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Efficiency in the ICU: The Team Based Approach

Providing effective care for people who are critically ill provides many challenges for the health care system. The delivery of critical care services has become much more complex over the last several decades. We have wonderful medical evidence available for the treatment of many types of critical illnesses but the timely and effective implementation of such evidence based medicine is often lacking for a variety of reasons.

A recent article has explored the impact of both the structure and processes of care in the intensive care unit as they relate to the achievement of optimal patient outcomes. The panel reviewed the available evidence on the topic and developed several recommendations. These recommendations included: the importance of the use of standardized protocols to facilitate measurable processes and outcomes, the importance of process outcome as the backbone for the provision of high-quality outcomes, and the integral part that an intensivist-led, high-performing, multidisciplinary team plays in the development of these processes. Efficiency in the provision of this care is essential to ensure improved patient outcomes.

Multidisciplinary teams do enable the efficient delivery of care. At Pittsburgh Critical Care Associates (Pittsburgh, Pennsylvania), an intensivist led team provides care for patients in a variety of intensive care units at multiple sites. This team uses a multidisciplinary rounds concept for the provision of care. The team includes nursing, respiratory therapy, nutritional therapy, pharmacy, social service, and physical therapy support. Each morning beginning at around 8 am the team meets and rounds on every patient who resides in the ICU. The patient's nurse begins by providing a summary of the overnight care and current care plan. This is then supplemented by information from each of those team members in attendance (including a review of medications, ventilator settings, nutritional support, and physical therapy support to name a few). While at the outset, it may seem that rounding in this fashion on, for example, ten patients might take a substantial amount of time these rounds are often conducted on ten patients in a 90-120 minute period.

This multidisciplinary approach fosters efficiency from a variety of perspectives. All members of the team review and recommend alterations to the patient's care that are discussed in a group setting allowing input from all members of the team at the same time. This helps to create an effective strategic plan and also prepares all of the team members to effectively communicate that overall plan to the patient and family throughout the day. The development of this plan is done in a single patient-dedicated fashion and prevents many of the interruptions that are faced every day when trying to manage a group of patients in the intensive care unit. Each team member is focused for that particular time on that individual patient. In addition, this team based approach provides a means to ensure that all evidence based protocols that have been developed in the ICU are truly being implemented (e.g. making certain that DVT prophylaxis is addressed), to ensure that correct medication and dosing are provided, to make certain that ventilator weaning is being carried out, to determine the correct nutritional support plan, and to help arrange for post-ICU care. The dedicated time that is spent for

each patient (usually in the term of 10-15 minutes) creates an environment that would otherwise be impossible to create should one try to provide such care on a non-team based approach. Complete focus on the individual patient creates a very effective and efficient way to provide the patient and family with the best care possible. Also, it provides a mechanism to provide up to date education regarding a particular condition to all members of the health care team.

Much of the evidence of the effectiveness of these teams comes from the perspective of the physician. When other team members are asked how this team approach creates efficiency from their standpoint, every member notes many efficiencies. A few examples from some team members are noted. From one nurse's perspective: "I can review and ask all of my questions that I feel need addressed regarding the patient's management without worrying about contacting several physicians throughout the day with my concerns. This saves me a tremendous amount of time that I can then spend to actually take care of the patient." From one pharmacist's perspective: "I have a chance to review the duration of antibiotic therapy with the physician and determine when to deescalate an antibiotic regimen." From a respiratory therapist perspective: "I can help develop a respiratory treatment plan that is consistent with my thoughts and the physician's plan. This helps me to spend more time with the patient." From a nutritionist's perspective: "I can help with the decision to initiate the correct dose of enteral nutrition for patients." From a social worker's perspective: "I get an idea of what the team in thinking and can more effectively plan for the patient's transition to the next level of care once he/she improves."

Efficient team based care can be provided for patients who are critically ill. Dedicated multidisciplinary rounds are just one means to help improve the care of patients. In one of the ICUs managed by PCCA, over the last several years of the program (compared to data from prior to the team based management), an overall length of ICU stay rate has been decreased by 1.5 days and readmission rates to the ICU (over a 24 hour period) are less than 2%. By providing efficient multidisciplinary rounds each healthcare provider can spend more time in attending to a particular patient making certain that the best care is being provided.

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