Nursing resource implications of the unoccupied bed

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ABSTRACT

Objective
To explore the specific factors that impact on nursing resources in relation to the 'unoccupied bed'.

Design
A descriptive observational study was used to identify and classify tasks associated with an 'unoccupied bed'

Methods
Four project nurses held informal discussions with all levels of staff in four divisions of the hospital (surgery, internal medicine, cancer care and women's and newborn). Field notes were made throughout the process and the project nurses met regularly to compare findings and identify similarities.

Results
This study identified three main areas of nursing work, which centre on the 'unoccupied bed': 1) bed preparation for admission; 2) temporary transfer; 3) bed preparation post patient discharge.

Conclusion
The unoccupied bed is not resource neutral and may involve considerable nursing time. The time associated with each of the reasons for the bed being unoccupied remains to be quantified.

KEY WORDS

unoccupied bed; nursing management; healthcare costs; nursing time.

INTRODUCTION

Due to financial constraints, acute inpatient bed demand and the absolute necessity to ensure efficiency in the utilisation of health care resources, the 'unoccupied bed' within the tertiary health care setting has become a significant topic of conversation; with a focus on increasing the occupancy (Nguyen 2005). However, the 'unoccupied bed' is not a phenomenon of recent interest. Over 50 years ago, matters related to bed utilisation started to surface (Anon 1954). Issues related to keeping beds vacant in case of unexpected emergencies; retaining beds for certain surgeons; and inflexible policies around male and female beds were aired. An occupancy rate of over 90% was thought to be achievable, with staff cooperation. Three areas where improvements could be made were identified. First, preadmission clinics were proposed, to counter delays in starting treatment; secondly, estimating the discharge date and planning for discharge at the time of admission; and thirdly, investigating which procedures could realistically be provided in an outpatient setting. Transfers between hospitals, from those with high occupancy to those where there was less pressure on beds, was also recommended (Anon 1954). The issues around occupancy have not gone away; we continue to grapple with them today, to improve patient flow and maximise bed utilisation (Dedhia et al 2009; Lin et al 2009).

Concern with unoccupied beds is primarily financial (Nour El Din 2006) and is not a contemporary problem (Roswell 1953). In 1951 a report was published which showed the cost of low occupancy increased the cost of hospital beds (Roswell 1953). The example provided was, if 55% of beds were occupied, the average cost per occupied bed was US $7,198 per annum; whereas at 85% occupancy the cost per occupied bed was US$6,085 per annum. The difference was due to the fact that fixed costs are incurred, irrespective of occupancy (Roswell 1953) and this difference was independent of potential loss of revenue because the bed was vacant.

These problems have become more acute as the cost of health care rises exponentially (Anon 2009; Halpern and Pastores 2009), so it is important to explore reasons for perceived inefficiency. As the 'unoccupied bed' quite often falls into this category a greater understanding and acknowledgement of the nursing work required to maintain this resource is required.

OBJECTIVE

The purpose of this paper was to explore the specific factors that impact on nursing resources in relation to the 'unoccupied bed'.

METHODS

The study hospital is a 950-bed tertiary, teaching institution, which admits approximately 700 patients per week (excluding mental health admissions). In early 2009, a Nursing Resources Benchmarking Project, sponsored by the Executive Director of Nursing Services, was initiated. Part of the project involved clarifying factors impacting on the calculation of nursing resource requirements within the hospital. Four broad areas were identified for priority: occupancy; acuity/complexity; direct versus indirect hours; and skill mix. Four project officers, with workforce management experience as nurse managers or nurse unit managers, were back-filled for a three month period between April and June in 2009 to assist with the project. Their roles were to help with scoping the project, to undertake data collection that would provide more detailed information about each of the priority areas, and to assist in data analysis. The current paper describes only the data collected in relation to the broad area of occupancy, specifically factors associated with a bed being 'unoccupied'

Ethics approval was not required. The project did not impact on patient care and the questions asked of staff focused on understanding routine management practices. Moreover, the investigation was undertaken by managers, in their own clinical areas, as part of a benchmarking process.

Procedure

The project officers were from four different clinical services: Women's and Newborn; Cancer Care; Internal Medicine; and Surgical and Perioperative. Each focused on collecting data from their own services and documented actual, rather than assumed practices in relation to the four priority areas. They spoke extensively with different categories of staff including nurse unit managers, clinical nursing and midwifery staff, and ward receptionists to obtain a number of perspectives on the issues. Wherever possible, rationales or background information for certain findings were gathered to provide a context in which to interpret the findings. Questions in relation to organisational processes were also raised and clarified as appropriate. Field notes were made throughout the data collection period.

The four project officers met regularly throughout the study with the team leader to compare findings and to develop approaches to data collection and collation. These meetings were extremely useful to identify aspects requiring further investigation as important issues became apparent. They provided an opportunity to share strategies, discuss problems and categorise the work. It was an iterative process of data collection and refinement of data collection methods. For example, who were the most useful contacts; ensuring that meanings assigned to pieces of data were similar; and making certain that questions were asked in standard ways. There was also a continual process of documentation, which enabled ongoing clarification and validation.

ANALYSIS

Analysis and data collection were intertwined. In the team meetings, field notes were compared and findings discussed. This enabled specific issues to be revisited in one or more services to ensure a degree of consistency in data was achieved. Content validity was supported through the emergence of substantively similar findings between the project officers. Using their observations, general themes and sub-categories, which emerged time after time, in each service were able to be described.

Table 1: Reasons why a bed is unoccupied and the nursing activities associated with an unoccupied bed.

Reasons	Associated nursing activities
Temporary transfer	1. Documentation and data entry 2. Preparation for the delivery of patient care on return of the patient including: requesting and collecting equipment, consumables and medications, preparation of the environment, liaison with allied health teams, staff education relevant to the patient's treatment 3. Support of the family and significant others 4. Escorting the patient to and from the care area, including the organisation of transport assistance 5. Communication with the temporary care area 6. Reprioritisation and delivery of care to the remaining patients allocated to the nurse
Patient expected	1. Communication with Shift Coordinators / Bed Managers / Patient Allocations regarding the incoming patient 2. Liaison with treating team/s and allied health professionals 3. Requests for and collection of required equipment, consumables, medications 4. Preparation of documentation 5. Preparing for the dietary needs of the patient (particularly if after hours)
Patient discharged	1. Clean bed area 2. Restock / reset bed area in preparation for next patient 3. Communication with Shift Coordinators / Bed Managers / Patient Allocations regarding patients requiring placement 4. Documentation, filing, data entry 5. Liaison with internal and external health care professionals about ongoing care

RESULTS

Ward nurses provided detailed explanations of the activities they perform when a bed is unoccupied. Three reasons for an unoccupied bed were identified: 1) bed preparation, pre-patient admission; 2) temporary transfer, to facilitate other health service related provision; 3) bed preparation, post patient discharge. The nursing work, which is associated with each of the reasons for the bed being unoccupied are detailed in table 1. Nurses who were interviewed also highlighted that the time required for these activities and the complexity involved increased considerably after hours, when support systems are reduced; for example when administrative staff were off duty, catering facilities were unavailable or senior decision makers were absent.

DISCUSSION

This study provides the first in-depth analysis of the nursing work that is involved in managing an unoccupied bed. It differs from other investigations, conducted in a number of countries, which generally categorise nursing work into one or more of the following activities 'direct care', 'indirect care', 'unit related', 'documentation', 'professional', and 'personal time' (Capuano et al 2005; Herdman et al 2009; Weigl et al 2009; Williams et al 2009). The work is particularly important when bed occupancy rates, in some areas, may be in excess of 100%, indicating that this work may need to be repeated more than once in any 24-hour period.

The study is also important because it clearly shows that the unoccupied bed is not resource neutral. This has implications for nurses because calculations of nursing resource requirements are based, in part, on the rate of occupied beds, or the number of patients receiving inpatient care divided by the number of available beds (DeLia 2006). Such calculations ignore the nursing work consumed by an unoccupied bed and may contribute to inappropriate staffing levels.

Of the three reasons identified for a bed being unoccupied, discharge process and planning (Jack et al 2009; Preyde 2009; Steffen 2009), and the role of discharge co-ordinators (Day 2009) have received the most attention but there is practically no information about how this affects the clinical nurse. One exception is a recent report, which used focus groups to explore health professional's views about the discharge process (Connolly et al 2009). However, the unoccupied bed was not central to the study, so it drew out different responses from staff. The analysis in the Connolly (2009) study highlighted tensions between the need to 'get patients out' and the need to 'keep them in' and the issues surrounding these tensions for health professionals. Consequently there was minimal cross-over in findings between this study and theirs; apart from issues around equipment management and time involved in communicating with internal and external health care providers about ongoing care.

Limited information was available about the other two components of work associated with the unoccupied bed; planning for an imminent arrival and temporary transfers to other areas of the hospital. For example, although the proportion of nursing time allocated to tasks such as 'admission and assessment'; 'room or equipment set-up'; and 'escorting patients' has been calculated in work sampling studies (Chaboyer et al 2008; Williams et al 2009), an overall assessment of the total time consumed in managing the unoccupied bed in relation to these, or other activities that have been identified is not available.

LIMITATIONS AND STRENGTHS

The investigation was planned as a scoping study, to provide nurse managers with detailed information about the complex issues surrounding nursing and midwifery workloads and staffing. Because of this, data collection and analysis were not rigorously research based. However, the authors believe this may also be a strength of the study. Those collecting data were known insiders and had unencumbered access to appropriate informants, those who could reliably provide the information required. Results are also intuitively recognisable, adding validity to the findings. No attempt was made to measure the amount of time spent on any of the activities of the unoccupied bed, nor who undertakes these activities.

However, the study does provide a clear framework for future studies, which may wish to quantify the nursing work in this area. It also adds to conversations around capacity planning and what data should be factored into new models (Gondález-Torre 2002).

CONCLUSION

There are at least three reasons for a hospital bed to be unoccupied (temporary transfer, bed preparation for admission and patient discharge) and, for each of these reasons there are multiple associated nursing tasks. These tasks consume considerable resources, which remain to be quantified.

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