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## Leadership and Medical Education

# The Role of The Hospitalist in the Clinical Education of Medical Students

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The field of hospital medicine has grown remarkably over recent decades to become one of the five largest physician specialties in the United States.<sup>1</sup> In addition to specializing in the care of inpatients and their acute medical issues, hospitalists have also emerged as leaders in patient safety, quality improvement, and medical education.<sup>2-4</sup> A 2010 survey revealed that most Internal Medicine departments reported hospitalists serving as teaching attendings and holding educational administrative positions.<sup>5</sup> During the nascence of the field many were uncertain how hospitalists would impact the education of trainees, but studies show that students highly value the education that hospitalists provide and enjoy being part of hospitalist teams.<sup>6,7</sup> While many physicians choose careers as hospitalists to become clinician educators, it can be daunting for early career educators to step into this role when working with medical students in the clinical environment. Beginning medical educators may lack the specific know-how to adequately foster learner growth. One survey found that early career hospitalists most frequently listed “improving teaching skills” as their primary goal when attending an annual professional development conference.<sup>4</sup> Similarly, nearly 75% of hospitalists in the same survey identified a lack of confidence in teaching skills as a barrier to teaching at the bedside.<sup>4</sup>

We will explore the role of hospitalists working with medical students in the clinical environment as it pertains to three overarching domains - clinical skills, systems-based healthcare, and career mentorship. While these themes are not unique to hospitalists and are generalizable to the education of students in fields beyond Internal Medicine, the traditional structure of daily hospital rounds provides hospitalists unique opportunities to directly observe students and to strategically space the cognitive load of teaching and feedback throughout the day.

### Abstract

Hospitalist clinician-educators frequently work with medical students at the clinical level, but many early career educators may lack an understanding of how to effectively promote student learning and growth. We explore the role of hospitalists working with medical students in the clinical environment as it pertains to three overarching domains - clinical skills, systems-based healthcare, and career mentorship.

The longitudinal relationship on hospitalist teams also allows for goal setting, interval observations, and opportunities to measure growth in multiple domains. We hope to elucidate some fundamental skills for those embarking on careers as hospitalist clinician educators working with medical students.

### CLINICAL SKILLS

The primary role of the hospitalist clinician educator is to equip students with strong fundamental skills in patient care including medical interviewing, physical examination, clinical reasoning, and patient communication. As students arrive in the clinical environment, they must hone their clinical skills acquired in the preclinical stage of their medical training. At our own academic institution, the preclinical course that develops these skills focuses on scenarios that are almost exclusively outpatient based. If students are unfamiliar with the hospital environment, they may struggle to translate the theory they learned in the preclinical curriculum, which focuses on chronic disease management and single visits, into sound clinical practice in this new context focused on acute issues and longitudinal care over a hospital admission. Looking at the preparation of medical students for clinical care more broadly, one recent survey of Internal Medicine clerkship directors reported that a majority of students had only a poor or fair understanding of basic concepts related to clinical reasoning when starting their Internal Medicine clerkships.<sup>8</sup>

While the student’s lack of hospital exposure before clerkships presents a challenge, the hospital environment allows for unique learning opportunities through following a patient’s course over their admission. This arc allows students important opportunities for repetition in gath-

ering history, performing examinations, delivering presentations, engaging in shared decision-making, and building therapeutic rapport. While many have lamented the perceived decrease in bedside rounding and physical examination skills, hospitalists working with students at the bedside can stem this tide and teach crucial physical diagnostic skills such as assessment of the jugular venous pulse and volume status.<sup>9,10</sup> By teaching physical examination in the context of inpatient care, hospitalists can assess multiple clinical skills beyond proper examination technique including patient communication skills and clinical reasoning. The examination for jugular venous distention is a great example of this as it is a technically challenging maneuver that students often struggle to perform, but when present has a high positive likelihood ratio for elevated central venous pressures.<sup>11,12</sup> By asking the student to assess the jugular venous pressure at the bedside, the hospitalist can assess the student's examination technique and patient interactions, provide constructive feedback, discuss clinical reasoning concepts such as pre- or post-test probabilities, and simultaneously introduce procedural skills by using point-of-care ultrasound to confirm the clinical diagnosis.<sup>13</sup> To teach these skills more effectively, hospitalist educators should familiarize themselves with resources to assist with the teaching of physical diagnosis or clinical reasoning concepts including McGee's *Evidence-Based Physical Diagnosis* or the Society to Improve Diagnosis in Medicine's Clinical Reasoning Toolkit.<sup>12,14</sup>

While it is possible to use one specific skill to teach many domains, it is also important for the hospitalist to acknowledge that when students are working on multiple skills it can be challenging to identify where to focus one's teaching efforts. Focusing on too many skills simultaneously may lead to excessive cognitive load and a paradoxical impairment of a trainee's growth.<sup>15,16</sup> For clerkship students struggling in multiple domains, it is helpful to identify one or two foundational areas of growth and explicitly focus on those areas before moving on to other areas. Hospitalist educators need to correctly "diagnose" or identify areas for improvement in the learner to know which prioritized clinical skills to focus on.

### **SYSTEMS-BASED HEALTHCARE**

Hospitalists play a role in helping clerkship students understand and navigate systems of care. Caring for patients in the hospital allows the student to learn about patient safety, transitions of care, effective care coordination, and interdisciplinary teamwork. Hospitalist educators with roles in administration, operations, and quality improvement may provide unique insights into this domain.

By admitting patients or accepting transfers, students learn to hone the arts of medication reconciliation, retrieving information from the electronic medical record, and receiving a handoff from other providers. Hospital-

ists can help students understand that the clinical reasoning in the emergency department is largely focused on ruling out life-threatening processes and that the inpatient team's assessment may be influenced by this information. Students may be unfamiliar with how to review a chart and re-obtain the history of present illness since this is largely not how medical interviewing is taught in the preclinical environment. Hospitalists have a unique role in teaching students how to acknowledge and resist cognitive biases that occur based on handoffs from other providers including framing effect, anchoring bias, ascertainment bias, or diagnostic momentum.

Teaching students how to effectively discharge patients from the hospital is a critical skill for hospitalist educators to pass on. Clerkship students often have little knowledge of the capabilities or requirements for subacute care environments including acute rehabilitation units (ARUs), skilled nursing facilities (SNFs), and residential care facilities for the elderly (RCFEs). While teaching about these topics may be perceived as mundane, it is important for students to learn whether a particular management plan they propose can be implemented in a specific clinical environment. Just as with admission, the discharge medication reconciliation and communication of changes with a primary care practitioner (PCP) is an essential skill for physicians-in-training to acquire. For example, if the discharging team makes modifications to the doses of a patient's guideline-directed medical therapy for heart failure, it is important to teach students how to communicate these changes to the PCP, as well as to the patient, for the plan to be safe and successful. In one study examining participation in discharge tasks, medical students reported performing skills such as communicating with outpatient providers and reviewing discharge instructions less frequently than other discharge tasks.<sup>17</sup> The same study found that students reported more independence in discharge skills when they were taught directly by the attending physician, emphasizing the importance that hospitalist educators have in this arena.<sup>17</sup> It is of paramount importance for students to work with interdisciplinary team members including nurses, social workers, case managers, and pharmacists to discharge patients effectively and safely from the hospital. Hospitalists can acculturate students to adopt a multidisciplinary approach to care early on. Understanding the roles of each of the team members and how to communicate and collaborate effectively are vital skills for the development of future physicians. Discharge planning is also an opportunity to discuss different health payment systems and teach students to deliver care with consideration of costs of care.

### **ROLE MODELLING AND MENTORSHIP**

Hospitalists may get to spend more than twenty hours in a week working directly with clerkship students, present-

**Table 1.** The hospitalist's role in three domains of clinical student education.

Domain	Behavior	Assessment questions for the Hospitalist Educator
Clinical Skills	The hospitalist observes that the student's SOAP presentation frequently comes out of order and misses key data including vital signs and a formal assessment.	Is the student: <ul style="list-style-type: none"> <li>• Disorganized?</li> <li>• Unfamiliar with the format of inpatient SOAP presentations?</li> <li>• Anxious about presenting?</li> <li>• Failing to gather or synthesize information?</li> </ul>
Systems-Based Care	While presenting the new admission from the Emergency Department the student focuses on sinus bradycardia without realizing the patient is prescribed metoprolol	Is the student: <ul style="list-style-type: none"> <li>• Using history gathered and reported by other members of the care team?</li> <li>• Not performing medication reconciliation?</li> </ul>
Role-Modeling/Mentorship	A clerkship student appears withdrawn and disinterested on rounds. They are decided on pursuing a specialty outside of Internal Medicine	Is the student: <ul style="list-style-type: none"> <li>• Aware of how they are perceived and what behaviors are giving that impression?</li> <li>• Able to state goals for the rotation relevant to their personal and professional growth?</li> </ul>

ing a fantastic opportunity to serve as a role model and mentor for students. The ebb and flow of inpatient practice lends itself to prolonged longitudinal one-on-one interactions that allow the educator to personally witness students' clinical skills in real time. Hospitalists can specifically help students build good practice habits and inspire them to be curious, life-long learners. While students will go on to practice in diverse fields, hospitalists can help students to understand career options in general practice and develop their own interprofessional identity. The importance of role modeling in medical education is well-established and assists in forging student professional identity, fostering professionalism, and shaping career paths.<sup>18,19</sup> Studies show that hospitalist faculty are consistently rated highly as role models and teachers, and several studies identify clinical skills and teaching ability as some of the most important factors for students in selecting role models.<sup>6,19,20</sup> For hospitalists whose clinical work is largely direct care rather than on teaching services, mentorship and career advising can be meaningful ways to interact with learners. Hospitalists are also well positioned to mentor students in quality improvement projects and other scholarly activities.

## IMPLEMENTATION AND FEEDBACK

It is imperative that the hospitalist not only identify areas for growth but also provide feedback to the student to foster that growth. This requires setting expectations that feedback will be provided throughout the rotation and an understanding of the student's specific goals.<sup>21</sup> While it is

often implied that supervising attendings will provide the students with feedback, establishing clear expectations about when and how feedback will be given will help students apply this feedback for continued growth. Asking students about their specific goals as it relates to clinical skills, systems-based care issues, and personal career growth allows the hospitalist to focus on particular areas and to provide the student with an assessment on the observed progress toward that goal. While the skill of delivering feedback is beyond the scope of this review, it is important to remember that feedback should be rooted in observed behaviors, minimize bias, and be delivered in a timely, relevant and actionable way for students to progress.<sup>22,23</sup> The hospitalist may apply any of a number of feedback frameworks including Ask-Tell-Ask or ADAPT to accomplish this goal.<sup>24</sup> The implementation of a SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) goal framework can help structure the steps for concentrated growth.<sup>25</sup> It is critically important to document feedback in the student's written evaluation so that it is consistent with the verbal feedback given in person. See [Table 1](#) for specific examples on identifying and implementing growth in each domain.

## CONCLUSION

While these three domains are not exhaustive or comprehensive, we have highlighted some of the many important roles that hospitalists play in the education of clinical medical students and provide a framework for early career clinician-educators to apply to teaching in the inpatient

clinical environment. Hospitalists should work to equip themselves with specific tools, skills, and resources to provide an impactful educational experience during formative parts of medical training. By meeting the early needs of their medical students, hospitalists have the opportunity create tremendous amounts of positive change in the personal and professional growth and career trajectories of future physicians.

- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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### Author Contributions

All authors have reviewed the final manuscript prior to submission. All the authors have contributed significantly to the manuscript, per the International Committee of Medical Journal Editors criteria of authorship.

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

### Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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