



KEY POINT SUMMARY

OBJECTIVES

The focus of this study was to review the functionality of the proposed soiled workroom design for efficient and safe clinical activities.

Using Task Analysis in Healthcare Design to Improve Clinical Efficiency

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Key Concepts/Context

In the United Kingdom, one of the most intensively used ancillary rooms in an acute ward is the soiled workroom (dirty utility room) which “provides for storage of single use containers used for collection of human waste, its subsequent disposal and other associated activities, and the temporary holding of used equipment, materials and refuse prior to transfer to the disposal point to await collection.” A hospital planning team requested a review of a proposed standardized soiled workroom to establish whether a proposed design would provide an optimal layout for efficient and safe clinical activities.

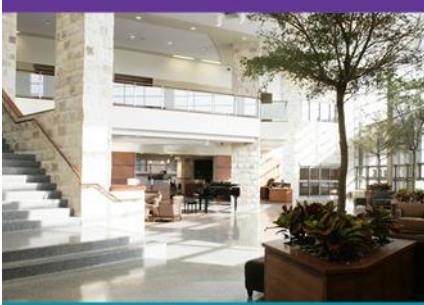
Methods

Seven days of observations, including a one-day pilot, were carried out across three acute sites of the hospital in five clinical departments to determine which (1) tasks occupied the most space; (2) area had the highest level of activity (to determine the layout and adjacency requirements of equipment and furniture); (3) area needed the easiest access.

Findings

Observations yielded the following functionality and usability issues:

- The areas by the handwash basin, the clinical sink, and the bedpan disposal unit had the highest occupancy level in terms of task duration and frequency. More space was needed for the clinical sink and worktop when returning a commode chair that needed cleaning.
- The area for storing commode chairs requires easy access without blocking access to other equipment or furniture.



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- Easy access is needed for the dirty linen bins and for disposable bedpan and urine bottle dispensers.
- Both the clinical sink and the handwash basin should have a yellow-bag bin, a paper towel dispenser, and dispensers for both alcohol gel and soap.
- To prevent contamination the bedpan disposal unit and clinical sink should be placed by the water closet.
- The cabinet, worktop, and shelf were essential furniture.
- The clinical sink should be close to a cabinet or a shelf, and a worktop.

Limitations

Generalizability is limited by the small sample size. Further, the day shift was chosen for observations based on information from the ward managers to maximize data collection opportunities. It is possible that different tasks would have been observed on the evening and night shifts.

Design Implications

Although it would be acceptable for one hospital to be different from another, within one hospital the provision of standardized room designs could promote efficiency and safety in clinical activities. To produce an evidence base for user-centered design, Link Analysis was found to be an effective method for plotting the movements of staff and accounting for the complexity of their tasks, and detailing knowledge of work processes within a defined space or area. This study recommends conducting an ergonomic evaluation, like Link Analysis, for all healthcare building design projects to maximize clinical functionality and efficiency.