

## EDITORIALS

## Making the Potential Benefit of Teamwork Training a Reality

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Teamwork is tightly linked to patient safety for hospitalized patients. Barriers to teamwork in hospital settings abound, including large team sizes and dynamic team membership because of the need to provide care 24 hours a day, 7 days a week. Team members are often dispersed across clinical service areas and care for multiple patients at the same time. Compounding the potential for these structural barriers to impede teamwork, professionals seldom receive any formal training to enhance teamwork skills, and students and trainees have relatively few interactions during their formative years with individuals outside of their own profession. In this issue of the *Journal of Hospital Medicine*, Tofil et al. describe the effect of a novel interprofessional training program to improve teamwork among medical and nursing students at the University of Alabama.<sup>1</sup> The curriculum included 4, 1-hour simulation sessions and resulted in improved ratings of self-efficacy with communication and teamwork attitudes. The authors report that the curriculum has continued and expanded to include other health professionals.

Beyond the short-term results, the curriculum developed by Tofil and colleagues may have lasting effects on individual participants. Students, exposed to one another during a particularly impressionable period of their professional development, may develop better appreciation for the priorities, responsibilities, needs, and expertise of others. The experience may inoculate them from adopting unfavorable behaviors and attitudes that are common among practicing clinicians and comprise the "hidden" curriculum, which often undermines the goals of the formal curriculum.<sup>2</sup> An early, positive experience with other team members may be especially important for medical students, as physicians tend to be relatively unaware of deficiencies in interprofessional collaboration.<sup>3</sup>

Though undoubtedly valuable to the learners and contributing to our collective knowledge on the subject, the study by Tofil and colleagues includes limitations common to teamwork training curricula.<sup>4</sup> To make the potential of teamwork training a reality in

improving patient outcomes, we must first revisit some key teamwork concepts and principles of curriculum development. Baker and colleagues define a team as consisting of 2 or more individuals, who have specific roles, perform interdependent tasks, are adaptable, and share a common goal.<sup>5</sup> For a team to be successful, individual team members must have specific knowledge, skills, and attitudes (ie, competencies).<sup>6</sup> For team training curricula to be successful, existing frameworks like TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) should be used to define learning objectives.<sup>7</sup> Because teamwork is largely behavioral and affective, simulation is the most appropriate instruction method. Simulation involves deliberate practice and expert feedback so that learners can iteratively enhance teamwork skills. Other instructional methods (eg, didactics, video observation and debriefing, brief role play without feedback) are too weak to be effective.

Importantly, Tofil and colleagues used an accepted teamwork framework to develop learning objectives, simulation as the instructional method, and an interprofessional team (ie, a physician, nurse, and an adult learning professional with simulation expertise) to perform simulation debriefings. However, for team training to achieve its full potential, leaders of future efforts need to aim for higher level outcomes. Positive reactions are encouraging, but what we really want to know is that learners truly adopted new skills and attitudes, applied them in real-world clinical settings, and that patients benefited from them. These are high but achievable goals and absolutely necessary to advance the credibility of team training. Relatively few studies have evaluated the impact of team training on patient outcomes, and the available evidence is equivocal.<sup>8,9</sup> The intensity and duration of deliberate practice during simulation exercises must be sufficient to change ingrained behaviors and to ensure transfer of enhanced skills to the clinical setting if our goal is to improve patient outcomes.

Leaders of future efforts must also develop innovative simulation exercises that reflect the real-life challenges and contexts for medical teamwork including dispersion of team members, challenges of communication in hierarchical teams, and competing demands under increasing time pressure. Simulated communication events could include a nurse deciding whether and how to contact a physician not immediately present (and vice versa). Sessions should include

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interruptions and require participants to multitask to replicate the clinical environment. Notably, simulation exercises provide an opportunity for assessment using a behaviorally anchored rating scale, which is often impractical in real clinical settings because team members are seldom in the same place at the same time. Booster simulation sessions should be provided to ensure skills do not decay over time. In situ simulation (ie, simulation events in the real clinical setting) offers the ability to reveal latent conditions impeding the efficiency or quality of communication among team members.

Most importantly, simulation-based teamwork training must be combined with system redesign and improvement. Enhanced communication skills will only go so far if team members never have a chance to use them. Leaders should work with their hospitals to remove systemic barriers to teamwork. Opportunities for improvement include geographic localization of physicians, assigning patients to nurses to maximize homogeneity of team members, optimizing interprofessional rounds, and leveraging information and communication technologies. Simulation training should be seen as a complement to these interventions rather than a substitute.

Challenges to teamwork are multifactorial and therefore require multifaceted interventions. Simulation is essential to enhance teamwork skills and attitudes. For

efforts to translate into improved patient outcomes, leaders must use innovative approaches and combine simulation training with system redesign and improvement.

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