



Singapore Healthcare Management 2017

The Transformation of the Reception Counter and Research Room to Mitigate the Risk of Unauthorised Access to Patients' Medical Records

Nurmastura Banu, Quah Yi Tong, Joanne Lee Kah Hui
Ricky Chan Yeng Lea, Lee Worn Jiun
Department of Document Management Services



Introduction

The Department of Document Management Services (DDMS) is primarily responsible for the management of patients' medical records in the hospital. With the then-current physical state of DDMS, it was **challenging to exercise strict visitor control to the department's office premises** where patients' medical records (which are highly confidential) are stored. This posed a **major risk of unauthorized access to patients' medical records**. With the growing importance of patient confidentiality in tandem with the enforcement of the Personal Data Protection Act (PDPA), it is imperative for DDMS as the custodian to mitigate this risk.



To **heighten the security management** of both internal and external visitors to mitigate the risk of unauthorized access to DDMS and the patients' medical records.

Methodology

1. INITIATE AND INQUIRE (Risks Identification)



- A team involving all the key process owners in DDMS was formed.
- Conducted observations on the visitor flow to identify the problems with the department layout.
- Prepared the risks register to record identified risks.



Figure 2: The reception counter was obstructed by the beam, making it difficult for the receptionist to monitor the movement of the visitors' in and out of the department and research room.



Figure 3: Researchers could view and access patients' medical records that were requested by other researchers as they were stored in open shelves in the research room.

Figure 1: Current Visitor Flow



2. IMAGINE (Risk Impact Assessment and Risk Prioritization Analysis)

Risk Performed risk assessment and identify key risks for proactive management.

A. Issues with the current design of the Reception Counter

- The reception counter was **not strategically located**, preventing the counter staff from monitoring the movement of the visitors' effectively.
- Counter was not manned** at all times during office hours.
- Inadequate coverage of CCTV** to track and monitor visitors.
- High probability of **unauthorized accesses** by visitors' to the department and medical records stores.

B. Issues with the current design of the Research Room

- No proper segregation and safe-keeping of the medical records in the Research Room** from unauthorized researchers' from viewing the files.
- Researchers using the research room could also **roam around the DDMS office premises**.
- Research room was not locked** at all times when not occupied by the researchers'.

RISK ASSESSMENT MATRIX				
SEVERITY	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	High	High	Serious	Medium
Probable (B)	High	High	Serious	Medium
Occasional (C)	High	Serious	Medium	Low
Remote (D)	Serious	Medium	Medium	Low
Improbable (E)	Medium	Medium	Medium	Low
Eliminated (F)	Eliminated			

Reference to the risk assessment matrix, the **severity of the issues** identified with the current department layout are **'Critical'** and the **likelihood of unauthorized accesses by visitors'** to the department and patients' medical records are **'Probable'**.

This would mean that the current design of the department was highly risky.

4. INNOVATE & IMPLEMENT (Risk Mitigation Planning, Implementation and Monitoring)

The long-term goal - **to create a highly secured and monitored environment for the patients' medical records at DDMS** was achieved through **Elimination Controls**:



A. Revise Visitor Flow

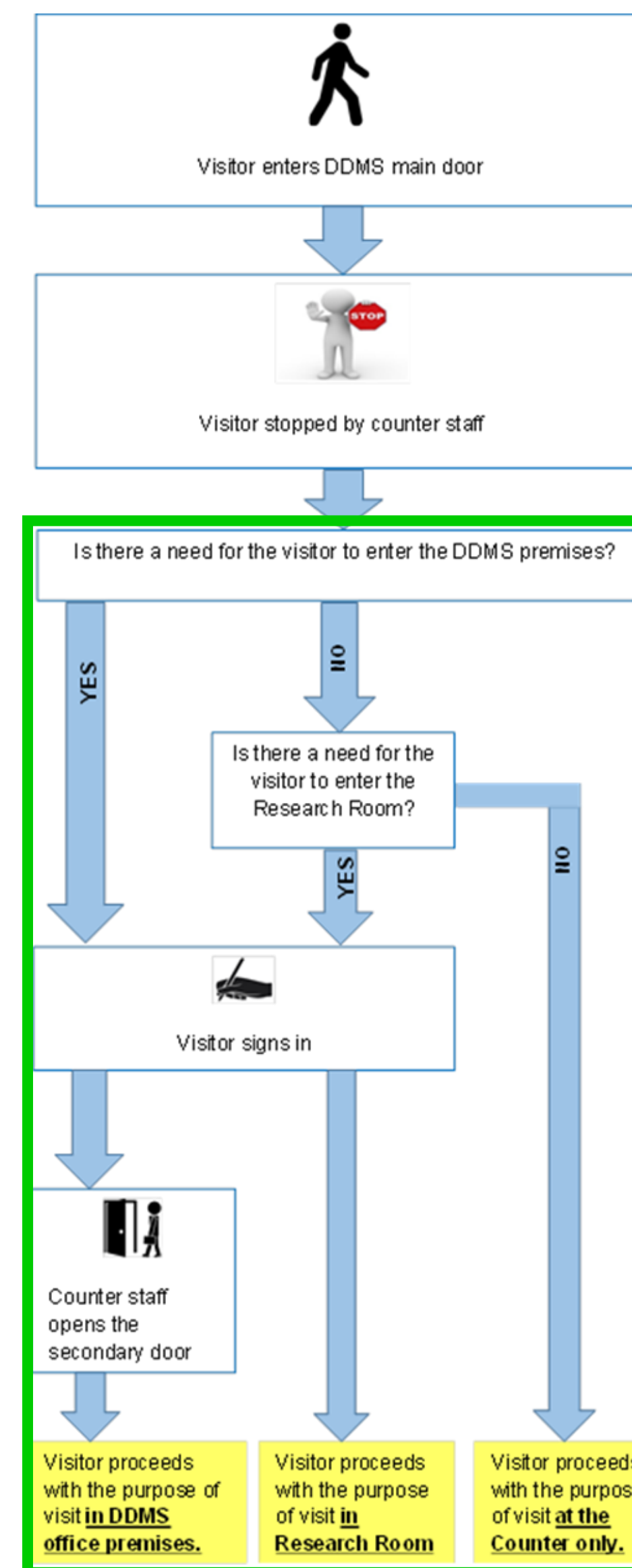


Figure 4: Revised Visitor Flow

Installation of a secondary door in DDMS to identify those visitors' who: -

- Need to visit the department,
- Need to use the research room or
- Need to meet someone or pass materials etc.

B. Renovate the Reception Counter and Research Room

- The department reception counter is shifted to the front of the department to allow the receptionist monitor the movements of visitors' in, out and within the department/research room.
- Built a secondary door to stop visitors' from entering the department without reporting to the reception counter.



Figure 5: Renovated Reception Counter

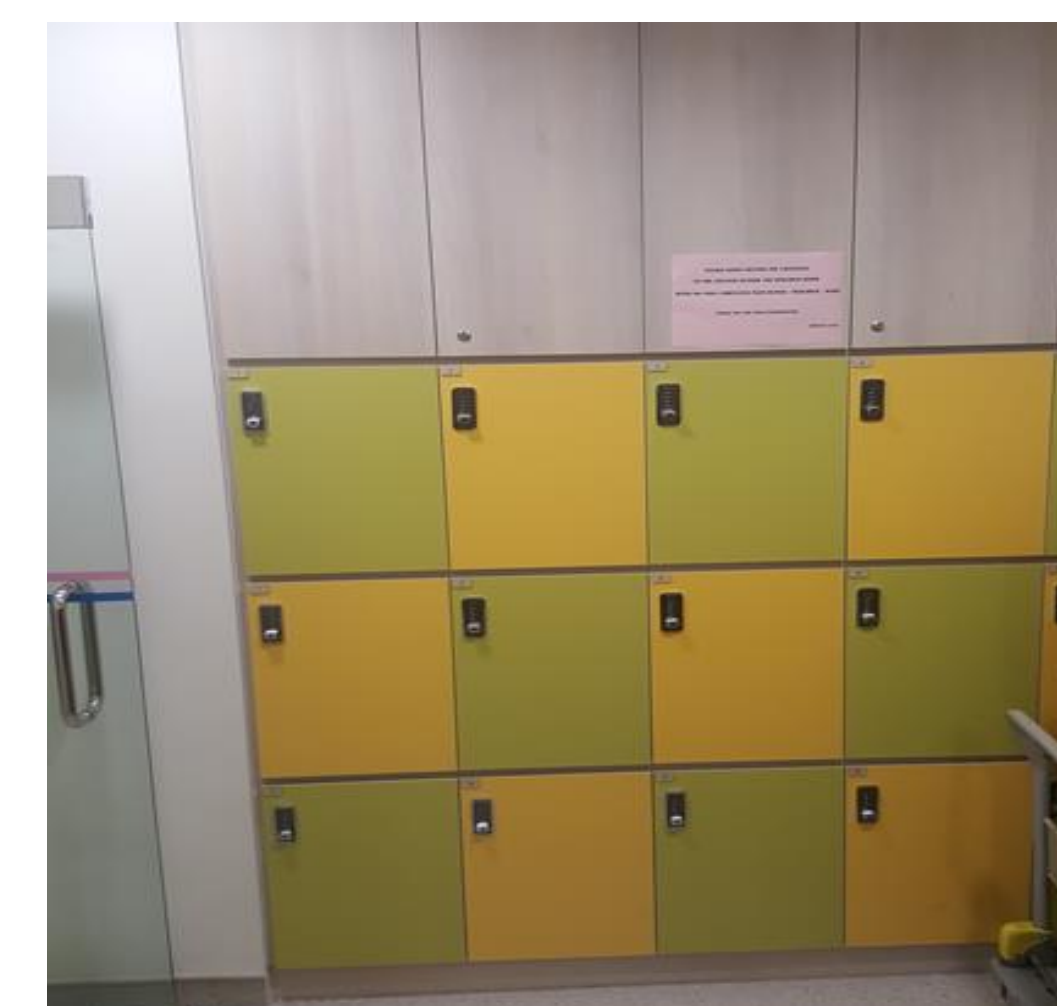


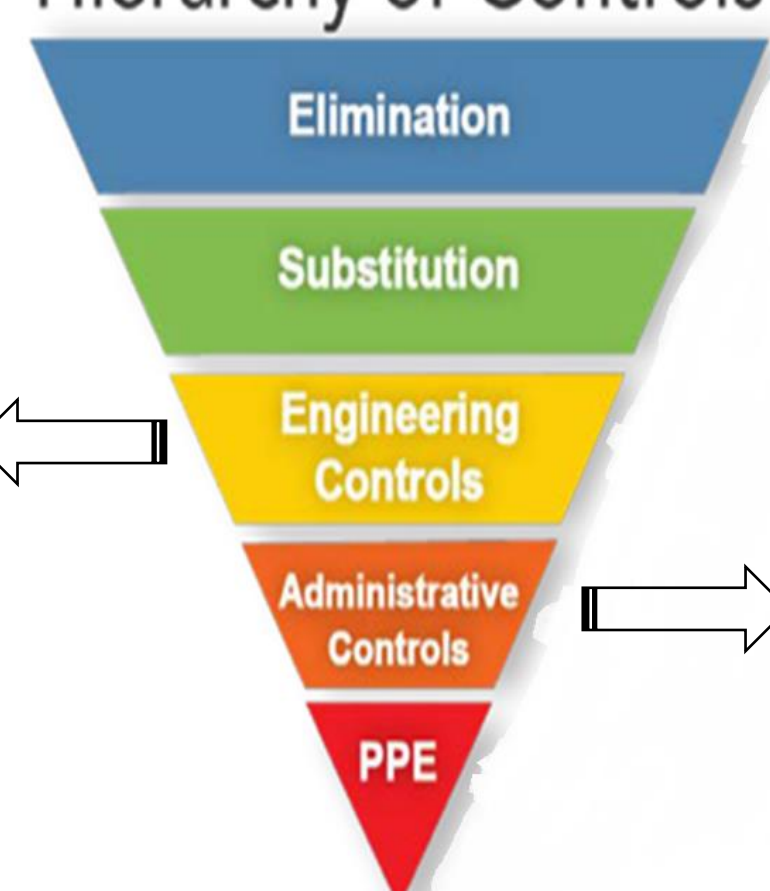
Figure 6: Lockers in the renovated Research Room

The research room is redesigned to have multiple lockers with passwords so as to store the medical records for researchers' viewing safely.

This protects patient confidentiality and eliminates the risks of unauthorized access to patients' medical records.

As changes to the physical state of the department would require more time to implement, **short-term goals** were set - **to heighten security awareness among DDMS staff and strengthen the existing security controls** and were achieved through **Administrative and Engineering Controls**:

Hierarchy of Controls



- The department glassed door was blurred.
 - Visitor Log Book was reviewed on a regular basis for completeness of visitor's information and for any unauthorised access.
 - Installation of the CCTV at the entrance doors of the department and medical records stores.
 - Installation of signage outside and within the department.
- Create awareness and highlight on the importance of remaining vigilant to the staff through briefings.
 - Revise the job description of every staff to reflect their responsibility to prevent unauthorized access to the department by unauthorized visitors' and safeguard patients' medical records.
 - Involve each staff with the responsibility to man the counter.
 - As far as possible, route researchers' to view patients' medical records at alternate site i.e. their own department.

Results & Conclusion



Achievements after the renovation:

- Access to the department is strictly controlled and monitored via CCTV.
- Visitors are strictly required to sign in if they wish to enter the office premises or research room.
- Medical records are kept securely in the Research Room lockers to prevent unauthorized access.

By redesigning the department reception counter and Research Room, we had **mitigated the risks involved with unauthorized access to the department and patients' medical records**.