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ASSESSING A TEMPORARY ISOLATION ROOM

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The Problem: Patients with pathogens transmissible by contact, droplet or airborne pathways, are often isolated to prevent and control the spread of infection. However, isolation is only possible in hospitals with sufficient single rooms.

The Solution: Portable isolation technology such as the REDIROOM™ (Care Strategic Pty Ltd) prototype can be deployed quickly (see Figure 1), within a ward to isolate a patient requiring contact or droplet precautions.

The Challenge: There are no documented methods for assessing novel or temporary isolation rooms. As this study was the first of its kind, the research team designed a method to evaluate the functionality and infection control implications of the room.

METHODOLOGY

The REDIROOM™ was assembled in a simulated clinical ward environment at Avondale College of Higher Education. Participants (nurses and student nurses) performed a series of tasks in the REDIROOM™ and a patient care area of the same dimensions.

Functionality Assessment

In order to assess functionality, a mixed methods approach was employed, which involved:

- Video recording and the use of social network analysis
- Interviews, using a phenomenological approach and a Questionnaire to evaluate how easy it was to complete the activities (Rate Scale)
- Temperature and humidity measurements every 5 minutes for an [illegible] and repeated in regular patient [illegible] for comparison

Figure. 1 Assembled REDIROOM™

Infection Control Assessment

Prior to seeing the room, two experienced infection control professionals developed a three stage evaluation process:

ASSESSED AGAINST GUIDELINES: Australasian Health Facility, Department of Health (NHS) Infection Control in the built environment.

CLEANING: Ultraviolet (UV) solution and fluorescent light were applied to evaluate how easily it could be cleaned. 24 REDIROOM™ surfaces were cleaned.

PROFESSIONAL ASSESSMENT: Assembly and dismantling performed by a member of the Care Strategic Pty Ltd. Team in order to assess the practicalities and risk of exposure to infectious surfaces for professional use.

RESULTS

Functionality Results

Time Taken to Complete Activities
No difference
Temperature and Humidity: No Difference
Movements: No difference
Interview: Reported 'Sense of restriction', 'Temperature' and 'Management of critically ill patients'
Questionnaire: No statistical difference between normal care and REDIROOM™ except 'transferring patient from bed to chair' and 'hoisting patient into chair' where normal room scored higher than REDIROOM™

Infection Control Results

Guidelines Of the 19 criteria, the REDIROOM™ fully complied with 17 of the recommended guidelines and partially with the remaining two.
Cleaning The cleaning assessment undertaken with UV solution and fluorescent light showed UV solution was removed completely 23/24 times.
Professional Adhesive walls were easily removed leaving no residue, the canopy was easily unhooked from the frame and folded inwards to avoid personal contact with the 'inside walls'. Cleaning of the REDIROOM™ frame did not fit the assessment scope of this study.

CONCLUSION

Functionally, nurses could perform activities in REDIROOM™ the same as in regular patient care area
REDIROOM™ could potentially enhance infection control practices
Video reflexive ethnography could be used in future evaluations
Video ethnography and social network analysis was useful in providing objective data.

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For more information:
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