Hospitals with more nurses with bachelor's degrees have reduced rates of postsurgical deaths

Hospitals that had a 10 percentage point increase in the number of registered nurses (RNs) with bachelor's degrees between 1999 and 2006 also had an average reduction in surgical patient deaths of 2.12 deaths per 1,000 patients. These hospitals also had an average reduction of 7.47 deaths per 1,000 patients with complications, according to a new study. Neither staffing levels, skill mix, nor years of experience as an RN was significantly associated with reduced mortality. In 2011, the Institute of Medicine recommended that 80 percent of the registered nurse workforce have at least a bachelor's degree by the year 2020. As of 2008, the date of the most recent nationwide survey of RNs, only 45 percent of RNs had earned a bachelor's degree.

The researchers retrospectively compared surgical patient demographics and outcomes, as well as nursing staff education levels, at 134 hospitals in Pennsylvania during 1999 and 2006. The mean proportion of nurses with a bachelor's degree barely moved from 32.5 percent in 1999 to 32.7 percent in 2006. Yet, about 40 of the hospitals increased their percentage of RNs with a bachelor's degree by 5 percent or more during the study period. Slightly more than 25 hospitals showed no percentage change, while the remainder had declines of 5–10 percent or more. A few even showed a 25 percent decrease in RNs with bachelor's degrees.

The findings were based on data from two surveys of 40–50 percent of all licensed RNs in Pennsylvania, patient administrative data for 134 hospitals, and American Hospital Association data on characteristics of acute care hospitals in Pennsylvania. The study was funded in part by AHRQ (HS18534).

More details are in "An increase in the number of nurses with baccalaureate degrees is linked to lower rates of postsurgical mortality," by Ann Kutney-Lee, Ph.D., R.N., Douglas M. Sloane, Ph.D., and Linda H. Aiken, Ph.D., R.N., in the March 2013 *Health Affairs* 32(3), pp. 579-586. *DIL*

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