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Millennial Intensivists: A Critical Match

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Abstract

Much dialogue has focused on the unique medical education needs and preferences of Millennial learners. However, Millennial physicians are now entering the workforce of critical care. What are the reciprocal effects of Millennial intensivists and the current direction of critical care? We propose that the influx of Millennial intensivists is fortuitously contemporaneous with several shifts in the practice of critical care that are well-suited to the tendencies of this generation including team-based care, upsurge in technology, continuous performance feedback, and the opportunity for professional fulfillment.

Keywords: Critical Care; Intensive Care; Workflow

Abbreviations: ICU: Intensive Care Unit

Introduction

Characterizing a birth cohort by its shared attributes is an important way society approaches and manages expectations for people grouped within a particular generation. Much attention has been devoted to the unique medical education needs and preferences of Millennial learners. However, a quick calculation reveals that the first Millennials are now entering the workforce of critical care. While we have a body of data describing how Millennials learn, how Millennials will practice medicine is an empirical question. In this paper, we propose that the influx of Millennial intensivists is fortuitously contemporaneous with several shifts in the practice of critical care that are well-suited to the tendencies of this generation. Namely, we will focus on 1) team based delivery of care, 2) technology at the forefront of critical care, 3) continuous performance feedback, and 4) professional fulfillment.

The Millennial Generation

Most graduate medical trainees today are considered part of the Millennial Generation, defined as individuals born between 1982 and 2000 [1]. Because they are shaped by a common history, generational cohorts tend to possess shared characteristics. Current fellowship graduates grew up in a fully interconnected world and have had ubiquitous access to information via the Internet for their entire lifetimes. Although generational dissimilarities have always existed, the amount of literature devoted to the unique characteristics and learning style of the Millennial Generation is unparalleled.

Millennials are projected to be the most educated generation in history [2]. They are branded by their skills with technology, but also characterized by confidence, collective-mindedness, and idealism. Although it is important not to overlook within-generation variation, research suggests that Millennials as a group do in fact differ from previous generations. Cross-sectional studies of college students found that Millennials scored higher on Narcissistic traits, Self-liking, Assertiveness, and High expectations than previous generations [3]. Millennial medical students also tend to have different personality features than their predecessors; specifically, they score higher on measures of Rule-Consciousness, Sensitivity, Warmth and Perfectionism, but lower on Self-Reliance compared to Generation X [4]. Millennials also tend to have different motivations than their Generation X predecessors, scoring higher on need for Affiliation and Achievement and lower on need for Power [5]. Major influences on their medical experience include global health epidemics (e.g. Ebola and Zika viruses), widespread opioid abuse, and the rising importance of value in healthcare.

Some characteristics of Millennials have likely propagated a self-fulfilling prophecy. Millennials' desire for personalized attention is no doubt positively reinforced by the rapid explosion of strategies to tailor education and assessment specifically to their preferences. Thus, it is reasonable to expect Millennials entering the critical care workforce to have different expectations and styles of practice than did their predecessors. Research in the domain of education has shown that Millennials value mentoring, personalized learning, collaborative work, and utilization of technology. They desire instantaneous, explicit feedback and have high expectations for themselves and their colleagues. The emerging direction of critical care matches well with Millennial tendencies in several domains, including teamwork, technology, continuous feedback, and idealism.

Team-Based Delivery of Critical Care

One of the most prominent attributes ascribed to the Millennial Generation is collective-mindedness. More than preceding generations, Millennials value collaboration and are accustomed to teamwork [6-8]. In fact, teamwork is key to job satisfaction—Millennials report that collectively working with other members of a team makes work more enjoyable [9]. In the business literature, it is commonly reported that Millennials are more engaged, loyal, and contribute their best efforts to the workplace when they perform in a collaborative climate.

The contemporary intensive care unit welcomes collective-minded Millennial intensivists with open arms. Team-based care is specifically cited as a core component of the Society of Critical Care Medicine's Envisioned Future [10]. Increased teamwork improves clinical outcomes in the ICU [11] and teamwork failures contribute to about one-third of patient safety incidents [12]. Moreover, interventions that improve teamwork in an acute care setting were shown to decrease the risk of burnout [13].

The specific tendencies of Millennials toward open-mindedness and collaboration may be ideal for fostering open communication on multidisciplinary ICU teams. In contrast, cynical Generation X-ers and authoritarian Baby Boomers may have been more likely to promote hierarchical team structures that limit open communication in ICU teams. Importantly, open communication is a predictor of shared understanding of patient care goals [14].

Technology at the Forefront of Critical Care

Millennials, also known as "digital natives" are characterized by their comfort with technology. This generation often enters the workforce with greater proficiency using workplace technology than more senior colleagues. When surveyed, 59% of Millennials reported that working with state-of-the art technology was a key influencer when considering a job [15]. They may find no better match than critical care, which was borne of technology—from the successful application of invasive ventilation during the 1950's polio epidemic [16]. Since its beginnings, critical care has been a specialty dominated by technological innovations. In fact, there have been no major innovations in critical

care therapeutics since its inception, despite transient enthusiasm over several prospects such as Activated Protein C [17]. Rather, advances in equipment and technology have driven the practice of critical care, embodied by the dramatic dichotomy between the crude, clunky, totally mechanical early ventilation devices to the compact, computerized, learning ventilators of today [18].

A perfect example of the fit between modern critical care and Millennial's affinity for the digital world is ICU telemedicine, with its real-time monitoring of off-site patients through state-of-the-art audiovisual, and electronic technology. Telemedicine holds promise for improving ICU outcomes by universalizing access to intensivists. However, outcomes studies have mixed results [19-20] and there are significant organizational barriers to the broad adoption of ICU telemedicine. Millennial intensivists may well be the catalysts needed to identify novel approaches to reducing the high technological and staffing costs, as well as determining how and where telemedicine is best applied [21].

The ICU of the future will unambiguously be a high technology workplace (for an entertaining and plausible foreshadow, see Vincent, JL [22]), and thus an ideal fit for Millennials who have a lifelong proficiency with technology and preference for using it.

Continuous Performance Evaluation and Explicit feedback

Millennials have grown up with intensive parenting, coaching, and teaching [9,23], and thus are accustomed to continuous performance evaluation and feedback. Even the way Millennials communicate, through texting and social media, involves instantaneous feedback.

Perhaps more than any other place in medicine, the ICU is a place of continuous performance feedback. Application of fluid challenges result in a direct physiologic response, the effect of ventilator adjustment is promptly assessed by blood gas analysis, life-saving interventions have immediate results, just as withdrawal of life sustaining care often does. The explosion of quality improvement programs in the ICU also offers a relatively rapid mechanism for evaluating interventions to improve care not just on the individual level but throughout the unit. Because of the rapid cycles of feedback and improvement, Millennials are likely to be drawn to this type of work and are well-suited to successfully lead quality improvement efforts in the ICU.

Leadership in both Critical care and on Capitol Hill are increasingly aware that quality measurement is imperative for many reasons, including transparency for patients and identification of problem areas to focus improvement efforts. However, selecting unbiased measures of quality has proven to be a problematic endeavor [24]. Perhaps Millennials, with their lifelong penchant for explicit, actionable feedback, will be able to disrupt the current paradigm of quality reporting with new insights into which metrics best measure quality.

Finding Meaning in Professional Life

Despite the prevalence of negative descriptors in the popular literature such as narcissistic and entitled, empirical evidence actually suggests that Millennials are profoundly altruistic. Although they are charitable, volunteering and donating more frequently than older generations [25]. Their altruism also extends into their professional lives. In Deloitte's Millennial Survey, Millennials endorsed the idea that an organization should focus more on improving society than financial profitability [6]. A popular media survey found that 74% of Millennials seek a career where they feel like their work matters [26]. As we become increasingly aware of high rates of burnout amongst intensivists [27] and the resultant erosion of medicine as sense of "calling" [28], the time is uncannily ripe for an incoming Millennial workforce who possess a fundamental desire to make demonstrable contributions to society. This generation of intensivists is not likely to shy away from the physically, emotionally, and spiritually grueling work of caring for critically ill patients, but may in fact seek it out as the prime destination for a meaningful medical career.

Challenges

Although Millennials on balance represent a boon for critical care, some potential clashes between the specialty and its new workforce are foreseeable. For example, the deterioration of traditional face-to-face communication may have deleterious effects on patient care [29]. This may have particular disadvantages in end-of-life care where effective physician communication has been associated with benefits including reduced ICU length of stay [30], and decreased psychological distress among families [31]. Also, because of their disinclination toward self-reliance [3-4] and a predisposition toward an "external locus of control"[32], Millennials may lack accountability and ownership of patient interactions. These and other anticipated challenges are readily remediable with strong mentorship and role modeling by an engaged, welcoming senior workforce.

Conclusion

The direction of critical care medicine and the talents of its incoming workforce are fortuitously aligned. We believe that the ICU of the future is a choice environment for Millennial physicians, and Millennials have specific skills and innate tendencies that hold immense promise for helping critical care medicine realize its envisioned goals.

Author Contributions

ST and BT contributed equally to the conception, drafting, and final approval of the work, and agree to be accountable for all aspects of the work. All authors read and approved the final manuscript.

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