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Design lessons from the analysis of nurse journeys in a hospital ward

Masoumeh Nazarian¹, Andrew D Price¹, Peter Demian¹ and Masoud Malekzadeh²

¹Loughborough University, UK

²University of Northampton, UK

Objective: The objective is to establish design strategies to help minimize nurse journeys and inform future decision-making. The impact of the ward layout was investigated through a case study ward in a multi-specialty hospital in Tehran.

Background: Nurse teams have the most direct contact with ward patients. Time spent on activities not part of care provision should be minimized. Literature suggests that a significant part of nurses' time is spent moving between different places within wards, which emphasizes the importance of ward layout.

Methods: The ethnographic method was adopted for observing nurses' actions based on routes that form a significant share of nurses' daily journeys. Data were collected from 42 nursing staff over 120 hours during different shifts. This provided empirical data on the frequency of each journey which revealed meaningful patterns. Approximately 1300 room-to-room journeys were made. Conclusions were drawn about the criticality of each route.

Results: There is a significant difference between the frequencies of different routes in the case study ward. The distances between origins and destinations of the most frequently used journeys must remain minimal. Awareness of less frequent routes allows for greater flexibility in ward design.

Conclusion: Arrangement of ward spaces can minimize journey times. Healthcare planners and designers can explore the implications of chosen systems on walking distance and, consequently, the nursing staff productivity. For existing wards, re-arrangement of space utilization can improve staff productivity. The recommendations can be applied wherever productivity is influenced by walking distances.

Biography

Masoumeh is a University Teacher and Research Associate at Loughborough University, UK. She is a qualified architect and was awarded a PhD award in 2014 for her thesis titled "Nursing staff productivity – the role of layout and people circulation". In her earlier career, Masoumeh was a research assistant in Architectural Research Centre of IUST. She also worked as an architect in two private architectural practices before winning her PhD scholarship from EPSRC in 2010. She continued her profession as University Teacher since 2014 as well as working as a Guest Lecturer in IUST and part-time Assistant Professor in ShD University.

M.Nazarian@lboro.ac.uk

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