Supervision, Preoccupation With Failure, and the Cultural Shift in Patient Handover

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Resident physicians are inserted into the challenging context of the inpatient unit to meet the twin aims of learning and provision of care for patients. The institution of national limits on resident hours in 2003 has focused attention on the patient handoff as a critical time when failures in information transfer may produce subsequent errors in care. Errors attributed to problems with the handoff encompass failure to relay vital information about a patient's status, including likely contingencies and recommendations for how to respond that may not be transferred to the next physician or may not be fully understood by the recipient. A consequence can be failure to rescue, defined as overlooking or failing to prevent clinical deterioration of a patient from a complication or underlying illness.[1]

Much of the work to improve patient handoffs has focused on enhancing communication and access to data. Yet the handoff is first and foremost a clinical task that relies on participants' ability to discern and interpret information about the patient's condition, including the likelihood that it will worsen and the warning signs that this is occurring.[2] Development of clinical acumen is critical to the emergence of this aspect of handoff skills that allows residents to convey this information when they are in the role as the outgoing physician and to understand it when they are the recipient.

Supervision and Preoccupation With Failure

Focus on the handoff has resulted in education modules, development of electronic data systems, and use of simulation and other methods to improve resident preparedness. These are important measures but they may be insufficient, given the clinical autonomy of residents in some specialties. A 2008 Institute of Medicine subcommittee report on resident hours called for better education of residents to conduct handoffs and for enhanced supervision, particularly for residents early in their training.[3] Combining the 2 recommendations could create a model in which senior residents are responsible for teaching their junior colleagues how to hand off and supervise their practice early in residency. Participation of residents with greater clinical experience is likely to reduce information-transfer errors and omissions, particularly elements of the handoff that require clinical skills to recognize complications and patient deterioration. Good clinical information is important to the handoff, as demonstrated by at least 1 study in which bedside handoffs with the ability to view and examine patients in the presence of other personnel with extensive knowledge about patients were associated with reduced odds for errors attributed to the handoff.[4] The approach is similar to that of cockpit crews who expand their definition of members to include others such as flight attendants, air traffic controllers, and group personnel, which offers access to a larger number of cognitive resources.[5] It also allows conversations during flight management that examine the premises of the outgoing and incoming teams for areas of error and potential failure.[6]

Preoccupation with failure is an attribute of high-reliability organizations (HROs). These organizations seek to reduce error in organizational processes through a focus on areas of potential failure.[7] Having senior residents and other health care personnel, such as nurses, participate in junior residents' handoffs is congruent with the high-reliability organization concept of preoccupation with failure; it increases the ability of the system to detect deterioration of patients as well as errors and omissions in transfer of information. Handoffs are complex clinical acts; introducing redundancy (another set of eyes and ears) reduces the risk of errors in transmission, and feedback to the presenter may contribute to enhanced accuracy and learning.

Cultural Shift—Handoff to Handover

Beyond clinical benefits, the concept of continuity of care has underlying values that are traditionally inculcated in residents, including physicians' availability to their patients and their role as the individual with primary responsibility.[8] Duty hour limits create problems with this model, including perceptions that handing off is tantamount to abrogating

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responsibility (particularly when care tasks are left incomplete) and that the primary physician, present or absent, is the individual responsible for the patient. European nations have work hour limits for all physicians. Despite differences in their health care and physician education systems, these countries have been challenged to reconceptualize the reliance on the individual clinician. They have adopted the term *handover* in lieu of handoff, in part to signal a shift from continuity resting with an individual to a model in which a team provides ongoing care in a system of shared data, cognition, and responsibility (Paul Barach, MD, oral communication, January 2010). Adopting such a shift in the US model of patient care would require data systems to support collective responsibility and a careful examination of how well the model would fit with current goals for resident education, including development of altruism, ownership of patients, and the educational benefits of longitudinal exposure.

Having senior residents supervise and teach during the handoff/handover may not require significant changes over the current model of individual responsibility and may benefit handover consistency in important ways. Teaching hospital practice abounds in "work-arounds" that are often not fully understood by junior learners; standby capacity is relatively limited by cost and practicality constraints; and the common response of "overflowing" patients to other units has continuity of care and handover-related challenges. Not infrequently, residents acutely feel the constraints on the clinical systems and view themselves as the sole barrier between the patient and lack of care or bad care. This builds on a sense of autonomy and self-reliance that is inculcated in medical school. When practiced and combined with a distrust of the systems in which they work, it can socialize residents to function in autonomous ways that may impede "good" handovers and effective teamwork. Processes may be counter to high-reliability practices, such as routinization and formalization of practices to ensure consistency, extensive training, and a change in focus from individual autonomy and action in favor of a collective mind. These processes are embedded in practice and expressed in language[9] and, first and foremost, in a preoccupation with failure.

Teaching these concepts to senior residents and charging them with transferring them to their junior colleagues during supervision and teaching of the handover has a high potential of adapting these strategies to teaching hospital settings. One reason is that senior residents are sophisticated about the systems in which they function in ways that their junior colleagues, human factors experts, and even their faculty frequently are not. Still, there are no guarantees that these efforts will meet with success. Adapting strategies from high-reliability organizations is complex and time-consuming and requires research and expert input from human factors engineers.[10] Technology will play an important role, particularly when the data systems to support the handover have overcome current attributes of "clumsy automation" (computerization creating added work due to communication and coordination demands that are inherently inefficient).[11] When this has been accomplished, residents will stop reporting that the data systems and processes for data entry leave them feeling that they support the technology rather than the technology is supporting them and their patient care and educational roles.[4]

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