



# Redesign of KKH Nursing Database (NsgDB)

Singapore Healthcare Management 2013



KK Women's and Children's Hospital  
SingHealth

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## INTRODUCTION

KKH's Nursing Division manages about **1,900 Nurses**, constituting approximately **44%** of the total hospital manpower strength. The operational management effort is massive, thus the **need for an efficient and effective manpower management system is imminent.**

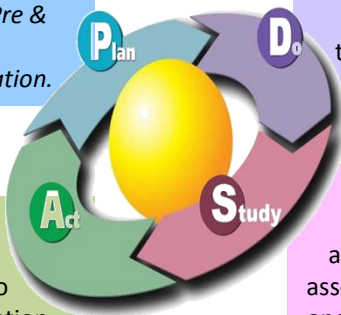
In view of this, the project aims to **improve operational productivity and cost savings** by redesigning an electronic database application to **eliminate documentation duplication, paper records usage, and improve work processes.**

## METHODOLOGY

**Ami (Accelerated Model for Improvement)** approach was adopted. It embraces the change concept of developing specific change ideas based on the **PDSA (Plan-Do-Study-Act)** cycles for learning and transforming learning into action. Designing **data collection plans and data analysis to develop, test and implement changes** is a requirement.

### 1. PLAN

Data collection:  
Time motion  
Study & Staff  
Satisfaction  
Survey for Pre & Post-implementation.



### 2. DO

NsgDB system development, demonstration, hands-on testing, and feedback. Small scale test changes for 3 pilot wards conducted to ascertain feasibility.

### 3. STUDY

After-change data analysis using graphs to assess change practicality and satisfaction. Learning observations were noted with further modifications made.

### 4. ACT

Rollout according to Implementation plan, of which will be adopted across all Nursing Division units.

## System Architecture Design

### Nursing DB System for Multi-Users Access

1. Data Entry/Updates/Retrieval

2. More Information captured



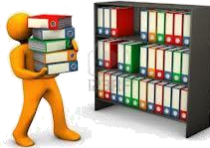
Information just a mouse-click away, at the comfort of your desk.



3. Access directly at their respective desktops

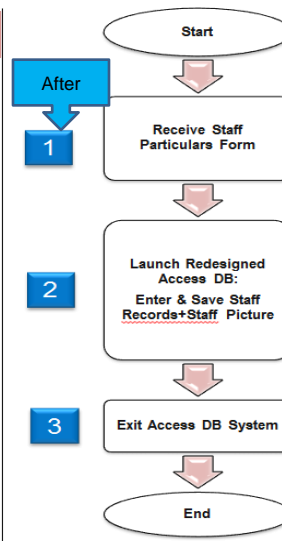
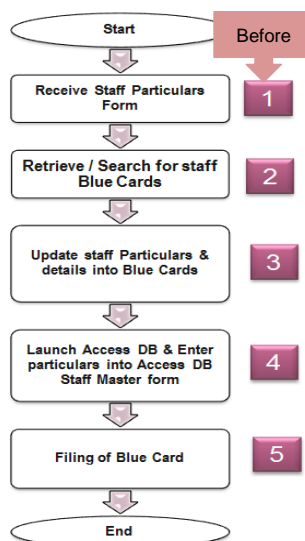
## RESULTS

### PAPER RECORDS USAGE



Previously : 1 Staff → 1 Paper Record  
Currently : 1 Staff → 0 Paper Record

100%  
Elimination of  
Paper  
Records



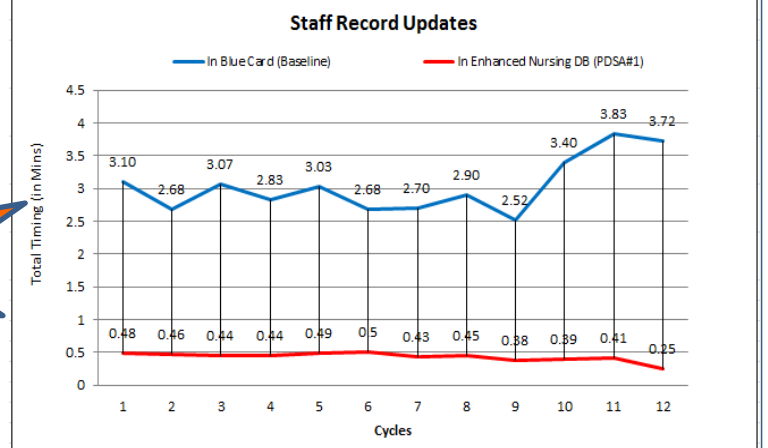
### WORK PROCESSES

Streamlined from 5 Steps down to 3 Steps!!

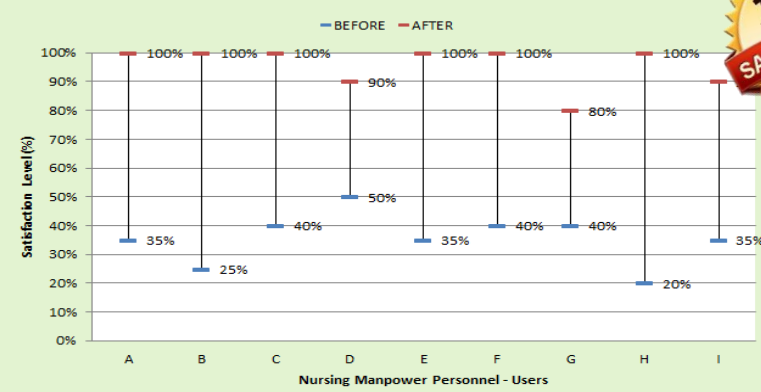


### TIME SAVINGS

650%  
Time  
Savings



### Staff Satisfaction Level



100%  
Satisfaction  
Guarantee  
Almost  
All

## CONCLUSIONS

This project has helped improved the operational efficiency and effectiveness by **eliminating paper records usage, improving work processes, and man-hours. Staff satisfaction level has significantly improved.** The Team will continue to improve the system and processes to support the constant need for changes and expansion.