ICU WITHOUT WALLS – ROLE OF CRITICAL CARE OUTSIDE OF THE ICU

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This presentation will review the development of the ICU Without Walls system in a 1,200-bed university hospital in New York City which, currently, has the largest emergency room in New York State with 250,000 visits per year, and a very active surgical program including liver and heart transplant, ventricular support device program, and a neurosurgical and oncologic surgical service. In addition to the presentation of our local data, combined data of the 3.5 year trial in 38 New York City hospitals of the rapid response team system will be presented and discussed.

Key words: emergency, ICU, hospital.

Intensive care unit (ICU) beds make up some 15% of American university hospital beds. The national surveys suggest that less than 30% of the ICUs have full-time medical directors and less than 10% function on a "closed ICU" format with the ICU attending having full authority over admissions, management and discharge planning. The local New York City experience suggests higher numbers, mainly due to the fact that more than 10% of training of general and specialty physicians occurs here, including high concentration of subspecialty care in cardiac surgery, transplantation, oncologic care and medical subspecialty diagnostic and interventional work. For many years, the work of intensivists was confined to focusing on geographically defined intensive care areas with concentration of technology, specialized nursing, pharmacists and respiratory therapists. Almost 15 years ago, it became obvious that intensive care units, if improperly managed and disconnected from the hospital priorities, can become a bottleneck to throughput for the admissions through the emergency rooms and from the operating rooms, with a significant risk to diversion of ambulances and loss of admissions, as well as to cancellation of complex surgery, both of which are crucial to economic survival of the hospitals. At the same time, investigators were showing that deterioration resulting in cardiopulmonary arrest of hospitalized patients were predictable, with combination of physiologic parameters predicting cardiopulmonary arrest within eight hours with about 75% certainty. The active involvement of intensivists in actively managing the emergency room throughput, post-operative recovery room throughput, and early intervention on the hospital wards became an obvious necessity.

The major initiatives of Australian investigators have resulted in a multi-center trial which did not conclusively show the benefit of intensivists and ICU nurses rapidly responding to calls from the wards to the physiologic disturbances, except for increase in rapid establishment of limitations to aggressive support and institution of comfort care in the control arm of the study. Yet, the concept of the most qualified physicians and nurses in the hospital 24 hours per day who are located in the ICU and not responding to signals to progression to critical illness was considered unreasonable, and in the United States, an active movement developed resulting in a mandate to the hospital to institute a rapid response system adjusted to their local resources. There have been systematic reviews published by experts in administration of critical care, and the controversy about the best distribution of resources between upgrading capabilities of the wards or the financial support for the ICU-based rapid response teams continues. This presentation will review the development of the ICU Without Walls system in a 1,200-bed university hospital in New York City which, currently, has the largest emergency room in New York State with 250,000 visits per year, and a very active surgical program including liver and heart transplant, ventricular support device program, and a neurosurgical and oncologic surgical service. In addition to the presentation of our local data, combined data of the 3.5 year trial in 38 New York City hospitals of the rapid response team system will be presented and discussed.

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