Risk Assessment on use of Traditional Curtains vs Disposable Curtains in terms of Cost Effectiveness, Work Processes and Infection Control concerns

Singapore Healthcare Management 2018

Jeremy Lim[1], Priscilla Han[2], Mark Tan[3]

[1]Operations Admin and Material Management
[2] Infection Control, Nursing
[3] Operations Admin

National Cancer Centre Singapore
SingHealth

INTRODUCTION

A study was conducted at National Cancer Centre Singapore (NCCS) to assess the feasibility of disposable Anti-microbial and sporicidal curtains in replacing traditional curtains. This was initiated to address rising operational cost and cross infection concerns.

With rising patient numbers, both Housekeeping and linen vendors experienced significant challenges in managing the high change-cycle for clean curtains. This posed significant infection control risk for patients and staff. Changing of traditional curtains is also time consuming: each change takes between 10 – 15 minutes and involves working at height. The curtains can be heavy and hard to handle, which may increase the probability of work injury. In addition, due to inflation, cleaning cost for traditional curtains are expected to increase over time. The condition of existing curtains also deteriorate with age and frequent washing. Replacement curtains may also be costly. The number of traditional curtains kept as spares may also be limited due to storage space constraints.

The introduction of anti-microbial and sporicidal curtains would result in a significant reduction in the curtain changing frequency, due to its anti-microbial and sporicidal properties. This seeks to reap benefits in the following areas:

1. Optimisation of resources in terms of cost and manpower
2. Reduce hospital associated infections (HAIs)

METHOD

Identifying Potential Risk Areas for project implementation

The Operations department utilized the following benchmarks to identify suitable risk areas for the implementation of disposable curtains evaluation:

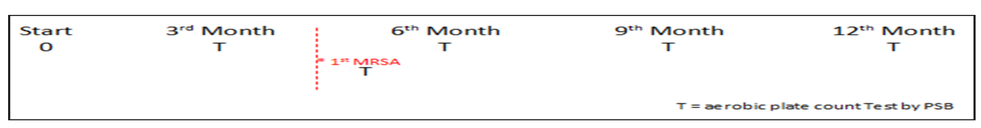
- High Operational Cost in terms of man-hours and traditional curtains washing
- High holding cost of spare curtains
- Work place injury risk during curtain changing
- Hospital Acquired Infection through contaminated curtains

Given that the largest concentration of curtain changes resides in NCCS Ambulatory Treatment Unit (ATU), the feasibility study of disposable curtains was initiated at ATU, and subsequently extended to 2 other Specialist Outpatient Clinics (SOCs). Two vendors were invited to participate in this evaluation project. A subsequent cost and benefit analysis was also conducted.

Location	Disposable curtain length	Vendor
Consultation Room 1, SOC C	5 metres	Vendor A
Procedure Room 54, Morning Glory Suite		
Procedure Room 1, SOC D		
Consultation Room 8, SOC C	7.5 metres	Vendor B
Procedure Room 10, SOC C		
Consultation Room, Jasmine Suite		

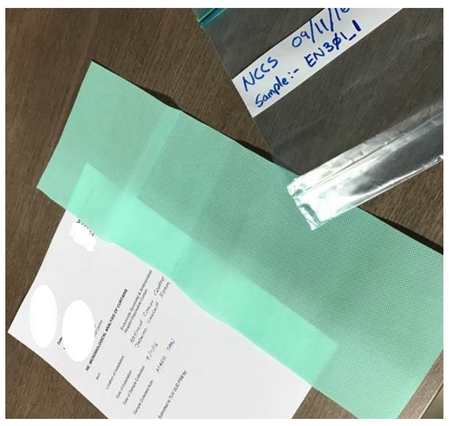
Test Sample Collection

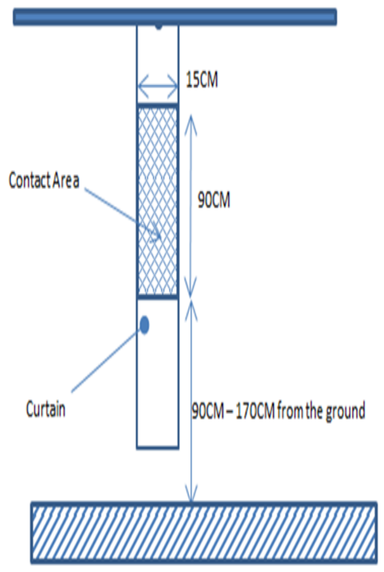
The disposable curtains were tested at the following intervals:
3rd month, 6th month, 9th month and 12th month of the evaluation



Note: An additional test is done for the first terminal cleaning case as a precaution.

Test sample s were cut from contact area and sent to PSB laboratory for testing at scheduled dates.





EVALUATION RESULTS

The 6 sets of disposables curtains were hanged at pre-selected consultation rooms. 3 sets of the curtains were tested free of pathogens over a one year period, while the remainder 3 were pathogen free for only 6 months.

Housekeeping staff also reported that the disposable curtains were relatively easy to handle due to their light weight.

Performance of the curtain fabric was within expectation for 3 out of 6 of the tested disposable curtains

CONCLUSION

The study shows that disposable curtains, with anti-microbial & sporicidal properties, have the possibility of preventing contamination of pathogens up to a period of 1 year. This facilitates better risk management of operational cost as it minimises the changing frequency for curtains. In addition, risk of HAIs are greatly reduced due the long term efficacy of these properties.

The reduced curtain changing frequency also minimises the risk of work related injury. The disposable curtains are lighter, making them easier to deploy or remove. Inventory turn-over is also expected to be improved. Spare curtain stock are expected to be turned over every 6 months and can be managed by an external storage solution, resulting in more effective use of limited storage.

Through this initiative, the Operations Department hoped to reduce the spread of HAIs, eliminate risk of infection caused by poor handling/washing by vendor and reduce housekeeping manpower dependency with regards to the expected rise in patient load.