

## Closer Collaboration Between Nurses and Physicians May Minimise VAP Risk



Greater collaboration between ICU nursing and medicine could help to minimise ventilator-associated pneumonia (VAP), according to a study that will be presented at the [American Thoracic Society](#) (ATS) 2016 International Conference in San Francisco on 17 May.

Previous research has shown that a better nurse work environment and a closed ICU doctor staffing model have independently been associated with lower mortality. VAP prevention interventions are delivered by ICU nurses and often require physician involvement. In this study the researchers set out to find out if the two factors together have an influence on incidence of VAP. They analysed nurse survey data (53.5% participation rate) from 25 ICUs (including 21 'closed' model ICUs) collected in 2005 and 2006, and modelled independent and joint effects of the nurse work environment and ICU physician staffing on VAP using a Poisson multivariable regression model. Investigators also tested an interaction between the nurse work environment and ICU physician staffing on VAP.

In their analyses a better nurse work environment was significantly associated with a nearly six-fold increase in VAP risk. Lead study author [Deena Kelly Costa](#), PhD, RN, from the University of Michigan School of Nursing and the Institute for Healthcare Policy and Innovation at the University of Michigan in Ann Arbor, Michigan explained that this finding may be due to differences in the roles of the ICU team members: "Nurses provide preventive VAP care once a patient is intubated, but patients are intubated by physicians. Without taking into consideration the physician staffing model, we are misattributing greater risk to nurses alone when in clinical practice, and as our results suggest, both nursing and medicine have the potential to influence VAP risk. "

Although a closed ICU physician staffing model was not significantly associated with VAP risk in the independent analysis, there was a significant interaction effect between the nurse work environment and ICU physician staffing on VAP. The researchers suggest that better work environments for nurses may minimise VAP risk in open ICUs but actually increase VAP risk in closed ICUs. In the open ICU model, several doctors manage patient care. The number and variety of physicians in open ICUs, in addition to better work environments, may encourage nurses to standardise VAP preventive care to minimise VAP risk. But in closed ICUs with a better work environment, nurses may play a less central role in VAP preventive care since there is more focused management from the ICU physicians.

"Our results suggest that the nurse work environment is a significant predictor of VAP while controlling for ICU physician staffing," said Dr. Costa. The researchers suggest that cultivating organisational collaboration between nursing and medicine in the ICU could assist in minimising VAP.

### When and Where

Session C24: Critical Care: Can ICU Design Improve ICU Care? Poster discussion session.

Tuesday, May 17, 2016, 9 a.m.

Location: Room 3001 (West Building, Level 3), MOSCONE CENTER

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Published on : Tue, 17 May 2016