

What is the Effect of Increased Dependence on Overtime and Agency Nurses on Patient Safety?

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ABSTRACT

To examine whether increasing reliance on overtime and agency nurses affects patient safety, we used a proprietary database from Premier, Inc. that reports inpatient staffing based on payroll and patient utilization and safety metrics from 75 hospitals nationwide. We aggregated the data to hospital-quarter levels, ensuring significant variations across hospitals and over time. From three variations of production function analysis, we found non-linear relationships between nurse overtime hours and agency nurse hours and patient risk. While, at a lower level, increasing nurse overtime hours and agency nurse hours are associated with improved patient safety, higher nurse overtime hours and travel nurse hours are associated with increased patient safety risk (as measured by pressure ulcer rates). The turning point came around 0.032 hours per patient day for nurse overtime hours and 0.028 hours per patient day for agency nurse hours. However, from our sample, the average reliance on overtime and travel nurses is 178% and 211% over the safe threshold, leading to concerns about increased patient safety risks. These findings suggest important implications for hospital management and, potentially, state and federal regulators concerned about promoting patient safety.

Key Words:

Travel nurse, patient safety, hospital