The Role of the Gastroenterology Hospitalist in Modern Practice

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Abstract: Over the last 2 decades, there has been an increase in acuity among hospitalized patients and patients who present to the emergency department. As such, the role of the hospitalist as an inpatient medicine specialist has become increasingly important to many health systems. More recently, subspecialties in medicine have begun adopting the hospitalist model to care for their inpatients. This care delivery model helps provide continuity, potentially decreased cost and length of stay, and a better quality of life with a more predictable schedule for hospitalists and their outpatient colleagues. This model also aims to provide more timely consultation for inpatients, to help improve communication among inpatient caregiver teams, and to reduce redundant tests while also enhancing patient satisfaction. As a primarily outpatient procedure (and clinic)-based specialty, gastroenterology may benefit from the hospitalist model by being able to provide highly specialized care to acutely ill hospitalized patients with less disruption to outpatient schedules. This article discusses the structure of the gastroenterology hospitalist model, advantages to gastroenterologists and their practices, and the challenges of developing and implementing this model, as well as highlights the increasingly recognized value of this new paradigm in gastroenterology.

Keywords
Hospitalist, hospital medicine, inpatient care, gastroenterology, length of stay, health care delivery models

The role of the hospitalist celebrated its 20th anniversary in 2016. In 1996, Wachter and Goldman first described the novel role of an inpatient medicine specialist in an editorial in *The New England Journal of Medicine*.[1] Although this role has become a well-recognized mainstay in the fields of internal medicine and pediatrics, with over 50,000 adult and 1700 pediatric hospitalist providers across the country, a paucity of literature exists regarding the gastroenterology (GI) hospitalist model.[2,3] Over the years,

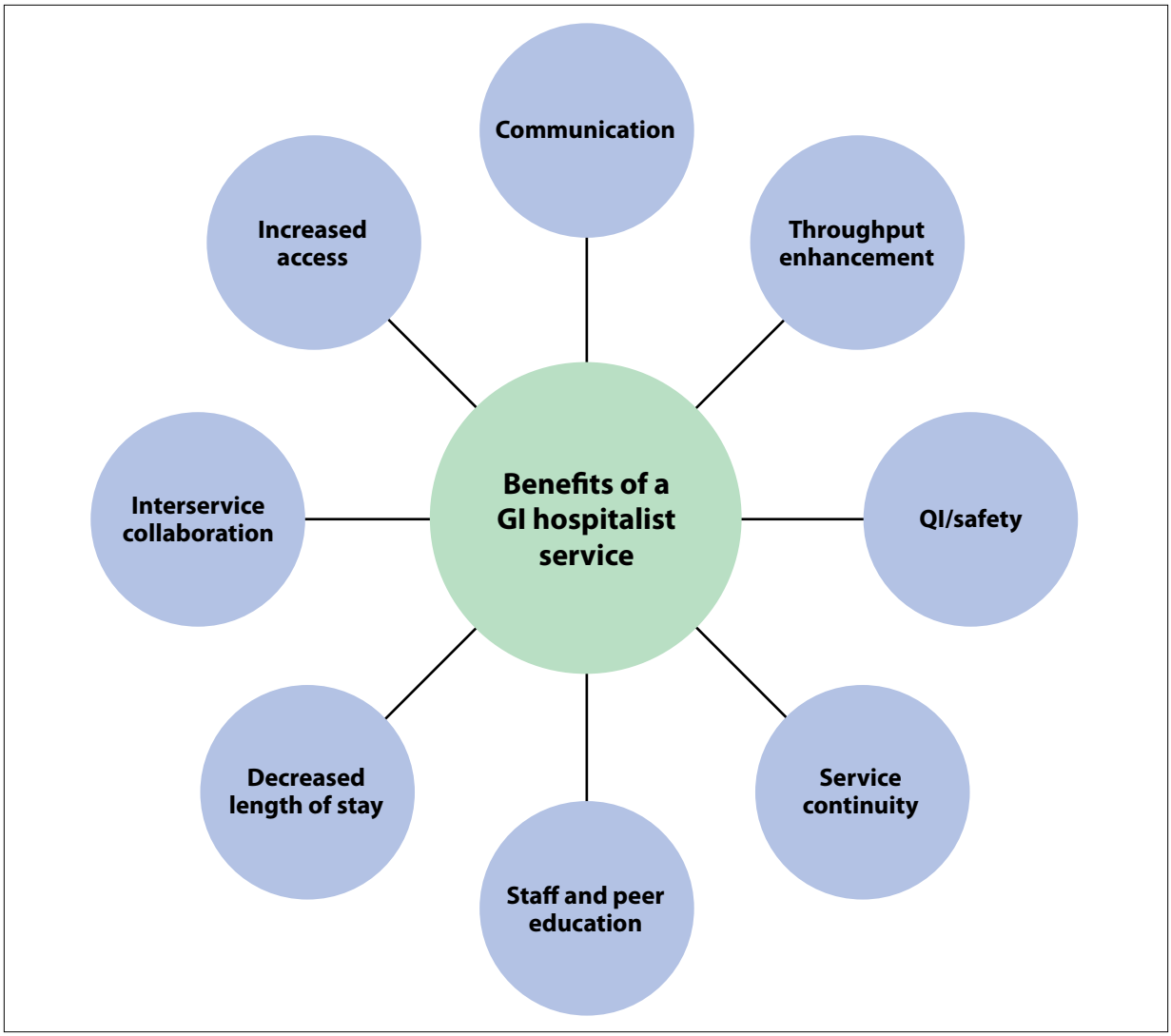

Figure. Benefits of a GI hospitalist service.
GI, gastroenterology; QI, quality improvement.

as other specialties have begun to establish dedicated inpatient providers, successful hospital-based models have been described in fields such as acute care surgery, neurology, obstetrics and gynecology, and otolaryngology.[4-7] The subspecialty hospitalist concept has become so popular that multiple national societies dedicated to hospital-based practice now exist to unify and foster collaboration among members. To date, however, there has been sparse literature describing the conditions necessary for, or the benefits and challenges of, adopting a GI hospitalist model in the modern GI practice. This article discusses the advantages and challenges associated with the GI hospitalist model and the increasingly recognized value of this new paradigm in GI practice from a health care systems' perspective.

Unmet Need

Management of the hospitalized patient for a gastroenterologist has become increasingly challenging on several fronts. GI is a primarily outpatient-based specialty with a varying need for inpatient provision of care. However, many providers still struggle to deliver high-quality inpatient care without causing significant disruptions to their scheduled outpatient procedures and clinics. For some providers, time might be blocked in advance for inpatient duties in day- or week-long increments while other providers may be pulled away unpredictably throughout an otherwise fully booked outpatient day or week. This hybrid of inpatient and outpatient care often causes quality of life to suffer and can easily result in longer hours, overflowing

inboxes, and overbooked schedules for days or weeks after inpatient service. Time away from an outpatient panel and procedural unit is not just disruptive to the provider, it also causes strain on practice productivity and efficiency. Unused endoscopy slots and unbooked clinic appointments while a provider is on inpatient service can directly lead to access issues and financial losses for a practice.

The inpatient role itself presents its own set of challenges to the gastroenterologist. Patients have become increasingly medically complex, with over two-thirds of patients having 2 or more comorbidities and upwards of 14% of the Medicare population having more than 6 comorbidities.[8] Time away from the inpatient service can make it difficult to stay current with inpatient clinical and billing practices as well as certain procedural skills. In addition, a physician juggling outpatient clinic, patient callbacks, and procedures while covering the inpatient service has less availability for teaching and feedback. At academic medical centers, this strain can negatively impact the supervision and education of fellows, house staff, and medical students.[9] The hospitalist model has the potential to help support and promote several areas that are evolving in modern medical practice: communication, patient satisfaction, provider wellness, and burnout.

Potential Benefits

Learning from the success of other specialties, a shift to a hospitalist model offers potential benefits to the gastroenterologist, his or her practice, and the hospital as a whole (Figure). Practices and health systems have reported significant financial gain with transitioning to a hospitalist model. The University of California San Francisco reported that adopting a hospital-based general surgeon model resulted in a 190% increase in billable inpatient consults.[4] Institution of a similar model for otolaryngology at Louisiana State University (LSU) saw an increase in inpatient billing codes by 128%. Importantly, as a primarily outpatient-based procedural specialty not dissimilar to GI, otolaryngology at LSU also had a 16% increase in relative value units and a 100% increase in consult codes billed by outpatient providers after initiation of the hospitalist model.[7] Although data in general on the GI hospitalist's financial impact on a practice are severely lacking, several GI private practices have published their experiences in an article.[10] These practices reported increased hospital volumes ranging from 31% to 100%, increased inpatient procedure volumes by 2 to 7 cases daily depending on the site, increased office revenue by 42%, and increased procedures performed at the ambulatory surgical center by 41%.[10]

There are significant benefits to the hospital or health system associated with the hospitalist model. Many specialties that employ hospitalists describe reductions in hospital length of stay.[11-13] Surgical and procedural subspecialty hospitalists have also been associated with a reduction in overall cost of care due to a combination of improved throughput, provider availability, and reduced procedural complications from increased technical experience with urgent and emergent procedures.[10,13] In addition, having a dedicated inpatient provider has demonstrated benefits such as improved time to procedures (eg, for appendectomies or urgent upper endoscopies for gastrointestinal bleeding).[4,14] Hospitals have also described benefits to quality improvement and patient safety with the adoption of hospitalist models. The landmark report *To Err Is Human: Building a Safer Health System* highlighted the prevalence of medical errors and the need for improvement across the United States.[15] Hospitalists have become important players in the quality improvement and patient safety movements by standardizing care and assuming leadership roles within health systems. Employment of hospitalists in obstetrics has led to improvements in quality, such as the reduction of the number of cesarean sections, inductions, and preterm births.[16,17] Some surgical hospitalist models have seen the reduction of surgical complications from 21% to 12%.[13] Patient safety and quality improvement initiatives have also come from the work of hospitalists, including development of the I-PASS handoff tool, which was found to reduce clinically significant medical errors by 38% across 7 pediatric hospitals.[18,19]

Having a consistent labor pool of providers familiar with the management of acutely ill patients dedicated to inpatient care can lead to important benefits for a practice as well as the hospital. For the gastroenterologist, shifting to a GI hospitalist model also strives to improve quality of life for both the inpatient specialist and his or her outpatient colleagues. Efficiencies and increased provider satisfaction can be built through familiarity between primary referring providers and the GI hospitalist. Consistency in teaching from a GI hospitalist model can lead to improved trainee education.[4,20,21] GI hospitalists are also well positioned to lead hospital-based quality improvement and patient safety initiatives given their knowledge of the hospital system's shortcomings and opportunities. This involvement in the inner workings of a hospital allows the GI hospitalist to help his or her practice adapt to public health crises and emergent situations, such as the coronavirus disease 2019 crisis.

The Hospitalist Job Description

The GI hospitalist position continues to evolve and increase in popularity nationally. Based on discussions with GI hospitalists across the United States (personal

communication), several common themes have emerged. By its nature, the hospitalist role has minimal-to-no longitudinal care or patient follow-up beyond a particular hospitalization. The patients cared for by a GI hospitalist are typically acutely or critically ill. These patients tend to have multiple comorbid conditions and are increasingly older and frail. Detailed individual patient records are often lacking, and medical decisions frequently need to be made based on incomplete information and in a relatively short period of time. As such, the GI hospitalist must have the skills, as well as the aptitude, to successfully manage challenging situations on a regular basis. Choosing the right person for the job is just as important as designing the role. Physicians who thrive on their ability to successfully navigate high-intensity situations, or those who are comfortable managing acutely ill inpatients and/or performing procedures in a frail population, may be well suited for such a role.

Some consideration must be given to the procedural skill set of the GI hospitalist. All GI hospitalists should be competent in basic upper and lower endoscopy, enteral access, and management of GI emergencies such as variceal and ulcer bleeding, food impactions, and volvulus. As the job market becomes more saturated for advanced endoscopists, the GI hospitalist position may be an attractive opportunity for gastroenterologists with advanced endoscopy training.[22] For some private practices, hiring a GI hospitalist with skills in endoscopic ultrasound, endoscopic retrograde cholangiopancreatography, and deep enteroscopy would likely benefit the hospital and the practice. For large academic medical centers with existing robust and self-sufficient advanced endoscopy services, hiring general GI hospitalists may allow advanced services to specialize even further in novel technologies and procedures. Therefore, understanding a practice's needs is essential to building a successful GI hospitalist program.

Practices may choose to employ more than 1 GI hospitalist depending on the volume and needs of the inpatient service. In some models, 2 or more GI hospitalists take turns rotating on service, while others might work in parallel (sharing inpatient responsibilities) with 1 hospitalist solely dedicated to seeing consults and the other colleague performing inpatient procedures. In models where there are fewer GI hospitalists employed or in the hospital at any given time, there may be additional members who make up the team or outpatient providers may lend assistance by completing procedures in the afternoon session. If service volume is high and there is a primary GI service, there may be an additional GI hospitalist staffing patients or there may be support from outpatient providers if the service is a sub-subspecialty, such as inflammatory bowel disease. Schedules also vary from system to system. Some GI hospitalists work Monday through Friday, while others work 1 to 2 weeks at a time, alternating with weeks when they are off. Being on-call after hours is also highly variable among GI hospitalists, with some models evenly distributing it among all members of the practice. Other models recognize the intensity and increased stress of inpatient work and, as such, reduce the on-call time attributed to the GI hospitalist. The role of the GI hospitalist should be tailored to balance the specific hospitalist's interests, the needs of the individual practice, and the needs of the institution. Some GI hospitalists have built designated outpatient endoscopy time into their schedules. Doing so can help the practice reduce its direct access procedure backlog. Some GI hospitalists may choose to supervise transition of care or fellows' clinics, or may have other time delegated for clinical, academic, or administrative tasks depending on the provider's interests.

Finally, the GI hospitalist position can be designed to incorporate more than GI patient care. GI hospitalists have an opportunity to lead quality improvement initiatives and collaborative research with other divisions and departments. Often working closely with trainees and advanced practice providers (APPs), GI hospitalists are well positioned to play a role in the medical education realm. Familiar with the inner workings of the hospital, GI hospitalists can find themselves well suited to assume leadership roles in administration as well. These additional potential roles within an institution may make the GI hospitalist an attractive career pathway for graduating fellows and junior attendings.

The Hospitalist Team

Although solo GI hospitalist positions exist, team-based hospitalists are becoming increasingly prevalent. Schoeppner and Miller first outlined the team concept in 2006, which included a GI hospitalist, an APP, and a nurse coordinator.[23] Depending on the practice setting (academic vs private), number of hospitals covered, and volume of consults and procedures, teams may vary drastically in size. However, individuals should be chosen and teams should be structured to allow for all members to practice at the top of their professional abilities.

The role of trainees and APPs on a GI hospitalist team will depend on several factors. Primary GI inpatient services are likely to have higher numbers of trainees or APPs when compared to consult-only services. On a consult-only service, APPs and trainees can help support the GI hospitalist by seeing both initial consults and follow-ups, as well as by optimizing care of patients prior to and following procedures. Optimal preparation of a sick inpatient for an invasive endoscopic procedure can be a challenging task. A team-based approach aims to ensure that the patient is in the best shape to undergo sedation

or anesthesia, appropriate consents are in place, the family is updated, and any preprocedure laboratory or other testing has taken place in a timely manner. This team can also provide guidance regarding bowel preparation for colonoscopy, which can be challenging and can lead to canceled or suboptimal procedures, need for repeat procedures, delays in care, and increased length of stay.

Members of the hospitalist team can maintain communication with primary providers, patients, and their families. Team members can assist with the transition of care, working closely with outpatient office staff to schedule follow-up appointments or procedures for patients. These efforts can provide a healthy new source of referrals for GI practices and can decrease clinic and outpatient procedure no-show rates.

Key Considerations for Developing a Hospitalist Program

Although each practice will have unique features to consider when building a GI hospitalist system, there are common elements that must be addressed regardless of the practice setting. The first question is to determine whether a GI hospitalist model is right for a practice. A needs assessment should include examination of the service line as a whole, critically evaluating the needs, strengths, and deficits. This includes evaluation of on-call structure, procedure volume and resource utilization (both inpatient and outpatient), service volume, and effectiveness of staffing. For academic practices, medical education and supervision should also be considered.

Factors leading to physician burnout in the present model should also be assessed. Once a need is identified, obtaining buy-in will be necessary from the practice, hospital, and/or health system, as well as any other stakeholders, prior to implementation. A successful GI hospitalist will need support from a team, so discussion should include financial consideration and compensation models for all team members, including the GI hospitalist, as well as possibly an APP or nurse coordinator.[24] Once need is identified and support is secured, one can proceed with shaping the specific role to fit the need and embarking on recruitment of the right members for the team. Future research, discussion, and consensus among GI practitioners will be fundamental to elucidating the components of developing successful GI hospitalist models that serve diverse practice settings.

Challenges

One of the initial challenges when conceiving a GI hospitalist program involves finances. A business plan will be needed and should make fiscal sense for all parties involved. In certain cases, developing a GI hospitalist program may not be financially or logistically feasible, nor might the terms be acceptable to all parties (potential hospitalist, partners, hospital, or health system). Furthermore, it cannot be assumed that adopting a GI hospitalist program will necessarily translate into cost savings for the hospital or the patient. If procedures that would have been performed in an outpatient setting are now being routinely performed while the patient is admitted, the hospital length of stay may actually increase. Further research, investigations, and surveys are required to develop quality metrics that incentivize appropriate but cost-conscious patient care.

Another challenge for the GI hospitalist model is mitigating, and ideally preventing, burnout. Unpredictable work volumes, increased patient acuity, and complexity of procedures (often performed in suboptimal conditions; eg, poor bowel preparation for colonoscopy) add to the inherent stress of the GI hospitalist position. Although a dedicated inpatient provider may reduce strain and improve quality of life for the rest of the practice providers, the amount and intensity of work demanded from the GI hospitalist must be within reason for the job to be sustainable. Careful attention to building an appropriate job description and a supportive team may help decrease the risk of burnout and increase hospitalist retention, success, and satisfaction.

Another challenging characteristic of the hospitalist model is risk of fractionation of patient care. Outpatient providers who have already established trust with their patients may be able to provide greater comfort and more reassurance to their patients who become hospitalized. These providers know best which treatments have failed and the nuances of their patient's medical history. They are familiar with the individual and cultural preferences of their patients. These benefits, however, do not necessarily need to be lost in hospitalist models. Open and active communication between the GI hospitalist and outpatient GI providers can help address these issues and improve patient care by developing mechanisms for close follow-up and transfer of information upon patient discharge.

Other challenges exist, particularly in academic settings. Although a GI hospitalist model is an opportunity for trainees to work with a consistent faculty member who can longitudinally assess and personalize teaching, working primarily with 1 or 2 GI hospitalists decreases (or eliminates) exposure to other faculty in the practice, which is not desirable from a fellowship training perspective. Rotation of nonhospitalist faculty through inpatient service can help with this potential drawback. Continuous feedback from trainees is necessary to ensure a proper balance in their education.

Conclusion

The role of the GI hospitalist is still evolving, and little is known about the true number of practicing GI hospitalists given an overall paucity of literature on the subject. Although GI hospitalist positions are becoming more prevalent across the country, there has yet to be a dominant model accepted. Understanding the benefits of a GI hospitalist model and its potential advantages to gastroenterologists and their practices, as well as the challenges of developing and implementing this role, may help GI practices grow and improve. Along with other important changes in modern practice such as transitioning to electronic medical records, adapting to disruptive technology, and adopting telemedicine platforms, developing a GI hospitalist program represents a practice innovation that may likely be increasingly embraced over time and incorporated more meaningfully into practices nationwide, especially as more data become available.

Disclosures

The authors have no relevant conflicts of interest to disclose.

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