



Singapore Healthcare Management 2017

Chiang Juat Lan, Division of Nursing
 Ang Shin Yuh, Division of Nursing
 Kam Wai Kuen, Office of Safety Network
 Lee Ewe Choon, Environmental Services
 Lee Lai Chee, Infection Prevention & Control
 Louis Tan Seng Wee, Facilities Development
 Yeoh Seng Hong, Facilities Management & Engineering



Singapore General Hospital

ONE-WAY FLOW — redesigning dirty utility rooms at Singapore General Hospital

INTRODUCTION

It is recognized that design of the hospital environment was critical in maintaining infection prevention and control practices and minimizing the risk of cross contamination. A one-way flow within the dirty utility (DU) room, in the direction of entry of dirty materials, cleaning, disinfection, and lastly retrieval of clean materials through a dedicated pathway was sought.

AIM:

The aim of the redesign was to facilitate a one way workflow that would minimise risk of cross contamination while equipment were being cleaned and disinfected for the next patient's use.

KEY CHALLENGES:

Infrastructural & operational constraints

- A typical dirty utility room is 17 square metres in size
- Placement of plumbing and ventilation features
- Increasing number of items fighting for DU space

METHOD

A project team comprising nurse leaders, infection prevention expert, safety expert, environmental services specialists, engineers and architects was convened to work on the redesign.

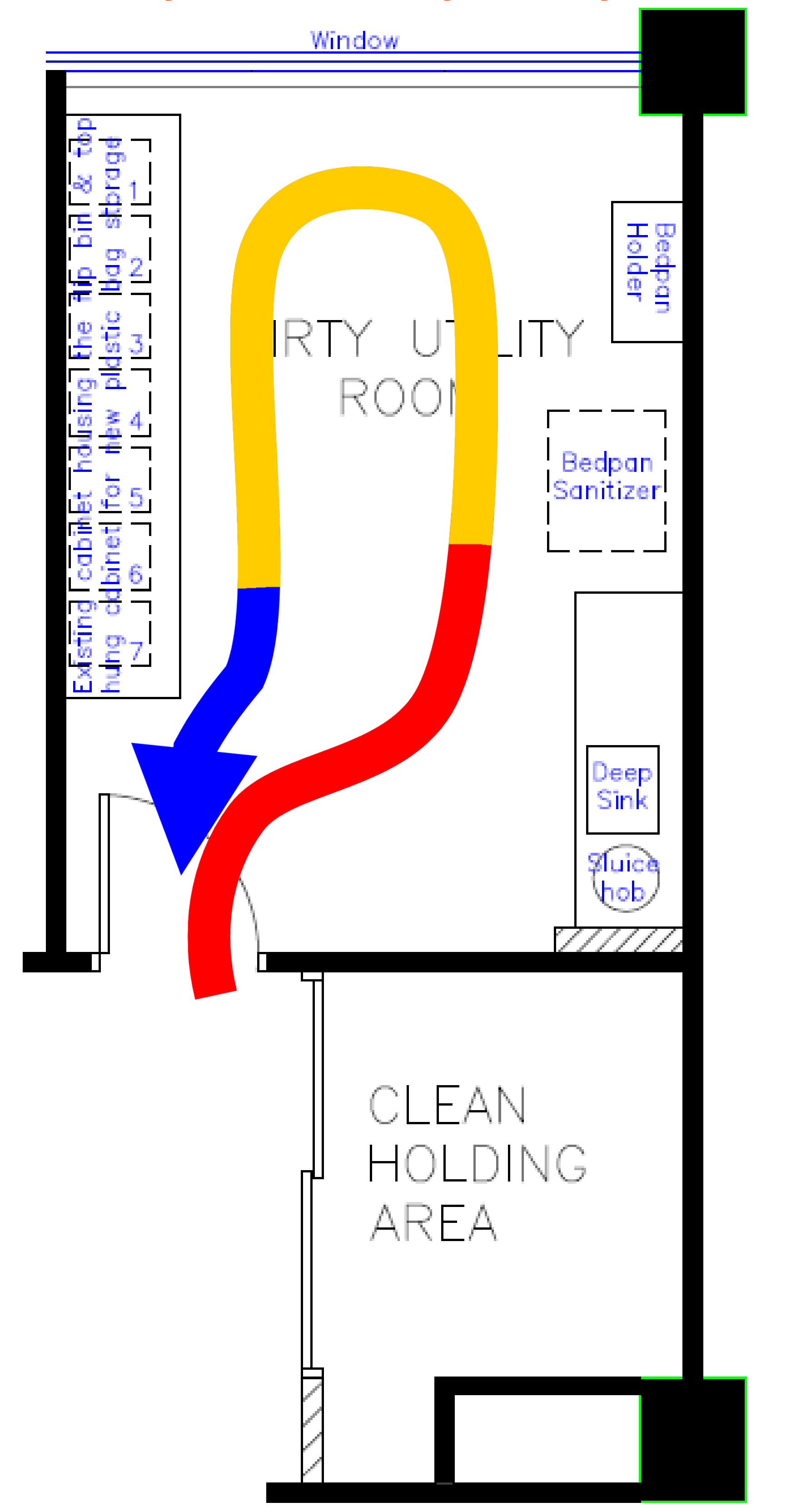
RESULTS

Before	After
No clear separation of used and cleaned items	Separate doors for entry of used items and retrieval of cleaned items
Use of sanitizer	Use of macerator to minimise the amount of manual handling and cross contamination in human waste disposal
Common sink for equipment rinsing and hand-washing	Separate sinks for equipment rinsing and hand-washing
Bins were housed in cabinets	Removal of cabinets to create more circulation space and reduce amount of cleaning required for fixtures

CONCLUSION

The new design was well received as the principles of human factors engineering and key infection prevention were applied. The team achieved a one-way workflow within the infrastructural constraints of the existing hospital building. A clear one-way workflow is critical for minimising the risk of cross contamination.

Old layout of dirty utility room



New layout of dirty utility room



LEGEND

dirty, pre-disinfected items

disinfecting trolleys, commodes

disinfected or cleaned items