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PERSPECTIVE

Era of hospitalists

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ABSTRACT

Hospitalists, known as physicians, are an emerging group in the medical field that is focused on the general medical care of hospitalized patients. Specializing in hospital medicine, they often attract a mix of appreciation and criticism. In the present manuscript, we review the pros and cons of a hospitalist in the health-care system. Although experts agree that hospitalists add value to the health-care system by reducing costs, streamlining administrative processes, and contributing to improved health-care outcomes, there is a large degree of disagreement regarding the extent of hospitalist contribution to overall improvements on health-care outcomes. In this paper, new strategies to overcome reported shortcomings and to further improve the quality of health care are discussed.

Abbreviations: SHM: Society of Hospital Medicine; BOOST: Better Outcomes by Optimizing Safe Transitions; RED: Re-Engineered Discharge; CHF: chronic heart failure; MI: myocardial infarction; ICU: intensive care unit; PACT: post-acute care transitions; MRSA: methicillin-resistant *Staphylococcus aureus*; CINAHL: The Cumulative Index to Nursing and Allied Health Literature; PCP: primary care physician.

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Hospitalist; hospital medicine; inpatient care; health-care quality; patient care; readmission; cost of care; hospitalizations; primary care

1. Introduction

Numerous evidence-based studies support the benefits of patient-centric care over standard care, resulting in the emergence of the 'hospitalist'. Introduced in the *New England Journal of Medicine* and explosively increasing since 1996, a hospitalist is defined as:

> *'A physician whose primary professional focus is the general medical care of hospitalized patients. Their activities include patient care, teaching, research, and leadership related to Hospital Medicine' Society of Hospital Medicine (SHM)*

The need for easier accessibility, improved efficiency, reduction of financial burden on medical institutions, and increased specialized inpatient care are factors responsible for the rise in hospital medicine [1].

2. What is hospital medicine?

Since its introduction in 1977 by the *University of Chicago*, hospital medicine has been defined as 'the field of internal medicine which concentrates on the practice of care for hospitalized patients by hospitalists'.

Initially, hospital medicine involved patients' care using academic general medicine teaching services, but now it includes direct care of hospitalized patients in conjunction with nurses, specialists, and physician assistants. Since 1997, the field has studied over 100,000 patients, in an attempt to comprehend and improve the factors influencing the quality of patient care. [2]. Hospitalists, who are generally referred by primary care providers (PCPs), emergency physicians, and/or subspecialists, provide efficient and competent care to hospitalized patients. Hospitalists also provide consultations to patients admitted to orthopedic, surgical, and rehabilitation services, among others.

In this manuscript, the pros and cons of hospitalists and whether they are a necessary addition to the health-care system *are discussed*.

According to the *American Hospital Association*, the number of hospitalists in the USA has increased from less than 1000 in 1996 to over 38,000 in 2012 since increasing to greater than 44,000 in 2014 (*SHM*) [3]. The following research aims to evaluate the role of hospitalists in the health-care system and to affirm that they are a valuable addition to the health-care system.

3. The pros of hospital medicine and hospitalists

Safe and affordable quality health care has been a challenge for the US health-care system. Hospitalists work in over 80% of hospitals that accommodate greater than 200 beds. Their responsibilities encompass almost every

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section of the hospital, such as the emergency department, postoperative field, blood bank, cesarean suite, etc. The flexibility of a hospitalist's job description allows them to bridge the gaps in hospital organization. Furthermore, hospitalists have academic roles which cover the majority of training services in hospitals. As leaders, hospitalists invigorate all facets of the health-care system, including the *Centers for Medicare* and *Medicaid Services* and the *American Board of Internal Medicine*. They also form an important part of medical research teams at local, state, and national levels. Considering the numerous roles of a hospitalist, Scheurer believes they should be looked upon as a cheap bargain by hospital management (costing > $100,000 per annum per round-the-clock equivalent hospitalist) [4].

Initiatives by hospitalists include the improvement in shifting patients from the hospital to home, or another post-acute care setup, and reducing the probability of readmission of a patient within a few days/weeks of discharge.

The establishment of a post-discharge clinic by a health center and scheduling for patient assessment and management within 3 days of discharge are valuable steps that were first implemented in California. Post-discharge clinics, run by hospitalists, arrange a visit of approximately 90 min, with a hospitalist, pharmacist, registered nurse, and social worker for a vital post-discharge health assessment, prescription, and wound care, as well as the organization of home health or physiotherapy services and transfer to an assisted living or nursing home facility. Any future appointments are also scheduled during this visit, which has helped decrease rehospitalization. The clinic has achieved patient satisfaction scores of 5/5 since day 1 of opening (reported by *Salina Wolf*, MD) and has resulted in a 50% drop in 30-day readmission rate of discharged patients.

Evaluation of readmissions or dissection of readmission, as *S. Andrew Josephson*, MD, says, identifies the reason behind readmission. Through these studies, it was found that readmissions often occur due to patient failure to follow his/her medication or precautions, the decline in health before realization, incapability to schedule an immediate follow-up appointment, and/or personal obstacle. These evaluations have helped reduce 30-day readmission rates by 10%. Other measures to reduce readmissions include the establishment of a hospitalist unit, a team of two to three hospitalists working with all unit-based nurses, case managers, and social workers. The *SHM*'s Project BOOST (*Better Outcomes by Optimizing Safe Transitions*) and Project RED (*Re-Engineered Discharge*) are other methods of quality enhancement led by hospitalists.

To overcome communication difficulties between nurses and physicians during patient inquiries, *Philip Vaidyan*, MD, recommends that hospitalists and nurses take rounds together. At the patient's bedside, they utilize a checklist addressing important issues and allow patient and family participation in health-care planning. Additionally, nurses are informed of the patient's daily care and discharge plans. These simple changes have resulted in better patient experience scores.

For better quality care, hospitalists under the *SHM* joined the *Choosing Wisely* campaign and the *Top Five* list for pediatric and adult hospital care to emphasize that many common and expensive medical services do not improve patient care quality. Development of quality improvement enterprises is facilitated by protocol publication, order sets, and worksheets to change hospitalist practice and support its recommendations [5].

4. Role of hospitalists in innovation projects and health-care programs

The announcement of 107 health-care innovation endowments (ranging from $1 million to $30 million) by the *US Department of Health and Human Services* for management of care and reduction in costs is expected to reduce the health-care costs by $254 million and offer plans for better health care over a span of three years. Projects planned by hospitalists include service management and incorporation, promotion of associations among the community, behavioral and physical care incorporation, and encouragement of telemedicine.

In Georgia, 40 nurse practitioners and assistants were hired to assist hospitalists in managing patients in unmerited and rural intensive care units, bringing additional recruitment and increased proficiency through $10.7 million of funding. A similar project, costing $2.4 million, was introduced in Nashville, Tennessee, with the goal of decreasing rehospitalizations for high-risk elderly patients by eliminating breaches in care transitions between hospital, outpatient, post-acute, and extended-care setups. In 2011, a $4.9 million *Post-Acute Care Transitions* program (*PACT*) in Boston gave hospital associations access to six primary care practices using post-acute care intercessions, care-transition professionals, and pharmacists, allowing nurses to contact their patients for up to 30 days following discharge. All of these projects engage hospitalists and post-acute workers to deliver the best possible health care to patients [6].

Hospitalized patient experience falls (1.97/1000 patient days) in spite of measures used to identify high-risk hospital admissions [7]. Consequently, a trial program was introduced for a checklist-based early identification of high-risk patients. The following are examples of small interventions that

eventually add up to produce profound health-care results [8].

In a project started by Chris Moriates, MD, at the University of California San Francisco (*UCSF*), health-care workers submitted ideas on reducing wastage in hospitals while upholding and/or refining the quality of health care. The survey identified unnecessary blood transfusions as one of the major causes of wastage. This insight from the project helped save $1 million by reducing unnecessary transfusions and will be extended to plug losses in surgical supplies.

According to *the Journal of American Medical Association in 2012*, profligate spending costs the US health-care system around $600 billion. The *Choosing Wisely* campaign, initiated by the SHM, began marketing appropriate telemetry use as one of its five recommendations for adult patient care, consequently saving $4.8 million [9].

Hospitalists reduce the overuse and overtreatment in health-care systems, decrease costs, and improve both health-care quality and outcomes for patients. According to research, higher hospitalist employment levels have been associated with lower hospital readmission rates [10]. An interview-based qualitative analysis describing patients' perception when cared for by a hospitalist found that 85% patients (n = 43) were oblivious of the switch between hospitalists, highlighting the significance of doctor–patient and hospitalist–specialist communication [11]. A study by Fulton and colleagues, covering 1777 hospitals (41% of which had hospitalists) with 2,648,275 patients, revealed higher patient satisfaction with nursing and personal issues in hospitals with hospitalists. Furthermore, teaching and larger facilities benefit from the presence of hospitalists [12] serving as efficient clinicians, providing relatively better inpatient care while reducing the times for testing and length-of-stay compared to teaching teams [13].

5. The cons of hospital medicine and hospitalists

There are several arguments less supportive of the role of hospitalists in the US health-care system, as outlined in the following section.

According to Dr Robert Centor (MD), an internist at the *University of Alabama*, health-care quality is a multidimensional term, and a hospitalist needs a certain amount of patient exposure per year to maintain their skills and knowledge [14]. He cites that methicillin-resistant *Staphylococcus aureus* was picked up more promptly by hospitalists than doctors on periodic hospital visits. A hospitalist *does* improve the quality of health care, but the outcomes largely depend on the *utilization* of services offered by a hospitalist. However, according to *Dr Centor*, a hospital with hospitalists may *not* cause – but only *correlate* to – improved adherence to practice guidelines. He also suggests that in the absence of patient- and physician-level data, the role of hospitalists can never be truly convincing. In his opinion, increasing nursing staff or amending hospital organization may be more influential in improving the health-care quality than hospitalists since progressive hospitals invest as much in hospitalists as in other types of setups to improve the quality [15].

Although Dr James Goodwin agrees that when more inpatients are handled by hospitalists (9% in 1995 to 37% in 2006), costs are reduced by discharging patients earlier (decrease of $282 per patient), and the lack of uniformity to policies results in a decline in the continuity of care and thus compromises care quality. He believes that hospitalists are stepping between the patient and their primary health-care physicians [16].

In an assessment of hospitalists in US hospitals, Coffman and Rundall [17] concluded that patients managed by hospitalists had lower total costs due to reductions in the length of stay, *rather than* improvements in the quality of care or satisfaction in comparison to other groups. These findings are also confirmed by a systematic review by White and Glazier [18] concluding that hospitalists are effectual providers of inpatient care, by decreasing the length of stay (69%), and overall hospital expenses (70%), *but* continue to have questionable quality of care compared to that of their contemporaries.

The need for effective communication between hospitalists and patients is illustrated by a time–motion study assessing hospitalists' activities, which concluded that a hospitalist spends 24% of their time communicating with patients [19].

Some researchers emphasize that hospitalists disturb the relationship between patient and PCP, while increasing the chances of failures due to a three-way communication between the patient, hospitalist, and the PCP. There is also a likelihood that hospitalists may outnumber PCPs and decrease the availability of PCPs in the future. It is also thought that increased hospitalist staffing could result in a loss of academic incentive for consultations and conferences, decrease in acute diagnostic and therapeutic trials and expertise, and less opportunity for acute patient 'rapport'. Less companionship with colleagues and lesser self-regard and pay, along with a likely loss of 'power' and appreciation for the full range of diseases, are among the more serious cons from an outpatient physician's point of view [20].

6. Challenges for hospital medicine and hospitalists

Overall, current research evidence indicates that the merits of having hospitalists outweigh the demerits, exemplified by the improvements in health-care quality, decrease in length of stay, and reduction of health-care costs. Hospitalists have a significant influence on communication, research, academics, and direct as well as indirect patient care in the health-care delivery system [1,21].

The increase in hospitalists poses challenges for better performance and health-care outcomes. To meet the need for training hospitalists, a curriculum was established providing three levels of training: clinical excellence through better-quality training in undervalued areas of hospital medicine, academic progress through required research, quality upgrading, medical student teaching, and career mentorship [22].

7. Requirements for good hospitalist performance

According to the *SHM*, good health care requires two-way communication and includes all primary care physicians who are using the hospital medicine program. Every hospital is required to allocate a senior leader, who is reconsidered on a regular basis for efficient outcomes, to observe the goals of the hospital medicine program, and to continually supervise. In conclusion, the hospital and hospitalist program must assist each other's goals [5].

7.1. Advanced training after internal medicine or family medicine residency

During their training, family medicine residents focus more on outpatient care over inpatient care, so many chose to do Hospitalist Fellowship to help them manage complexities dealt by hospitalists, although they are not mandatory for hospitalist jobs. On literature review, we found no studies comparing the quality of care, outcome, and readmission rates for family medicine hospitalists and internal medicine hospitalists. However, there was a study which reported that the growth of the hospitalist movement had little impact on the proportion of inpatient discharges by family physicians in teaching hospitals [23]. Authors also report that the length of stay, mortality, and readmission rates were comparable, although hospitalists dealt with more complex patients. Many internal medicine residency programs have been implementing hospitalist or internal medicine track training during PGY-2 or PGY-3 since both differ in demand, scope, and type of practice.

8. Evaluation of hospitalist performance

The roles and benefits associated with the hospitalists can only be justified by evaluating the performance of hospitalists on a specific set of criteria defined in the 'Key Principles and Characteristics of an Effective Hospital Medicine Group: An Assessment Guide for Hospitals and Hospitalists' [24]. The criteria include:

- *Effective leadership*, with devoted managerial time and an important role within the hospital headship.
- *Engaged hospitalists*, with active involvement and meaningful feedback.
- *Effective management infrastructure*, under a yearly financial plan.
- *Adequate resources*, for non-clinical organizational management and clerical sustenance.
- *Alignment with the health-care system*, their yearly goals collaborating with the former.
- *Coordination across care settings*, including all caregivers within each setting.
- *Clinical leadership*, by application of evidence-based practices and lessening unjustified differences in care.
- *Scope of activities*, to meet the varying hospital requirements.
- *Effective practice model*, that reveres and replies to patient and family inclinations and values.
- *Recruitment and retention*, whereby the hospitalists' job contentment and professional development are measured (Key Principles and Characteristics of an Effective Hospital Medicine Group: An Assessment Guide for Hospitals and Hospitalists).

9. Combating drawbacks

Patients' inability to connect with hospitalists is one of the demerits often cited. In a 2009 study, 75% of patients are unable to recollect the name of the doctor in charge of their care. Establishing trust in relationships with patients and improving the patient experience are key challenges faced by hospitalists. Hospitalists have to clearly introduce their association with other teams and clarify their role with respect to the tripartite relationship between the patient, PCP, and the hospitalist throughout the time of hospitalization [25].

Hospitalists' unawareness of detailed patient history necessitates a thorough conversation with the physician, both after admission and before discharge of the patient. These measures will certainly improve inpatient experience and health outcomes in the rapidly expanding field of medicine.

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