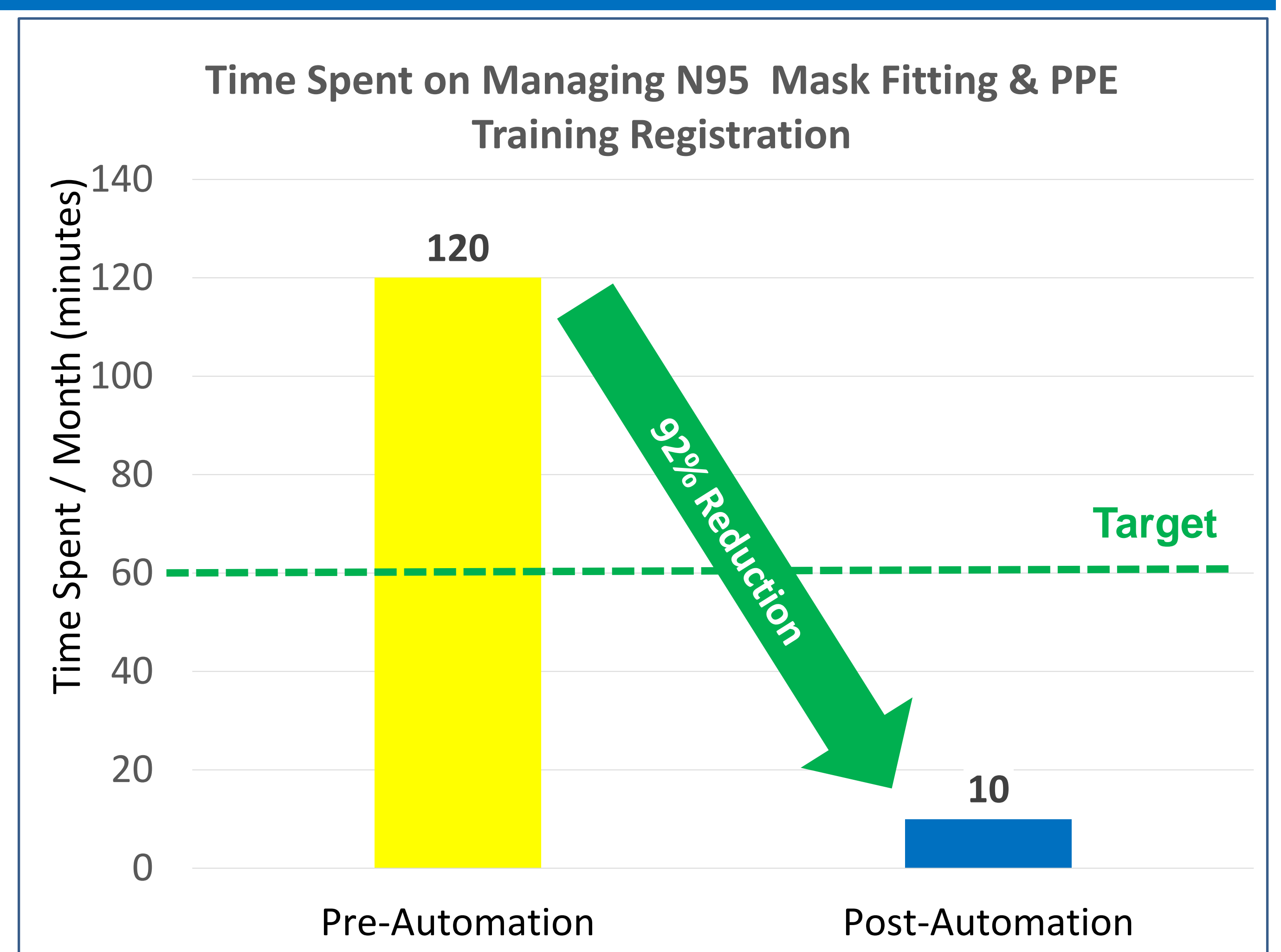


Figure 2 – Time Spent Pre-Automation vs. Post-Automation

## 4. Impact

- With automation, the ICT can organized six to ten training sessions, up to three months in advance – **would-be participants have greater flexibility to plan their training needs**.
- The elimination of errors **reduced frustration** from ICT staff and participants on training days.
- Automation allowed the ICT to manage **thousands of registrations** during **a surge in demands** for N95 Mask Fittings and PPE Trainings during the **COVID-19 pandemic**.
- Manpower effort saving of **\$1293.60 / year**.

## 5. Sustainability

- **User training** was conducted for all ICT staff in June 2019.
- Information about the portal and user-guide was **shared through emails and meetings** in June 2019.
- In the first month of launch, the project team was on standby to **answer queries, assist registrants to familiarise** with the portal, and **resolve system glitches quickly**.
- In July 2019, the **user-guide was revised** based on user feedback..
- By August 2019, the registration system was generally accepted by hospital staff.

## 6. Conclusion

The time spent managing the registration process was **reduced by 92%** and errors were **eliminated**. The team had **achieved our aims** and successfully **improved staff efficiency through IT automation**.

On hindsight, if we could identify a couple of employees who were not comfortable with using IT to be part of our design team, we may be able to reduce the user anxiety of using the system when it went live.

With the ever-increasing demand for healthcare, **a good automated system to manage routine task will reduce errors and frees up healthcare professionals to focus on tasks that truly require the human touch or supervision**.