THE 2017 JOSEPH W. ST. GEME JR LEADERSHIP AWARD ADDRESS

Strengthening the Connection of Medical Education to the Vision of Improving Child Health

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I am fortunate to receive an award connected to the legacy of Dr Joseph W. St Geme, Jr, a teacher and mentor to so many in the pediatrics community. Parker Palmer,[1] author of *The Courage to Teach*, once said, "Good teachers are able to weave a web of complex connections among themselves, their subjects, and their students so that students can learn to weave a world of connections for themselves." The esteem in which Dr Joseph W. St Geme, Jr, is held by those who worked with and learned from him suggests that he was a master at creating these connections.

There are countless important connections in my life. I was fortunate that I connected to what would become my life's work early in my career. As a chief resident in 1982, I had many teaching responsibilities and during that year realized that medical education would always be a significant part of my career. The only thing better than taking care of a patient was taking care of a patient with a learner. Even in those early years, I realized the implicit connection between education and care quality, but it is only recently that explicit links between educational and patient care outcomes are being acknowledged and sought.

On the basis of the work of Asch,[2] we know quality of care within a training institution impacts not only quality of care delivered by trainees during residency but also in practice. He reviewed data on almost 5 million deliveries and found that complication rates of obstetricians, 15 years post-training, were essentially the same as the complication rates in their institutions during their training. In his work, Asch[2] clearly illustrates the impact of the learning environment on a trainee's current and future care quality. With this in mind, let's reflect on how we have tried to improve learning and assessment over the last 2 decades.

THE EARLY YEARS: TRANSITION TO COMPETENCY-BASED MEDICAL EDUCATION

In 1999, it was pointed out, in the publication *To Err is Human*, that there were 98 000 deaths annually in the United States due to preventable medical errors.[3] Shortly thereafter, the Accreditation Council for Graduate Medical Education mandated that all training programs teach and assess competencies within 6 core domains, including patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning, and systems-based practice.[4] The latter 2 address how physicians improve their own practice and how physicians improve the systems in which they practice, respectively. Not knowing how to assess these competencies, we continued our age-old practice of asking faculty to rate trainees as being below, above, or meeting expectations in a particular competency. As you can imagine, everyone had different

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DOI: https://doi.org/10.1542/peds.2017-3427

Accepted for publication Nov 30, 2017

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

FINANCIAL DISCLOSURE: The author has indicated she has no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The author has indicated she has no potential conflicts of interest to disclose.

To cite: Carraccio C. Strengthening the Connection of Medical Education to the Vision of Improving Child Health. *Pediatrics.* 2018;141(3):e20173427

expectations. There were no consistent standards. Our antidote to that was creating long checklists of behaviors for a given competency. The trouble there was that even when we checked all the boxes, it did not necessarily mean that a trainee could integrate the abilities to deliver safe and effective care.[5]

THE RECENT PAST: A BREAKTHROUGH IN THE ASSESSMENT OF THE COMPETENCIES

Our first breakthrough in assessment came in 2009, when the Accreditation Council for Graduate Medical Education connected with the American Board of Pediatrics and the Association of Pediatric Program Directors to begin the "Milestone Project."[6] The milestones are brief behavioral narratives that describe 5 different performance levels for each of our 48 competencies.[7] Thus, each series of 5 milestones serves as a marker of performance for a given competency along a developmental continuum, providing a shared mental model of the expected behaviors of novice, advanced beginner, competent, proficient, and expert learners.[8] However, there was still something missing and that was context. Take for example, the competency "Making informed diagnostic and therapeutic decisions that result in optimal clinical judgement."[6] It does not tell us anything about what type of patient we are caring for. Different sets of knowledge and skills are needed, depending on whether the patient has acute versus chronic symptoms, the complexity of the diagnosis, the age of the patient, and many other factors.

Fortunately, at the same time we were working on Milestones, ten Cate and Scheele[9] introduced the concept of "Entrustable Professional Activities" (EPAs). These are the important but routine units of observable work of a specialty or subspecialty. They require the integration of multiple competencies to perform them.[9] An example of an EPA for general pediatrics is "Provide care to a well newborn."[10] This EPA requires that you integrate a number of competencies or abilities, such as gathering information, performing a physical examination, and communicating with parents, just to name a few. So now we had the chance to connect all 3 assessment strategies: competencies, milestones, and EPAs.

THE PRESENT: INTEGRATING THE EPA AND COMPETENCY/MILESTONE FRAMEWORKS

Integrating the EPAs, competencies, and milestones results in an assessment trifecta: the perfect group of 3. The competencies broaden the skills that are expected of trainees. The milestones provide descriptions of behaviors at performance levels across the education, training, and practice continuum. The EPAs give us a context in which to embed the competencies/milestones so that we can assess them. Translating the added value of EPAs, competencies, and milestones to workplace assessment takes the old way of assessing learners from "I'll know it when I see it" to

"I'll know what is important for a learner to perform and I'll know it when I see it." The addition of behavioral descriptors… moves us to "I'll know what is important for the learner to perform, I'll know what specifically to look for so I can recognize it when I see it, and I'll be looking for and recognizing the same thing as my colleague."[11]

The EPAs also give us the concept of entrustment, which means ability to practice without supervision.[9] A rating scale that asks faculty to assess learners using needed level of supervision intuitively connects to their day-to-day work in the clinical learning environment and enhances scale reliability.[12,13]

To illustrate the connection between EPAs, competencies, and milestones, as well as supervision and entrustment, let's create the EPA "Drive a car." Being able to start the car, steer the car, apply the brakes, etc, are all critical competencies or abilities that one needs. The milestones or behavioral descriptions for each of those competencies provide performance standards from a novice to an expert. For the competency "applies the brakes," the milestone for a novice performance would be "Applies the brakes, but depends on a supervisor to help judge distance." A milestone for a competent driver would be "Applies the brakes using judgment to accurately assess distance in dry or wet conditions." And an expert would be able to do this in snow and ice. But you also have to be able to integrate the different competencies or abilities (steer the car and apply the brakes at the same time). That is what makes you a safe and effective driver.

When you are first learning to drive, you need a lot of hands-on supervision. But over time, the person supervising you and watching your skill development spends less time coaching you. When you are competent to drive on your own, you take your test, and if you demonstrate competence to your instructor, you are awarded a license, which means that you are entrusted to drive without supervision. But none of us would say that you are an expert driver. Expertise requires time and practice and deliberate efforts to improve.[14] The same is true of trainees learning to become doctors.

REFLECTIONS ON THE PAST AND PRESENT

At the time the competencies were introduced, I became excited about their potential and got more involved in medical education at

the national level. It did not take me long to realize that if I wanted to make any contribution to improving trainee assessment, I needed to connect with others doing this work. And just as important, I needed others to collaborate with me on what would no longer be "my" work but "our" work. The following quotation from de Saint-Exupery[15] gets at the essence of the message: "If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea."

This quotation is so meaningful because it focuses on the critical essence of how to transform my work or our work into "something bigger": work that we share with colleagues that contributes to a greater purpose or a common vision. Although my work with colleagues, such as trying to improve assessment in medical education, is a rewarding goal, its value lies in its contribution to our ultimate vision of improving child heath. The passion that is ignited by this vision will help to sustain and motivate us to get through the constant stream of challenges and setbacks, rewarded only by those occasional positive impacts on child health, our "sea," at points along the way.

Although there are many differences among pediatricians, I think it is fair to assume that we are all connected by a single vision of improving the health of children; that is our sea. And I am also sure that each one of us contributes to that vision in different ways, which is critical to meeting the myriad of challenges and opportunities before us. While celebrating the diversity and richness of each of our contributions, we cannot get distracted from the fundamental connections to our shared vision and to each other.

Sadly, we have seen a lot of fragmentation this past year, both in the medical profession and in the country as a whole. We, as pediatric health professionals, must not waver in the commitment to our vision, or it will open the door to those outside our community, who marginalize children, to prevent its realization. Now more than ever, it is critical that the pediatrics community keep the vision as our constant, acknowledge differences that we may have, and look for common ground that will solidify our connections to each other, to our work, and to our vision of improving child health.

Staying connected requires that we communicate. Staying connected on a deeper level requires that we collaborate and compromise. Our community has had a strong history of solidarity; it's always been about the kids. That is one of the things that drew me to a career in pediatrics: the sense of comradery among pediatricians and the joy they found in their work. I wanted to be a part of this community.

At the moment, the challenges to improving child health seem more daunting than ever: the cost of and access to health care, the cuts in research funding, the needs of children and families falling to the bottom of legislative agendas, and the lack of resources available to implement and study the advances in medical education on a large scale. Although each of these threats is different in nature, they all impact child health at some level. It is at times like these that a vision can become cloudy. But we cannot let that happen.

THE FUTURE YEARS: HOLDING ON TO OUR VISION

I would like to share with you a brief video clip created by Google about "Moonshot Thinking" to illustrate the impact of staying connected to a vision: https://www.youtube.com/watch?v=0uaquGZKx_0.[16]

A critical message in this video is that when faced with great challenges to achieving a vision, rethinking and reframing may not be enough. Tearing down and rebuilding may be the only path forward. A critical aspect of assessment, formative feedback for helping learners improve, will require this type of intervention. The current disruptions in connections between faculty and learners, as a result of brief clinical rotations, have a negative impact on the relationship building between faculty and learners that is necessary for giving, receiving, and incorporating feedback into practice.[17] Importantly, studies also show that mitigating the disruptions in connections between patients and learners halts the erosion of empathy that has been described during the clinical years of medical school.[18,19] Despite knowledge of the harm, most training continues with short rotations. Why don't we reimagine and rebuild a system similar to the longitudinal clerkship model to develop a learning environment that honors relationships?[18] Yes, it is hard to do. Much of what we need to accomplish is hard to do. But think about it; George Mallory climbed Mount Everest just because it was there.[16] And listening to the strength of conviction when Kennedy says, "We *choose* to go to the moon, not because it is easy but because it is hard" should both haunt us and inspire us to try.[16]

In closing, I know that every pediatrician has a story to tell. Although individual stories make a difference in the lives of children and families, connecting our stories allows us to spin a rich tapestry showing a much greater impact. But we could do more together; all it takes is courage and passion to become part of something bigger to realize our shared vision. Currently, the challenges of improving care for populations of children and families in the 21st century while operating

in outdated 20th century systems of care and education, seem daunting. So much so that I think many of us do as the video suggests; we talk ourselves into believing that the vision is impossible to realize so that we are not bothered by it. But visioning is about choosing to be bothered. I can only hope that you choose to be bothered by what you have read.[16]

ABBREVIATION

EPA: Entrustable Professional Activity

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Pediatrics 2018;141;
DOI: 10.1542/peds.2017-3427 originally published online February 14, 2018;

PEDIATRICS®
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DOI: 10.1542/peds.2017-3427 originally published online February 14, 2018;