

Hospitalists and Intensivists: “Just Like Peas and Carrots...”

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One of my favorite movies of all time is *Forrest Gump*, for which Tom Hanks won an Academy Award for Best Actor in 1994. One of my favorite lines from the movie involved a simile that the title character used to describe his relationship with his best friend, a young girl named Jenny, “Jenny and me are like peas and carrots.” My mother used to serve me canned peas and carrots when I was young, so I suppose these two vegetables are made to be served together. Using *Forrest Gump*'s simile, I would also argue that intensivists and hospitalists go together like “peas and carrots,” or at least they should.

Intensivists are physicians who specialize in critical care medicine. They work primarily (if not exclusively) in the intensive care unit (ICU), which is how the term “intensivist” was selected to describe this particular group of physicians. While there are many paths that a physician can choose to become an intensivist (e.g., anesthesia, general surgery, internal medicine, or pediatrics), the vast majority of pediatric intensivists complete a pediatrics residency, followed by a three-year clinical fellowship in the specialty of pediatric critical care medicine. Pediatric critical care medicine is a relatively young field—the first pediatric intensive care unit (PICU) in the world was established in Sweden in 1955, while the first PICU in the United States opened in 1967 at the Children's Hospital of Philadelphia. The American Board of Pediatrics officially recognized pediatric critical care medicine as a subspecialty with the first pediatric critical care medicine subspecialty board certification examination in 1987 [1]. With rare exceptions, pediatric intensivists practice almost exclusively in the PICU setting.

Hospitalists are physicians who spend the majority of their time in the hospital setting, and for this reason, their specialty is called hospital medicine. While hospital medicine is a relatively new specialty, the concept of hospital-based care has actually been around for some time. For example, Dr. Menna stated as early as 1990 that “The general pediatrician who specializes in inpatient practice rides the wave of the

future" [2]. At that time, many office-based pediatricians recognized the difficulty in providing both inpatient and outpatient care within the new and changing health care landscape. However, the concept of hospital medicine as its own specialty really surfaced when Robert Wachter and Lee Goldman first used the term "hospitalist" in a 1996 *New England Journal of Medicine* article [3]. The American Academy of Pediatrics formally recognized pediatric hospital medicine as a pediatric subspecialty in 1999 with the creation of the Provisional Section on Hospital Care, which later became the Section on Hospital Medicine [4]. Since that time, pediatric hospital medicine has become one of the fastest growing pediatric subspecialties. For example, there are now 30 fellowship training programs in pediatric hospital medicine in the United States and Canada, ranging in duration from 1 to 3 years. There are an estimated 3000 pediatric hospitalists currently in practice, approximately 35 % of which practice in an academic setting [5]. In many children's hospitals across the country, greater numbers of children are being cared for by the hospitalists, rather than their primary care physician. In addition, there has been a growing trend for surgical patients to be co-managed by surgical hospitalists [6].

In many hospitals, particularly those in less well-served areas, hospitalists care for patients not only in general wards but also in low-level intensive care units (ICUs) [7]. Many PICUs utilize hospitalists to supplement, or in some cases, even replace resident coverage, in much the same way as physician assistants and nurse practitioners have been used for this purpose [7]. Hospitalists have been proposed as one potential solution for the shortage of intensivists [8], and at least one study performed in an adult medical ICU failed to show a difference in either severity-adjusted mortality or length of stay in critically ill adults cared for by a hospitalist-led versus intensivist-led team [9]. Many intensivists have expressed concern about this concept [10]. This is both unfortunate and counterproductive! Patient-centered care requires teamwork and coordination of care along the continuum between emergency medicine physicians, operating room teams, hospitalists, and intensivists. There is more to be gained by hospitalists and intensivists working together in a collaborative manner, just as there is more to be lost when they do not.

One area, in particular, that has provided an early example of successful collaboration has been in the early recognition of clinical deterioration [11–14]. For example, the outcomes of critically ill children in the PICU can vary significantly by the source of admission, with children transferred from the hospital ward having a higher odds of mortality compared to those admitted directly from the emergency department [15]. Presumably, earlier recognition and treatment of these children prior to admission to the PICU can shorten the PICU length of stay, costs of care, and mortality. Close collaboration between the hospitalist and intensivist can improve the systems and processes that are designed to recognize these patients, which translates to improved outcomes [12, 14]. This is just one example—there are likely many more examples where close collaboration between the hospitalists and intensivists will improve the quality of care provided in the inpatient setting. Indeed, hospitalists and intensivists need to work together "like peas and carrots."

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