

EFFECTS OF ACUITY-ADAPTABLE ROOMS ON FLOW OF PATIENTS AND DELIVERY OF CARE

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- **BACKGROUND** Delayed transfers of patients between nursing units and lack of available beds are significant problems that increase costs and decrease quality of care and satisfaction among patients and staff.
- **OBJECTIVE** To test whether use of acuity-adaptable rooms helps solve problems with transfers of patients, satisfaction levels, and medical errors.
- **METHODS** A pre-post method was used to compare the effects of environmental design on various clinical and financial measures. Twelve outcome-based questions were formulated as the basis for inquiry. Two years of baseline data were collected before the unit moved and were compared with 3 years of data collected after the move.
- **RESULTS** Significant improvements in quality and operational cost occurred after the move, including a large reduction in clinician handoffs and transfers; reductions in medication error and patient fall indexes; improvements in predictive indicators of patients' satisfaction; decrease in budgeted nursing hours per patient day and increased available nursing time for direct care without added cost; increase in patient days per bed, with a smaller bed base (number of beds per patient days). Some staff turnover occurred during the first year; turnover stabilized thereafter.
- **CONCLUSIONS** Data in 5 key areas (flow of patients and hospital capacity, patients' dissatisfaction, sentinel events, mean length of stay, and allocation of nursing productivity) appear to be sufficient to test the business case for future investment in partial or complete replication of this model with appropriate populations of patients. (*American Journal of Critical Care*. 2004;13:35-45)

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A trend has become apparent in most hospitals in the United States, heightened by a severe shortage of nurses,^{1,2} a national increase in use of emergency departments, and a marked increase in hospital occupancy rates. At midnight, occupancy rates in most US hospitals hover at 80% to 95%, and by midday, when admissions and surgical volumes peak, all inpatient beds are commonly full. The resulting inability to admit new patients in a timely way, coupled with staffing shortages, plagues and stresses an already strained healthcare system.

These "bottlenecks" in the flow of patients have reached epidemic proportions and at times require tedious and even life-threatening diversions from hos-

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