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Hierarchical Medical Teams and the Science of Teamwork

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The current view is that medical students, residents, fellows, and doctors alike are taught to think, feel, and behave in ways that hinder participation in care teams. Medical students internalize the hierarchy as early as their undergraduate classes [1]. Rather than enhancing team performance, these internal power hierarchies diminish the effectiveness of these critical work teams.

Hierarchy in medical teams, as defined by Liberatore and Nydick [2], comprises a set of integrated levels within which members are ranked both by their disciplines and levels of authority. Attempts to assemble working groups can be hampered by problems in team cognition and cooperation, a lack of behaviors that foster teamwork, and poor coordination. Here, we will outline major contributors to team breakdowns in health care and then offer recommendations for being the key team advocate for patient care.

What Is Teamwork?

Medical teams include two or more people with shared goals and values [3, 4] who base their interactions on certain desired behaviors known as teamwork competencies [5]. More specifically, teamwork consists of the knowledge, skills, and attitudes that can inhibit or promote team progress in attaining shared goals. Essentially, these competencies fuel, drive, and explain the way a team behaves.

Over the past few decades, many attempts have been made to better understand teamwork [6, 7]. Major problems in hierarchical medical teams stem from deficits in team cooperation, coaching (efforts to foster teamwork), cognition, and coordination.

Cooperative Spirit and Coaching

Many medical teams' lack of cooperative spirit—the attitudes and beliefs that motivate team action—and coaching skills leads to conflict and tensions among staff. As an example of the lack of cooperative spirit in many health care teams, research on quality improvement initiatives such as implementation of a Rapid Response System reports physician resistance to change and ridicule of those using new systems [8, 9]. This lack of motivation to work together can hurt medical teams, making frontline clinicians less likely to admit the need for help and advocate for patient care [10].

Teams without effective coaching—actions team members take to foster positive social climate and improve performance (e.g., by giving feedback) [11]—fail to learn

from their mistakes [12]. Interprofessional rounds have been found to be necessary for cross-disciplinary care and vital to promoting patient safety [13]; however, evidence suggests that what should be participatory, collaborative exercises are heavily affected by hierarchy, dampening interdisciplinary exchange [14].

Cognition and Coordination

Team cognition (when team members are on "the same page") comprises knowledge of the ability and function (e.g., roles and responsibilities) of each team member and the ability to retrieve or act on this information while the team is in action [15]. There is evidence to document that teams that have shared cognition coordinate more effectively and efficiently, consequently leading to improved team performance [16]. Members of medical teams often lack knowledge of each other's responsibilities [17], which can cause misunderstandings. A lack of team cognition makes the team unable to learn, self-regulate, and coordinate with other team members and other teams [7]. The ability to anticipate team members' needs before it is communicated can greatly improve coordination and effective communication and create a safer, more effective team [18].

Coordination is the subsequent enactment of team shared cognitions [16]. More specifically, implicit coordination is coordination that utilizes shared mental models, a form of team cognition, to perform tasks and adapt to new situations without the need to communicate while working [19-21]. An example of a measure of failure in team coordination is increased time from decision to incision in an emergent cesarean section [22], which can result in adverse infant and maternal outcomes. The team's enhanced coordination makes this improvement in patient safety possible by increasing the efficiency of the team in action. By fostering a punitive, power-driven social climate, medical hierarchy hinders team cognition and therefore effective coordination for patient care.

Building the Team

Promote team cohesion and collaboration. As mentioned earlier, coaching refers to a team member's efforts to support social climate, take initiative, and provide feedback and resources such as medical supplies or tools to the team [9]. This means involving other team members in decisions. Using coaching behaviors, such as structured, nonpunitive feedback, to foster a positive social climate can encourage the exchange of information necessary to learn, understand, and problem solve, despite difficulties in medical team hierarchies.

Feedback—seeking, providing, and receiving performance-related information (e.g., praise or positive criticism) [23]—is key to promoting collaboration. Feedback that is positively framed and timely and that emphasizes a behavior or process is most effective [24]. Team members should not be criticized, blamed, or personally attacked for their mistakes. This approach is intended to improve the way teammates interact, and more importantly, how they feel toward each other.

Team debriefs. Debriefs or after-action reviews are an effective technique [24] for reviewing a team's performance through reflection, planning, and discussion [25] after a performance session (e.g., surgery) to learn "from experience" [26]. Tannenbaum and Cerasoli [24] identified four key features of an effective debrief: active participation from all team members, a focus on developmentally improving team performance rather than assigning blame, discussion of specific events rather than general team performance, and information from at least two sources. These supportive processes encourage interprofessional collaboration and knowledge sharing and can reduce team conflict [27].

Conclusion

Without involvement from the entire team, quality patient care simply is not possible. Multiple teams and team members need to come together to solve complex patient problems, conduct rounds, and respond to patient emergencies. Without Peter Pronovost listening to and involving nursing staff in solving patient care problems, for example, checklist use to improve patient care would not have been developed [28]. We advocate engaging medical students, residents, and medical facility staff alike for problem solving and listening to what other team members have to say. Other tools and interventions for addressing teamwork problems in medical teams include morbidity and mortality conferences [29], interpersonal and problem-solving team-building exercises [30], interprofessional education [31], and team training [32]. Overall, building the team in these ways can lead to greater team satisfaction, flattened hierarchies, and improved communication among team members [30].

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