



# To Improve Workflow Efficiency and Productivity Through Electronic Feedback

**Singapore Healthcare Management 2017**

**Team Leader :** Michelle Chew Ling Ling  
**Team Co-Leader:** Victor Effendie  
**Team Member:** Cheong Yuet Wah, Jacelyn Wee Lay Kuan, Jasmine Lee Bee Keow  
**Operations (MIP), SAF Cardiac Fitness Centre, Cardiac Laboratory and Corporate Development, National Heart Centre Singapore**



**National Heart Centre Singapore**  
SingHealth

## BACKGROUND

About 2,500 patients visited Singapore Armed Forces Cardiac Fitness Centre (SCFC) in NHCS monthly. Hardcopy feedback form was given to patients to collect their feedback on the clinical care received. The feedback forms were consolidated and sent to the Corporate Development (CD) for screening and counting before sending to external vendor for transcribing. Random checks and audit were conducted before reports were generated for submission. Site audit on the feedback forms is conducted every quarter by the Singapore Armed Forces (SAF).

### Problems Identified

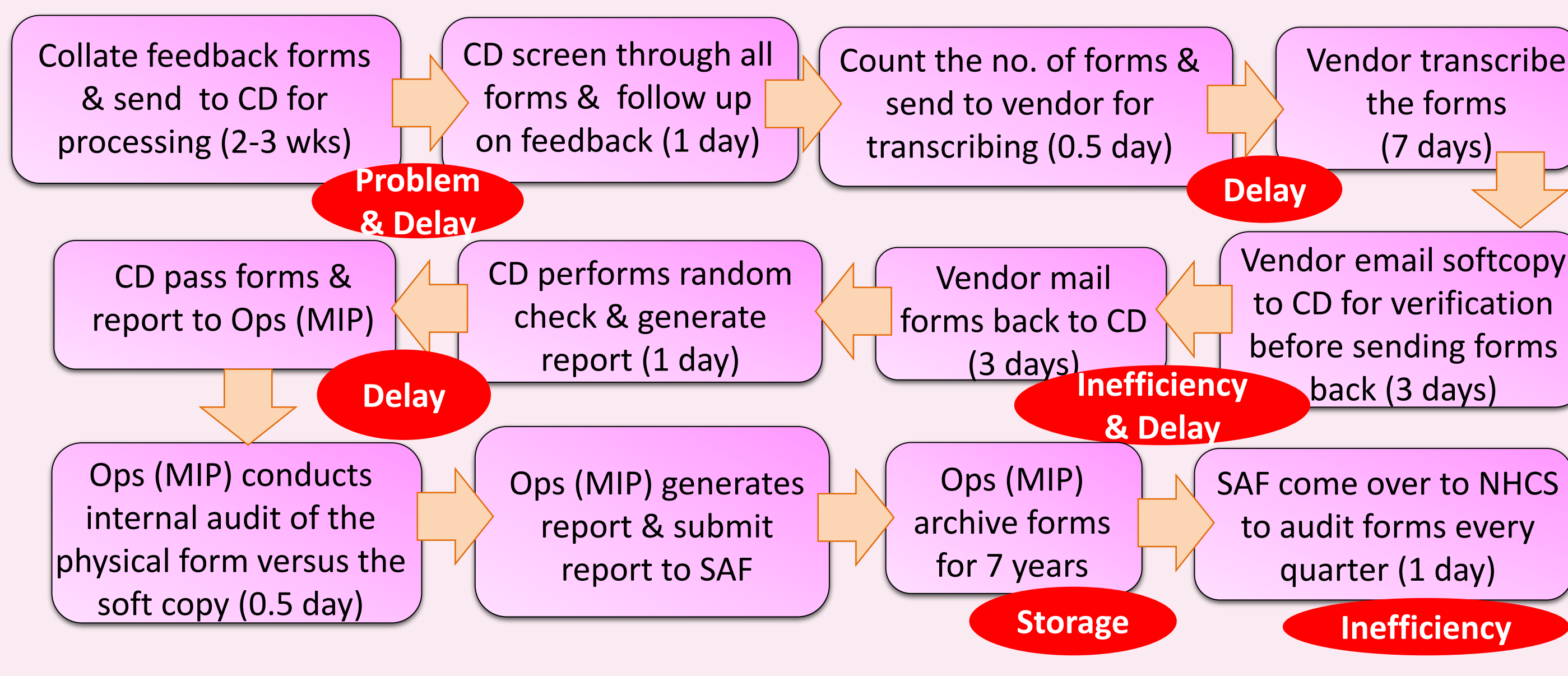
- Batch consolidation of feedback forms before sending to CD for screening, lead to long reaction time to patient's feedback.
- Tedious process of counting physical feedback forms before sending the forms for transcribing
- Illegibility of handwriting
- Long turnaround time for transcribing
- Transcribing error and lost of forms by vendor
- Long turnaround time to generate report
- Audit checks are required to verify data integrity
- Requirement to store physical feedback forms for 7 years
- External audit conducted quarterly by SAF

### Other areas of concerns

- Requirement to paste additional questions on feedback forms as it is challenging to revise feedback questions
- No time to distribute feedback forms to patients due to the heavy load at Cardiac Laboratory
- Laborious to replenish physical feedback forms

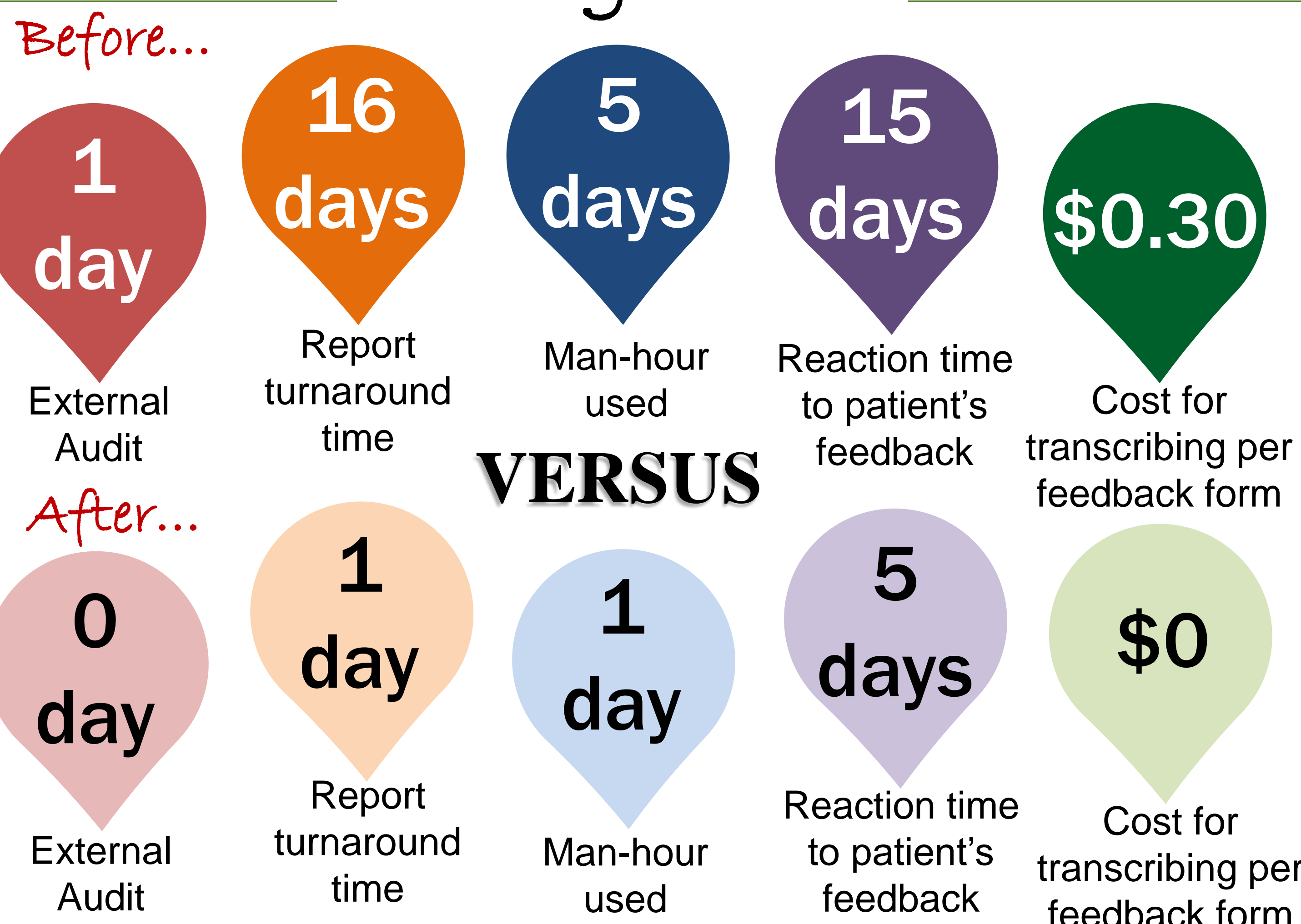
Below shows the process map of the monthly cycle:

### Previous Process



## RESULTS

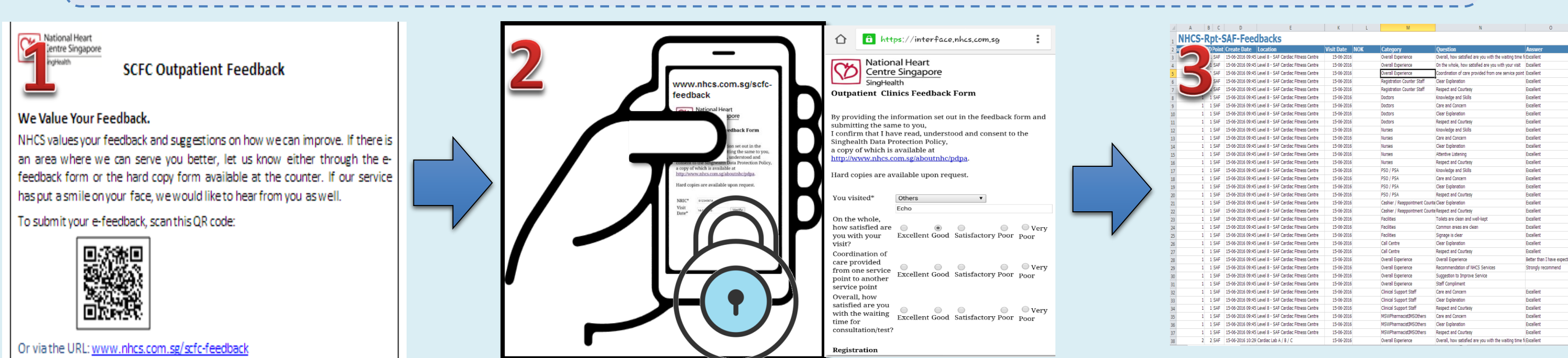
at a glance



## METHODOLOGY & IMPLEMENTATION

The team brainstormed and found that the processes can be improved with Information Technology. A web-based system tailored to our requirements was developed. The system allows patients to submit their feedback anytime, anywhere with the help of a smart phone. Patient's feedback is instantly available for download from the system.

### How Does the e-Feedback system Works?

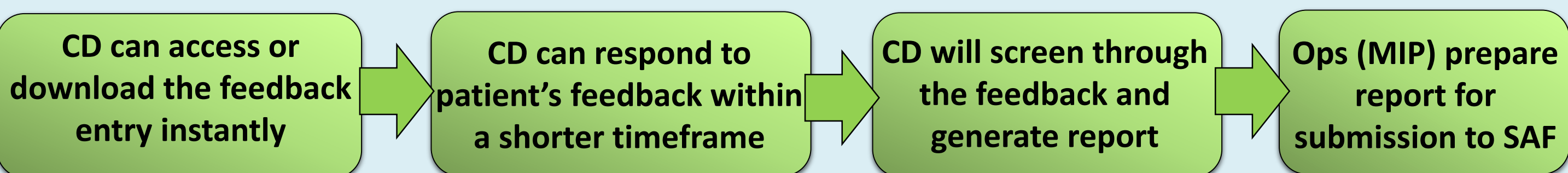


A clear folder consisting of a checklist and e-FB tag is given to the patient upon registration

Patient access the e-Feedback form by scanning the 2D barcode or entering URL. It is a secured link authenticated by internal system to verify patient ID and visit date.

Statistics reports can be generated for monitoring and reporting purposes.

### Enhanced Process



### Eliminated Redundant Process



With this process improvement, it lead to better focus towards patient care as the staff will have more bandwidth/time to attend and understand the needs of the patients. Staff is able to respond to patient's feedback and generate report within a shorter timeframe. It also eliminates the need to decipher illegible handwriting of patients, management feedback forms and vendor.

## Tangible Benefits

### Man Hour Savings

Man-hour Savings from conducting Audit (Internal + External)  
**10 days / Annum**

Man-hour Savings from verifying data integrity  
**60 days / Annum**

### Annual Cost Savings

Cost saving from printing of feedback forms ≈ \$1500 / annum  
An average of 2500 patients per month visited SCFC and the printing cost per feedback form is \$0.05.

Cost saving from transcribing of feedback forms ≈ \$603.60 / annum  
2012 physical forms were received in year 2016 and the transcribing cost for per feedback form is \$0.30.

## Intangible Benefits

- Supports the organisation's direction to 'go paperless' as a digital heart centre
- Promote data Integrity by eliminating data entry error
- Ease of revising feedback questions
- Increase staff satisfaction

## CONCLUSION

The project is in line with the corporate's direction to reduce carbon footprint through harnessing on technology. Patient is able to submit feedback On-The-Go with their smart phone. Staff are delighted with this initiative as the e-Feedback is able to improve their work efficiencies and eliminate the need to manage the returns of the paper-based feedback form. It also improves productivity by eliminating administrative works.