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### Staff Requirements in the ICU (J. Wurz)

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At the 21st Annual Congress of the European Society of Intensive Care Medicine, held September 21 to 24 in Lisbon, Portugal, six speakers gave presentations addressing the number and type of personnel needed in an intensive care unit (ICU) and how the organisation of work affects employees' mental health. Philipp Metnitz of Vienna began the session by pointing out that in 1996, all 15 members of the European Community spent less than 5% of their gross domestic product on healthcare, whereas now they spend somewhere in the range of 8–12%. "Staff is a very important resource in the intensive care unit, and it's a very expensive—if not the most expensive—resource," he said.

#### How Many Doctors Do We Need?

**(Philipp Metnitz, Vienna, Austria)**

Metnitz focused on the impact of physician staffing on patient outcome. All but one of the studies he presented found that intensive care physicians "are necessary. We are of utility. The patients benefit." These studies found that highintensity ICU physician staffing decreases the odds of dying in the hospital. However, in a new study published in the *Annals of Internal Medicine*, Levy and coauthors say "exactly the contrary. The odds of hospital mortality were higher for patients managed by critical care physicians than for those who were not." This result will have to be discussed, he said.

#### How Many Nurses Do We Need?

**(Rui Moreno, Lisbon, Portugal)**

ESICM's new President Rui Moreno spoke about nursing workload scores, which were created in the 1970's to calculate patients' severity of illness. Today, these scores are used to quantify the nursing workload in an ICU. There are differences in the amount of nursing workload in different European countries, said Moreno, as well as differences within countries. "How many nurses you need depends on the complexity of care provided, but mainly on the amount of care provided," he said. "You have to make an effort to optimise this ratio."

#### How to Match Supply and Demand

**(Bertrand Guidet, Paris, France)**

If the workload per nurse is too high, said Bertrand Guidet, you will have more nosocomial infections, less successful weaning, more burnout, more nurse turnover, and more interpersonal conflicts. Because there is wide variation in workload and occupancy rate during the year, there is a need to adapt the supply of nurses to meet the demands. Nurses can handle a range of tasks, he said, including paperwork, documentation, computer work, quality assessment, and communication with patients and families.

#### Do We Need Additional Specialists in the ICU?

**(Christian Putensen, Bonn, Germany)**

Non-medical academic specialists have been shown to reduce errors and improve outcome, said Christian Putensen. The potential advantages of a specialist are concentration on a single skill, experience in solving particular problems, and performance of the same interventions very often. However, the more professions there are working in the ICU, the more rules you have for how to interact, the more that delegation and re-delegation is necessary, and the more information problems may occur in the ICU. As a result, "You have to talk to each other," he said.

## **What is the Best Shift Pattern?**

**(Julian Bion, Birmingham, United Kingdom)**

The European Working Time Directive, passed in 1993, set maximum hours for workers in countries belonging to the European Union. The implementation date limiting hours of work to 48 per week is August 2009. Eleven countries are compliant with the ruling, said Julian Bion, and 17 are not. Limiting hours of work requires more handovers, and "the more handovers you have, the more opportunities you have for error." According to Bion, a system based on 9- hour shifts seems to provide the best balance between work, duration of duty, and opportunities for education. People who work shifts of longer than 9 hours are involved in more accidents. "We know that fatigue increases those error rates. And we know that error is linked to burnout," he said. However, the reduction in fatigue may be offset by errors from loss of continuity of care.

## **The Impact of ICU Organisation on Burnout**

**(Laurent Papazian, Marseille, France)**

Burnout was described more than 30 years ago in the United States, said Laurent Papazian. It is a syndrome in response to stressors on the job, and is associated with a variety of symptoms, among them reduced energy and job enthusiasm, emotional distancing from patients, feelings of incompetence, and lack of productivity.

Workload and burnout are linked, said Papazian. In a study in surgical wards, each additional patient per nurse was associated with a 7% increase in 30-day mortality, a 23% increase in burnout, and a 15% increase in job dissatisfaction. Consequences of burnout include absenteeism, intention to leave the job, turnover, lower productivity and effectiveness at work, negative impact on other colleagues, and interpersonal conflicts, he said.

There is good news for well-organised ICU's, however. "Improved organisation contributes to improved well-being of physicians and nursing staff, which could reduce burnout, promote patient safety, enhance recruitment and retention of staff, and finally, improve patient and family satisfaction," said Papazian.

Note: Jeannie Wurz's travel, accommodations and registration for the ESICM congress were paid by ESICM.

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