Jessica Singer
ICCR IRB Proposal
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Are Hospitalists Really Better Teachers?

1. Study Purpose and Rationale

The term "Hospitalist" was first coined twelve years ago by Goldman and Wachter to describe a new breed of "specialists in inpatient medicine who are responsible for managing the care of hospitalized patients in the same way that primary care physicians are responsible for managing the care of outpatients." [1] The concept, which had previously been popular in Canada and Great Britain, was that hospitalists would care for hospitalized patients and then return them to the care of their primary care physicians at hospital discharge. A review of the literature about the Hospitalist movement five years after Goldman and Wachter's original article revealed that most studies showed decreases in length of stay and hospital cost as well as decreases in inpatient and short-term mortality. [2] Similarly, a larger, more recent, study showed that for common inpatient diagnoses (pneumonia, COPD exacerbation, ischemic stroke, chest pain, acute MI, CHF exacerbation and UTI), patients cared for by hospitalists have a small reduction in the length of stay without and adverse effect on rates of death or readmission while data on decrease in cost was less convincing. [3]

Driven by strong evidence that they improve efficiency without compromising quality, the number of hospitalists has grown dramatically from approximately a few hundred when they were first described in 1996, to an estimated 10,000-12,000 today, with expected growth to 30,000 over the next decade. [4] The hospitalist movement, which originally started in community based non-teaching hospitals, has since been adopted by many academic medical centers. A significant consequence of movement of hospitalists into teaching hospitals has been development of a new role for hospitalists, namely that of teacher. This shift has led to the restructuring of inpatient education at many teaching hospitals such that many residents and medical students receive a significant proportion of their teaching from hospitalist attendings. This change has prompted the examination of the impact of hospitalists on trainee education. Studies have shown that trainees working with hospitalist attendings report more effective overall teaching than those working with traditional attendings [5]. The same study also showed that trainees felt that hospitalist attendings have better knowledge of subject matter, were better able to discuss pathophysiology, and gave better feedback when compared to traditional attendings even when corrected for academic rank. Qualitative analysis of written comments from trainees demonstrate that they more often describe hospitalists and general medicine attendings as enthusiastic teachers, users of evidence-based medicine, and as having good rapport with patients and other team members when compared with sub-specialist attendings. [6] Fears that the presence of hospitalists would decrease resident autonomy have been alleviated as it has been shown that residents working with hospitalist attendings feel that they have the same sense of responsibility, same level of control, and feel their role as team leaders is unchanged. [7]

While studies thus far seem to demonstrate that housestaff prefer hospitalist attendings as teachers, these studies have had several weaknesses including differing definitions of hospitalists, comparisons made using a small number of hospitalists, low response rates to surveys, recall bias with regards to the surveys, and perhaps most importantly, confounders when comparing hospitalist attendings and non hospitalist attendings. Prior studies have compared the two groups of attendings based on evaluations from different residents, taking care of different patients, at different times of the year. The unique two attending system on the medicine wards at Columbia University Medical Center (CUMC) will allow us to control for these differences. My hypothesis is that on inpatient general medicine rotations at CUMC, housestaff prefer education by hospitalist attendings compared to non hospitalist attendings. By collecting demographic data from each attending, we will be able to control for confounders to see if this difference truly exists.

2. Study Design and Statistical Analysis

A. Design: A retrospective observational study will be performed to explore internal medicine housestaff satisfaction with education provided by hospitalist and non-hospitalist attendings while on their inpatient general medicine rotation. The unique two attending system of the inpatient general internal medicine service at CUMC allows for a direct comparison of the hospitalist and non-hospitalist attendings by the same housestaff during each 4 week rotation. General Medicine teams on the 1B service consist of 1 Hospitalist Attending, 1 Non-Hospitalist Attending, 1 PGY-3 and 1 PGY-2 who are each paired with 1 PGY-1 (for a total of 4 house staff) and 2 third year medical students. The Columbia rotation system uses a total of 13 4-week blocks for each academic year. Interns rotate on the same four week block schedule as the attending pairs while residents rotate on a five week block schedule and thus may be staggered during each four week attending/intern block. After each block housestaff currently receive an email asking them to fill out a required survey on a web based evaluation system (E*Value) which is used by the internal medicine department to gather feedback. Housestaff automatically receive email notices of pending evaluations and periodic email reminders until evaluations are completed thus we can expect a survey completion rate of nearly 100%. E*value questionnaires consist of 21 questions in areas including patient care/rounding skills, medical knowledge, practice based learning and improvement, interpersonal and communication skills, professionalism, system based practice, and teaching and team work, with one last question regarding overall effectiveness in teaching and clinical care. Each question is scored on a 9 point scale where 1=unsatisfactory, 5=satisfactory, and 9=outstanding. A composite score of the 21 questions will be calculated (scores will range from 9 to 189). Surveys will be included from all PGY-1 interns and only the PGY-2 and PGY-3 residents who worked with attending pairs for > or = 8 days (2 full call cycles).

B. Analysis: A paired t-test will be used to compare the mean difference between the composite E*value scores of hospitalist and non-hospitalist attendings from each resident. Confounding variables such as age, number of years in practice, time spent

practicing clinical medicine, generalist or subspecialists, time spent teaching will be controlled for using multiple regression analysis.

C. Power: Data will be collected from the 2007-2008 academic year. Using the inclusion and exclusion criteria detailed below, since hospitalists generally attend on the General Medicine wards twice per year, I can expect to have 6 attending pairs over the course of one year, resulting in approximately 36 housestaff E*value evaluations. Assuming a standard deviation of 10, this will give me 80% power at p=0.05 to detect a mean difference of 5 points between the hospitalist and non-hospitalist attendings. [8]

3. Study Procedure

For housestaff, study procedure will not change in any way what is already expected of them from the internal medicine department. Upon completion of the General Medicine rotation each resident will fill out an E*value surveys which is no change from current protocol. Each survey requires approximately 20 minutes to complete.

For attendings, at the end of the month during which they attended on the General Medcine 1B service, they will be asked to fill out a short survey of 5 questions. The survey should take no more than 5 minutes to complete.

4. Study Drugs or Medical Devices: not applicable

5. Study Questionnaires

A. Brief Attending Survey

BRIEF ATTENDING SURVEY

1) How many years have you been practicing medicine?

2) Are you boarded in a sub-specialty?

3) How many hours per week do you spend involved in clinical teaching when you are not attending on the wards? (Include activities such as precepting in clinic, giving lectures to medical students or residents, etc)

4) What percent of your time do you spend involved directly with patient care when you are not attending on the wards?

B. E*VALUE survey to be filled out by residents

E*VALUE SURVEY

Patient Care/Rouding Skills
-available and accessbile
-demonstrated and modeled good bedside manner and skills
-carified h&p, helped construct differential diagnoses, workup and treatments plans
-encouraged and mentored residents to pace and direct morning rounds
-adhered to rounding schedule

Medical Knowlege
-broadly knowledgeable about internal medicine
-knowledgeable about sub-specialy/special area of interest
-knowledge was practical and applicable to patient care

Practice Based Learning and Improvement
-created a stimulating learning environment in which encouraged participation by all members of the team
-contributed to a comfortable learning climate in which limitations and errors could be acknowledged
-promoted evidence based medicine and a scholarly approach to clinical decision making

Interpersonal and Communication Skills
-displayed a sensitive, respectful attitude to residents, staff, patients and families
-developed good rapport with all members of the team
Professionalism
-demonstrated integrity and honesty and served as a good role model

System Based Practice
-knowledgeable about health systems and medical center logistics and promoted effective use of resources and information
-helpful with advancing care and discharge planning when needed

Teaching and Teamwork
-used bedside teaching to demonstrate interviewing and exam skills
-demonstrated enthusiasm for learning, teaching and caring for patients
-provided ongoing and helpful informal feedback to team members
-provided specific and constructive formal feedback at the end of the rotation

Overall Effectiveness in Teaching and Clinical Care
General Comments

6. Study Subjects:

A. Inclusion criteria: All hospitalist and non-hospitalist attendings pairs on the inpatient General Medicine 1B service at CUMC during the 2007-2008 academic calendar year.

B. Exclusion criteria: If a hospitalist or non-hospitalist attending attends on the ward serivce >1 block during the 2007-2008 academic year, they will only be included in the analysis the first time they attend.

7. Recruitment:

There will be no need to actively recruit subjects. A schedule of all of the attendings on the General Medicine 1B service for the 2007-2008 academic year will be obtained from the Medicine Residency Program Coordinator.

8. Confidentiality of Study Data:

All study data will be coded so as to eliminate any personal identifiers and all data will be stored in a secure location, accessible only to the investigators.

9. Potential Risks:

There is no intervention in this study which would put either attendings or housestaff at any increased risk.

10. Potential Benefits:

This study will identify housestaff teaching preferences. Based on our results, further studies could investigate specific behaviors which could be adopted by all attendings.

11. Alternatives:

Attendings who decide not to participate in the attending survey will not be included in this study. Regardless of participation, all attendings will continue to be evaluated by housestaff per usual protocol.

Resources

[1] Wachter RM, Goldman L. The emerging role of “hospitalists” in the American health care system. N Engl J Med 1996;335:514-7.

[2] Wachter RM, Golmdan L. The Hospitalist Movement 5 Years Later. JAMA 2002;287(4):487-494.

[3] Lindenauer PK, Rothberg MB, Pekow PS, Kenwood C, Benjamin EM, Auerbach AD. Outcomes of care by hospitalists, general internists, and family physicians. N Engl J Med 2007;357:2589-2600.

[4] Society of Hospitalist Medicine. http://www.hospitalmedicine.org/

[5] Hauer, KE, Wachter RM, McCullock CE, Garmen WO, Auerbach AD. Effects of Hospitalist Attending Physicians on Trainee Satisfaction With Teaching and With Internal Medicine Rotations. Arch Inter Med 2004;164:1866-1871.

[6] Kripalani S. Pope AC. Rask K. Hunt K. Dressler DD. Branch WT. Zhang R. Williams MV. Hospitalists as teachers. J Gen Intern Med. 2004;19:8-15.

[7] Kulaga, ME, Charney P, O'Mahony S, Cleary JP, McClung TM, Schildkamp DE. The Positive Impact of Initiation of Hospitalist Clinician Educators. J Gen Intern Med 2004;19:293-301.

[8] http://www.biomath.info/crc/