G1.2: Nursing Staff Mix and Nursing Home Quality

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Abstract:
Introduction: Professional staff mix is theorized to be a significant component in the quality of nursing home outcomes. Since 2000, nursing staff mix in nursing homes has changed. Facility use of LPN hours per resident per day is essentially unchanged, while use of RN hours is reduced by 25%. Because of the interdependent nature of LPN and RN collaboration, this change in staff mix may impact nursing home quality. The specific aim of this longitudinal study was to explore the relationship between proportions of LPNs in nursing staff mix (LPN / LPN + RN) and the quality of nursing home performance, as measured by counts of survey health deficiencies in U.S. nursing homes.

Method(s): Online Survey Certification of Automated Records (OSCAR) data for all U.S. nursing homes that were certified for reimbursement by Medicaid or Medicare in the years 2004 - 2007 were analyzed. Using the general linear model, a mixed model with a time-varying predictor was constructed (1) to control for facility-level characteristics of nursing homes and (2) to regress time-varying proportions of LPN and RN staffing over time to estimate counts of survey health deficiencies. Data were analyzed with SAS.

Results: In a sample of U.S. nursing homes (n = 14,930), there is a significant (p = 0.0001), nonlinear relationship between nursing staff mix and nursing home quality: (1) larger proportions...
of LPNs in staff mix were associated with higher counts of health survey deficiencies; (2) a threshold of relatively superior nursing home performance was crossed when the proportion of LPNs in the nursing staff mix was less than 40%.

**Discussion & Conclusions:** Because 53% of nursing homes in the sample used nursing staff mix that exceeded the optimal performance level, efforts to improve nursing home quality may need to attend carefully to proportions of LPNs and RNs in staff mix. This early research suggests that LPNs and RNs are not interchangeable in staff mix.

**Abstract History:**
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

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