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How do Hospitalists Perceive the Quality of Inpatient Gastroenterology Consultations and Procedures?: A National Survey

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Abstract

Background: Hospitalists frequently consult gastroenterologists (GEs) for inpatient care, but few studies have queried hospitalists for their opinions about how well GEs provide consultative and endoscopic services.

Objective: To determine how hospitalists 1) perceive the quality of consults and procedures provided by GEs, and 2) rate the procedural skills between GEs and surgeons.

Design: Web-based questionnaire.

Setting: Hospitals throughout the United States.

Results: Of 785 surveys analyzed, most respondents (75.3%) agreed/strongly agreed that they were satisfied with consultation services provided. Similar rates (>70% agreed/strongly agreed) of satisfaction were reported with regard to appropriateness of consultation and confidence in performing procedures. When asked if GEs were more interested in performing procedures than in treating disease, 38.4% agreed/strongly agreed, while 41.7% disagreed/strongly disagreed (P=0.3). On this question, younger respondents (<30 years) were less likely to agree (25.4%) compared to older age groups (as high as 44.5%). When asked whether GE and surgeons were equally skilled at performing endoscopy, 47.4% disagreed, 37.8% were neutral, and 14.8% agreed. Of those who disagreed, 99.4% rated GEs as the more skilled proceduralist.

Conclusions: Overall, hospitalists expressed high satisfaction rates on various aspects of gastroenterology consultation quality and procedural skills. By a large majority, they ranked GEs as superior to surgeons in endoscopic proficiency. However, more than one-third of respondents agreed that GEs may overemphasize procedures, a perception that may unfavorably impact gastroenterology as a specialty.

Keywords: Survey studies; Consultative medicine; Procedural skills; Procedures; Clinical competency; Gastroenterology; Hospitalists

Introduction

In recent years, inpatient medical care has shifted increasingly to hospitalists who rely heavily on specialists to attend to more complex disease-specific ailments.[1] Gastroenterologists (GEs) are consulted frequently by hospitalists to address a wide variety of gastrointestinal conditions, both acute and chronic, and have been shown to improve outcomes compared to care provided by generalists.[2,3]. In providing both medical and procedural expertise, GEs maintain a close working relationship with hospitalists. However, to our knowledge, few if any published studies have examined how hospitalists and hospital-based internists perceive or rate the quality of consultative services provided by GEs.

In many ways, for better or worse, gastroenterology has become a procedure-based subspecialty of medicine. [4] A potential overemphasis on procedures, as a major source of revenue, may negatively impact the perception of the GE. Indeed, the medical community is known to refer colloquially to GEs as "scope monkeys" or "scope jockeys", [5] reflecting the notion that they are possibly more interested in and focused on performance of procedures at the expense of their additional role of delivering high quality medical care for chronic gastrointestinal conditions.

To explore the perceptions of GEs in the inpatient setting, we conducted a nationwide survey via questionnaire of hospitalists and internists in the United States. We sought to determine the level of satisfaction with gastroenterology consults and procedures overall and with regard to a broad array of specific measures of quality, appropriateness and timeliness of consultative services and endoscopic procedures. Furthermore, we wished to ascertain to what extent hospitalists perceive GEs as focused primarily on performance of procedures while possibly inattentive to other aspects of consultation such as careful history-taking, making helpful treatment recommendations and re-assessing cases with daily follow-up. Lastly, while GEs are known to have better outcomes [6-8] in terms of endoscopic procedural skills compared to other proceduralists, the

extent to which this is appreciated by the medical community at large is not well studied. Thus, we also queried hospitalists to their opinions about differences in the skill level of GEs and surgeons.

Methods

Questionnaire development

Generation of items for the questionnaire was performed by the authors. Items were intended to elicit information on hospitalists' perceptions of various aspects of consultative and endoscopic care provided by GEs. The survey was not intended to measure actual quality of care. Rather, the aim was to elicit the opinion of the respondents with regard to how well GEs are performing their duties. Questions were formulated to address specific aspects of day-to-day clinical scenarios commonly encountered during management of hospitalized patients and to determine how well GEs met expectations for high quality care. The initial survey was piloted in a separate group of GEs and primary care physicians then revised to the final version consisting of 25 items that could be completed in electronic form in less than 5 minutes. The first 12 items were comprised of yes/no and multiple-choice questions to collect the demographic data from respondents.

The remaining 13 items consisted of 5-point Likert scale questions aimed at determining the quality of care being delivered by GEs, procedure quality when performed by GEs, and comparison of the skill of proceduralists, specifically between GEs and surgeons. Care was taken in the design of questions to minimize potential bias that might steer responses. Survey participants were first asked in the most general sense how satisfied they were with gastroenterology services in their hospital. They were asked whether they believed GEs will not perform procedures that are not indicated. Additional items addressed specific endoscopic procedures and the relationship between consultative management of disease and performance of procedures. In a key question of the study, respondents were asked if they agreed or disagreed with a statement that GEs were more interested in performing endoscopy than in treating patients with gastrointestinal diseases. They were asked to what extent there was disagreement between them and the GE with regard to need for a procedure and to what extent they expected a procedure to be performed as opposed to an opinion from the GEs whether it was necessary. Lastly, respondents were asked whether GEs and surgeons were equally skilled at performing endoscopic procedures.

Study cohort

The population of interest included full-time hospitalists as well as physician assistants, and nurse practitioners who practice inpatient medicine. Screening questions ensured that only the appropriate target population was allowed to complete the survey and that all participants conducted inpatient care and personally consulted gastrointestinal specialists. An incentive to complete the survey was offered in the form of a random drawing for a single participant to receive an electronic tablet device valued at $300. All data for analysis was collected in coded form and no individual could be identified by his or her responses.

Study design and statistical analysis

We conducted a cross-sectional analysis of health care providers involved in inpatient primary care, querying them about their perceptions of the quality of gastrointestinal consultative services and procedure performance. All data were derived using a web-based survey conducted via an internet portal. In order to identify potential survey participants, the research team contacted various hospitalist societies, professional hospitalist groups and internist groups nationwide. The organizations that agreed to participate then forwarded a survey invitation in bulk email to their members, with a second reminder email two weeks later. The email invitation, which was prepared by research team, explained the nature of the survey, its purpose in general terms and contained a hyperlink to which participants could access the survey via the internet. Instructions in the email invitation indicated that the survey was voluntary, anonymous and employed implied consent. The organizations that assisted with distributing the survey wished to maintain the anonymity of their members; therefore, it was not possible to ascertain the total number of survey invitations that were delivered, nor could we calculate the proportion of surveys completed.

The main outcome of interest was the proportion of respondents who agreed or strongly agreed with a statement indicating that they were satisfied with the gastroenterology services provided at their hospital. Secondary outcomes of interest were aimed at determining perceptions of the quality of specific aspects of GI consultative services: timing of consultations and procedures; appropriateness of recommendation for a procedure; agreement on indication for endoscopy and treatment plan; and perception of endoscopic skill differences between GEs and surgeons.

Subject demographics were analyzed using descriptive statistics. We used two-tailed one sample or two sample t-tests where appropriate for comparing proportions. All statistical analysis was conducted using SPSS (IBM, Inc., Armonk, NY) software, version 19. The University of Nevada School of Medicine Office of Human Research Protection approved the study.

Results

A total of 1003 respondents participated in the survey. There were 218 exclusions due to non-hospital based work duties, absence of gastrointestinal services at primary hospital site and/or individuals not involved directly with consulting gastrointestinal services. Demographic characteristics of the final analyzed study group of 785 respondents are shown in Table 1. The majority of participants were men, under 40 years of age, with an M.D. degree in practice less than 10 years, and self-described as full-time hospitalists. With regard to employment type and location, most participants reported being in private practice but rounding in a teaching hospital in an urban setting. Only 83 respondents (10.7%) indicated that advanced procedures were not available at their hospital, though lack of EUS was mostly responsible for this result. ERCP was reported to be performed primarily by GEs (84.5%) while 70 (9.2%) responded that both surgeons and GEs performed ERCP at their facility. Less than 1% reported that only surgeons performed ERCP at their facility. Most respondents reported that more than one GE was available for consultation at their hospital, while only 21% indicated that only one GE was available.

Characteristic	N (%)
Gender, Male	465 (60.4)
Age, years	

≤ 30	57 (7.4)
31-39	324 (42)
40-49	236 (30.6)
50-59	121 (15.7
≥ 60	33 (4.3)
Professional degree	
M.D.	653 (83.2)
N.P.	50 (6.4)
D.O.	48 (6.1)
P.A.	32 (4.1)
Years of employment	
1-9	429 (56)
10-19	216 (28.2)
20-29	93 (12.1)
≥ 30	28 (3.6)
Employment type	
Hospitalist	681 (86.8)
Internal Medicine	92 (11.7)
Family Medicine	12 (1.5)
Practice type	
Academic	277 (40.9)
Private practice	401 (59.1)
Hospital description	
Teaching	365 (46.5)
Private	275 (35)
Public	95 (12.1)
County	83 (10.6)
Rural	88 (11.2)
Type of GE available	
Private practice	511 (67.6)
Academic	175 (23.1)
Both	70 (9.3)
Geographic region	
West	141 (18)
Southwest	59 (7.5)
Midwest	171 (21.7)
Southeast	187 (23.8)
Northeast	225 (28.7)

Table 1: Characteristics of respondents and facilities.

Examining the results of the queries related to gastrointestinal quality of consultations, beginning with the most general assessment, a large majority (75.3%) of survey participants agreed/strongly agreed (47.5%/27.8%) that they were satisfied with the services provided by GEs in their hospitals while 14.4% disagreed/strongly disagreed ($p < 0.001$; Figure 1). This pattern of response did not vary significantly based upon hospital type (teaching vs. non-teaching, public vs. private), gender or degree of respondent. However, differences in overall satisfaction were detected for example in the case that only one private GE was available for consultation (67.3% of 159 respondents agreed/strongly disagreed; P=0.04 compared to overall survey sample). Similarly, hospitalists in rural areas were less satisfied with the quality of gastrointestinal consultations (63.2%, P=0.02). Overall, hospitalists to a large measure (80%) expressed confidence in the technical skill of GEs performing ERCP and EUS.

We asked whether the GEs can be trusted to perform endoscopy only when indicated and a large majority (80.9%) agreed/strongly agreed with this statement (8.3% disagreed). Participants were then asked if GEs performed routine and emergency endoscopic procedures in a timely fashion. In both instances, >75% agreed/strongly agreed while 11% disagreed ($p < 0.001$). However, when asked if GEs will readily perform procedures after hours when necessary, the proportion of respondents who disagreed/strongly disagreed rose to 17%. GEs also fared less well with regard to whether they provided adequate follow-up care to patients after a procedure was performed: 16.8% disagreed/strongly disagreed that care was adequate.

Hospitalists were asked whether they were often at odds with the GE as to whether a procedure was indicated and 73% disagreed/strongly disagreed with this assertion (9.8% agreed; $p < 0.001$). We also queried hospitalists to ascertain to what extent they perceived that GEs might be more interested or focused on procedures than in treating or managing gastrointestinal disease. For the entire sampled population, 38.4% agreed/strongly agreed (27.3%/11.1%), 41.7% disagreed (P=0.3) and 19.9% were neutral with this statement (Figure 2).

If only one private GE was available for consultations, the proportion who agreed/strongly agreed rose to 46.8% (P=0.05). In rural hospitals, the proportion of respondents who agreed/strongly agreed was significantly higher compared to the overall population. If only academic GEs were available for consultation, this result decreased to 31.4% (P=0.09). The response also differed significantly when the respondents were categorized by age in deciles. Older aged respondents were more likely to strongly agree with the statement compared to the lowest decile of age <30 years (Figure 3). Next we inquired whether GEs and surgeons were equally skilled at performing endoscopic procedures. 47.4% disagreed/strongly disagreed with this statement, 14.8% agreed/strongly agreed ($p < 0.001$), and 37.8% were neutral. Of those who disagreed, 99.4% reported that GEs had greater skill in performing procedures compared to surgeons.

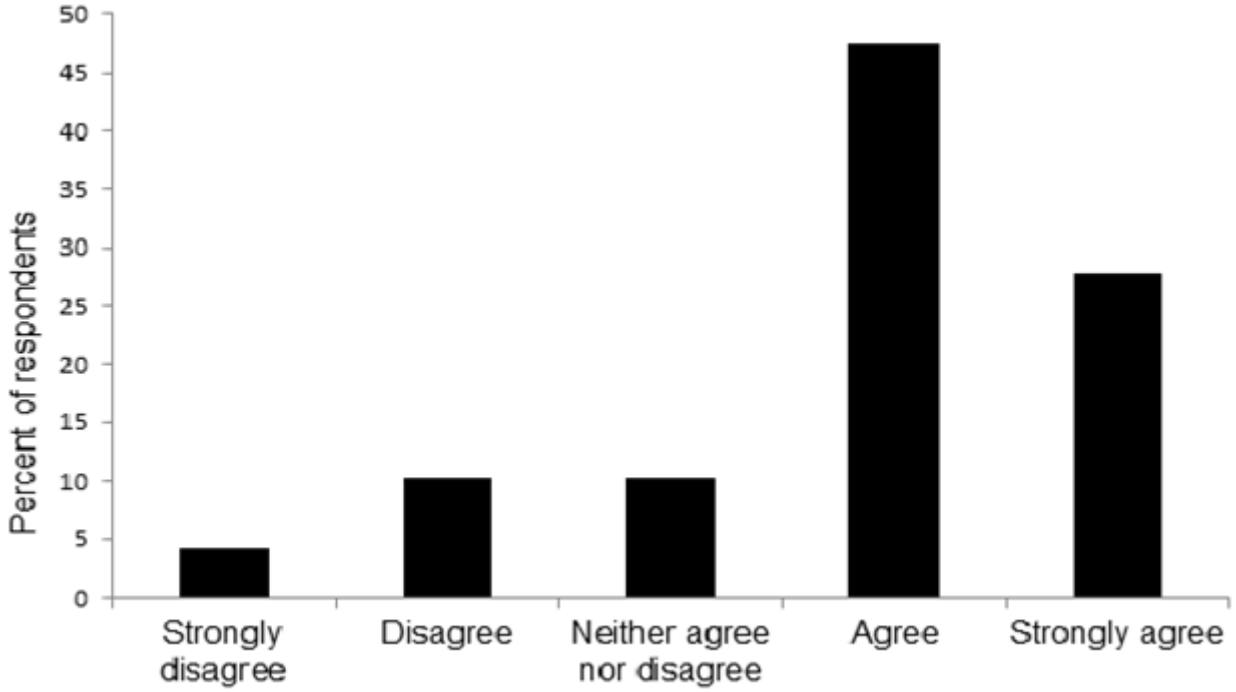

Figure 1: Responses to query "I am satisfied with the gastrointestinal consult service available at my hospital".

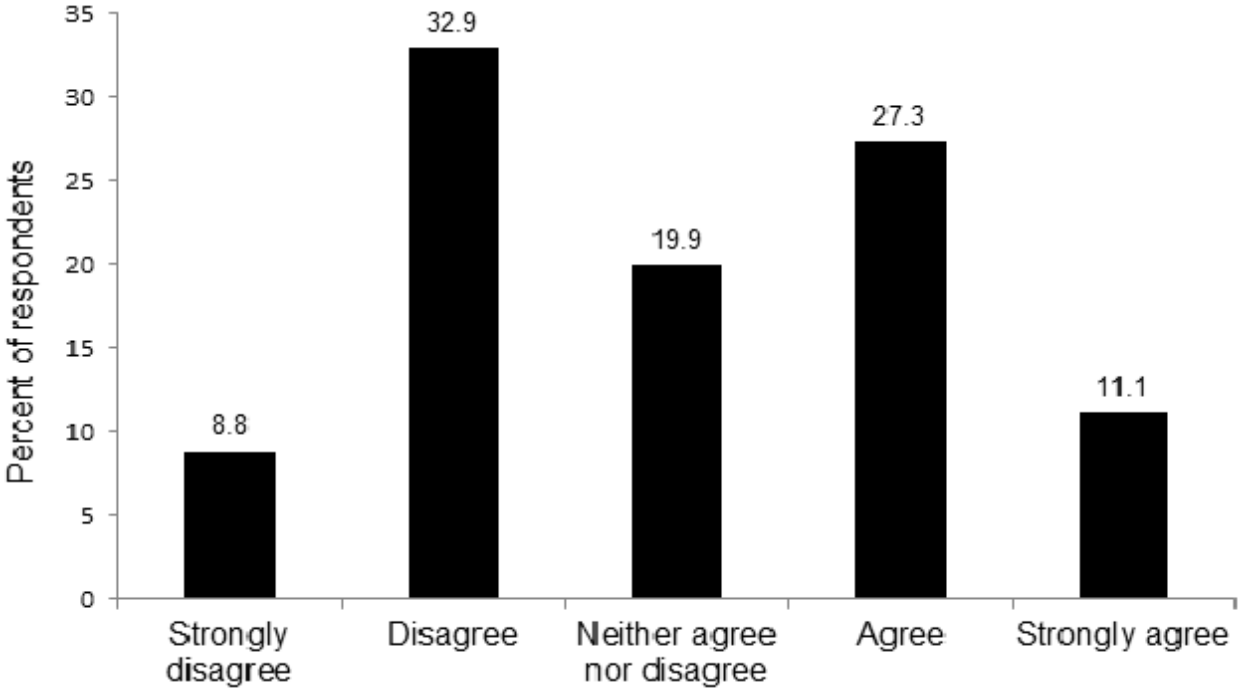

Figure 2: Responses to query "The gastroenterologist(s) in my hospital seem more interested in performing endoscopic procedures than in treating patients with gastrointestinal diseases".

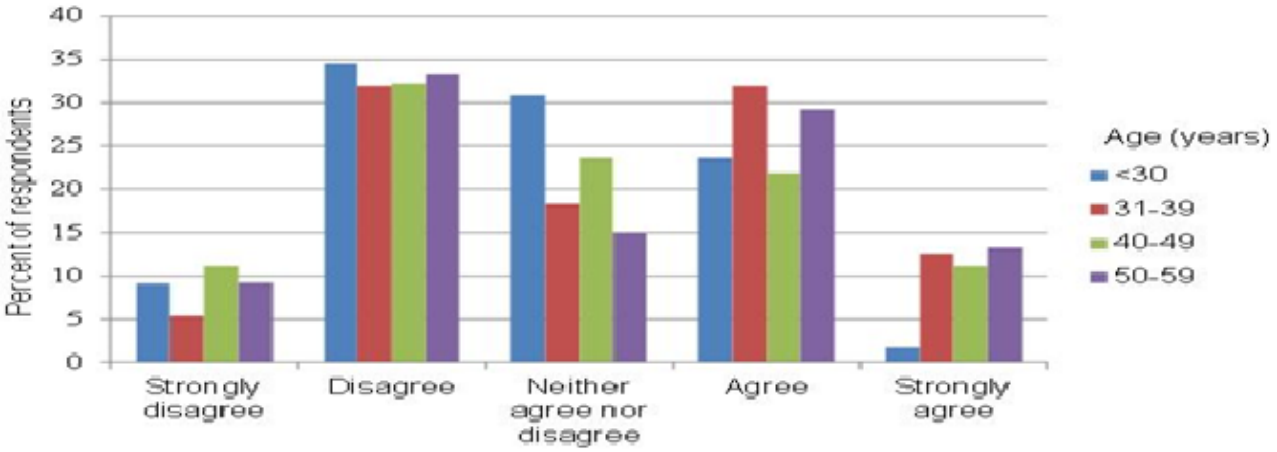

Figure 3: Responses to query "The gastroenterologist(s) in my hospital seem more interested in performing endoscopic procedures than in treating patients with gastrointestinal diseases" categorized by age decile of respondent.

Discussion and Conclusion

The major finding of this study is that hospitalists report high satisfaction rates with the services provided by GEs. This was true both in terms of an overall assessment and also with regard to various more specific queries regarding gastrointestinal care. For each query in which GEs were viewed positively, multiple comparisons of responses were performed looking for differences based upon demographic characteristics but no significant variation in results was noted with regard to hospital setting (rural vs. urban; teaching vs. non-teaching), geographic region, respondent gender or degree. It should be noted that the survey and this research did not measure the actual quality of care or procedure performance but rather determined the opinions of hospitalists as to their satisfaction with GEs and their perception of the quality of service provided.

Another main finding was that more than 1/3rd of hospital-based primary care physicians in this survey agreed with the statement that GEs are more interested in procedures than in delivering gastrointestinal care to patients. When the respondents were categorized by decile of age range, older respondents were more likely to strongly agree with this statement. When only one GE was available for consultation, respondents were also more likely to agree compared to the group as a whole. These results should be of concern to the gastroenterology community in that they may indicate a negative opinion of GEs as a result of perceived or real overemphasis on endoscopy. The origin of this perception is likely multifold. In the United States, gastroenterology is one of the most common subspecialties that is called upon for inpatient consultation.[9] Though data are scant on this topic, at least 50% of gastroenterology consultations require a procedure.[10,11] Fear of malpractice lawsuits may increase the tendency of GEs to perform excessive endoscopy.[12]

Another potential explanation for a negative opinion of GEs however may reside in the fact that compensation for procedures is much higher than for consultations or follow-up visits in the hospital. The perception that GEs pursue procedures with greater enthusiasm for monetary gain is difficult to counter and has even been broached in online medical student forums. In one example, a student posted the following: "To be honest, I got turned off by GI when I learned that in the pursuit of salary, some GI docs turned into 'scope monkeys'.[13]

In the current study, we attempted to determine if there was a difference in the negative perception of private vs. academic GEs, given that the latter may be less inclined to over-emphasize endoscopy since their income is more typically salary-based. However, our results showed no difference in the proportion of respondents who had only private vs. academic GEs available for consultation, which argues against the notion that private practice GEs are more revenue driven.

At times, GEs may be consulted solely for the purpose of performing a procedure. The extent to which this occurs was examined by asking if hospitalists preferred that a procedure be performed rather than receiving an opinion from the GE whether the procedure is indicated. We found that only 21.3% of respondents held this opinion, thus it does not appear that a major factor in consultative requests stem from a desire primarily to obtain a procedure.

Despite the perception related to overemphasis of procedures, hospitalists reported quite favorably on numerous aspects of care delivered by GEs. Most prominently, GEs received high marks on the perceived quality of procedure performance, both for routine upper and lower endoscopy as well as advanced procedures. Furthermore, GEs were rated far superior to surgeons in endoscopic skill with only 14.8% of respondents agreeing with the statement that GEs and surgeons are equally skilled at performing procedures. This result indicates that hospitalists recognize the excellent endoscopic training and skill exhibited by GEs. Several queries addressed whether GEs delayed procedures inappropriately, but for both emergent and routine procedures, respondents were highly satisfied with the timing of endoscopy. Two items in the survey were intended to determine to what extent hospitalists may be in conflict with GEs about whether a procedure should be performed or not. By a large margin, respondents indicated that they were not at odds on this aspect of care, which suggests a high level of respect for decision-making by GEs. While evidence exists that a large number of endoscopic procedures are inappropriate, especially when performed for dyspepsia,[14,15] the

current study did not find that hospitalists questioned the appropriateness of procedures performed for inpatient care.

Strengths of the study include a carefully designed questionnaire using open-ended items that minimized bias. Respondents were allowed to comment at the end of the survey and several disclosed their understanding of the goal of the questions asked and appreciation of the importance of investigating this topic. Specifically, respondents commented that they were aware of the intent of the query regarding interest in procedures over other care provided by GEs. The study also benefitted from a large nationwide respondent pool which suggests that the results are representative of hospitalists as a whole in the U.S. A weakness of the study was the inability to calculate or estimate the response rate of the survey. We did not have direct access to society member email lists or the number of email requests sent.

In summary, this study revealed that GEs are viewed quite favourably among hospitalists with regard to perceived quality of consultations, timing and appropriateness of endoscopy as well as endoscopic skill. However, a third of hospitalists opined that GEs focus excessively on procedures and underemphasize non-endoscopic care, a perception that GEs, training programs and gastroenterology societies might do well to address. These survey results illustrate a strong working relationship between hospitalists and GEs but also sound a cautionary note within the gastroenterology community, which risks erosion of its reputation if the importance of non-endoscopic skills are not properly emphasized.

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