LETTERS
Teaching Aviation Crew Resource Management in a Pharmacy Curriculum

To the Editor. Healthcare professionals, particularly pharmacists, have immense responsibility for medication safety and positive patient outcomes. However, pharmacists are part of a patient-care system which is ultimately under the direction and responsibility of an attending or private treating physician. This model of multiple healthcare professionals providing specific patient-care services under the umbrella of the attending physician very much mimics the dynamics found in cockpits of large commercial or military aircraft. In this case, personnel such as copilots, flight engineers, cabin attendants, maintainers, and dispatchers are absolutely indispensable and all play vital roles in conducting safe flight operations. However, ultimate responsibility and accountability rests with the captain (aircraft commander). Any weak link, lack of trust, excessive ego, or loss of effective communication may negatively impact outcomes. Obviously, this is similar to the situation often found in our complex healthcare system.

Given these similarities, the concepts of Crew Resource Management (CRM), Aviation Decision Making (ADM), and awareness of hazardous attitudes impacting ADM were integrated into a required leadership/advocacy course for second-year pharmacy students for the last 7 consecutive course offerings. This was designed to better prepare new practitioners for integration into the healthcare team as well as provide tools on how to speak up or challenge a situation when things just do not seem “quite right.”

The Federal Aviation Administration (FAA) defines CRM as “the application of team management concepts in the flight deck environment.”1 The concept of CRM has been formally used by a number of health systems in efforts to improve outcomes in high-risk areas, such as the operating room and emergency department.2 However, we are unaware of any formal CRM training in a doctor of pharmacy curriculum. The course developer (also a commercial pilot) utilized a captain for a major air carrier to explain and teach practical application of CRM. This captain was also a retired US Navy aircraft commander and instructor pilot, which allowed for many unique examples of successful outcomes as well as “misadventures.”

Key themes underlying this instruction included maintenance of situational awareness and knowledge of how the 5 hazardous attitudes displayed by anyone on the healthcare team may negatively impact decision making and, ultimately, clinical outcomes.3,4 These attitudes likely sound familiar to many: 1) “Don’t tell or question me;” 2) “Do it STAT – no need to double-check.” 3) “It won’t happen to me; I do this all the time,” 4) “I’m highly skilled and I can do it,” and 5) “What’s the use?” Unfortunately, attending physicians who display attitudes such as 1, 2, 3, or 4 often lead pharmacists and other healthcare team members to react with attitude number 5. They don’t want to argue a point, defend a position, be verbally insulted, or perhaps they just want to be a “nice guy.”

Training was designed around preclass readings of significant air carrier accident analyses (with a “cheat sheet” of abbreviations and acronyms provided to students for understanding aviation terminology) followed by an engaging presentation by the airline captain. His lecture used formal CRM videos as well as humorous clips from movies and TV shows. He vividly illustrated how throughout the history of aviation, technological advances have greatly increased the safety and reliability of air travel and aerial warfare, yet “human error” still remains the most frequent cause of aviation mishaps.

Civil aviation authorities and the military adopted the CRM model, wherein the focus is primarily on human interaction during routine and nonroutine phases of operation. These concepts are no longer wholly owned by the aviation community. Parallel advances in medical technology have potentially made healthcare significantly safer for patients and, yet again, human error remains at the forefront of mishaps. The CRM components in the course challenged students to consider these aviation concepts and how their application could enhance outcomes when similarly applied to the medical field.

The FAA, military, and airlines have conducted extensive research on CRM, and tangible benefits of enhanced crew coordination are highly applicable to the fast-paced, high-risk world of health care. Introducing the foundations of CRM within multiple healthcare training programs may better set the stage for optimized interprofessional teamwork in the practice setting where human error remains a major impediment to patient safety.

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REFERENCES
3. US Department of Transportation, Federal Aviation Administration. Advisory circular: aeronautical decision