

## Home Healthcare Orders: An Assessment of Service Satisfaction by Internists, Surgeons, and Medical Subspecialists

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### **Abstract**

We conducted a pilot study to evaluate the satisfaction of general internists, medical subspecialists, and surgeons with the quality of home health orders generated by home health agencies. Using a mail survey, we polled 69 physician specialists at Tulane University Medical Center. The percentage of physicians satisfied with the appropriateness of services for the level and type of care, consistency of medication with that prescribed, sufficiency of data on the certification form to assess service continuation, timeliness of orders, and overall health service delivery was 94%, 92%, 69%, 52%, and 88%, respectively. Compared with medical subspecialists and surgeons, general internists were more likely to report that the data on the form were sufficient. Physicians who were satisfied with at least one of the four measures of quality for home health orders were more likely to be satisfied with the overall delivery of services by home health agencies. Our results demonstrate, for the first time, that physicians overall are satisfied with home healthcare orders. However, level of satisfaction with orders is related to the physician's specialty. Areas that physicians were less satisfied with included timeliness of orders and sufficiency of data on the form to assess service continuation. Further studies using a larger population and more specific indicators of healthcare orders quality are recommended.

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A rapidly growing segment of long-term care, home healthcare is a more than a \$20 billion dollar industry.<sup>1,2</sup> Home healthcare services are used to promote, maintain, and restore health while

maximizing patients' independence.<sup>3</sup> Services typically provided through home health agencies include that of skilled nurses, physical and occupational therapists, medical social service workers, and home health aides. Special services, such as home oxygen, equipment, and other devices, may also be provided once the patient is eligible for home healthcare. There are 15,027 home healthcare agencies in the United States, including 7,521 Medicare-certified home health agencies, 1,459 Medicare-certified hospices, and 6,047 non-Medicare participating home care agencies, home care aide organizations, and hospices.<sup>1</sup>

Providing service through a home health agency typically begins with a request or order from a physician, social worker, or other designee.<sup>4,5</sup> The home health agencies evaluate patients' eligibility for home care and assess their overall home care needs. Medicare-certified home health agencies, for example, organize the information on a standard Health Care Financing Administration form, which constitutes the proposed treatment plan. The treatment plan is submitted to the patient's physician, who reviews, modifies if needed, signs if approved, and returns the form to the home health agency for implementation.<sup>6,7</sup>

We conducted a pilot study to examine physicians' satisfaction with home health orders generated by home health agencies. Several studies have assessed quality-related issues in home healthcare from a variety of other perspectives. Some have focused on the caregiver as a critical link in providing quality care.<sup>8-12</sup> The quality and effectiveness of specialized programs, such as parenteral nutrition, diabetic control, and telecommunications, have been explored in the home environment.<sup>13-17</sup> The Omaha System Research Project developed an innovative approach to assess care quality from the perspective of nurses.<sup>18</sup> Along the same lines, the Nursing Minimum Data Set was established as one of the first attempts to standardize the collection of essen-

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tial nursing data.<sup>19</sup> Subsequently, Reeder and Chen<sup>20</sup> developed a survey questionnaire to assess client satisfaction with nursing care services.

Only a few studies have examined home health services using input from the physicians who are essential to the care of these patients. Boling et al,<sup>21</sup> in a study designed to assess the frequency of home health agency referrals, conducted a telephone survey of 1,161 family practitioners and internists. Their results showed that 88% of physicians were satisfied with home health services. In addition, 85% believed that physicians should use home health agencies more. However, 72% felt that the quality and range of services varied among the home health agencies. Although this study did not address specific questions about the quality of home healthcare orders, it underscored a crucial need to further examine specific aspects of home healthcare quality and to obtain input from other physician specialties.

A specific question we sought to explore was the degree to which physicians are satisfied with the quality of home healthcare orders generated by home health agencies. Another question we wanted to address was whether significant differences exist between surgeons and medical specialists in their assessment of the quality of home health orders.

Different specialists manage patients with different problems and therefore may differ in their needs and satisfaction with home health orders. For example, based on our experience, home health patients with multiple medical conditions, who may in turn require lengthy follow-up by home health agencies, are likely to be followed up by general internists and other generalists. On the other hand, patients with acute postoperative problems requiring a more definitive and shorter length of follow-up are more likely to be followed up by surgeons. Medical subspecialists are likely to follow up with patients whose principal conditions pertain to the specific organ systems the specialists treat. Because of these differences, we need to assess whether variations exist among specialists regarding how they view the quality of home health orders.

#### ... METHODS ...

Using a prevalence study design, we surveyed physicians from different specialties and subspecialties to assess their satisfaction with home health services. The physicians surveyed were drawn from those working at the outpatient clinics of Tulane University Hospital and Clinic at Tulane University Medical Center in New Orleans, Louisiana. Tulane University

Hospital and Clinic is a part of an academic setting and consists of several clinics and private practices for specialists and subspecialists from various clinical departments within Tulane University. The patient population that required home healthcare was cared for by several different home health agencies. The agencies were predominantly Medicare-certified, non-hospice home health agencies. More than 50 different agencies provided services to the patients of physicians in the section of general internal medicine alone.

To enhance internal validity, we restricted our study to physicians from departmental sections who were more likely to be routinely involved with treating adult home health patients with disabling or chronic medical conditions. These sections included Nephrology, General Internal Medicine, Pulmonary, Allergy/Immunology, Rheumatology, Cardiology, Endocrinology, Gastroenterology, Hematology/Oncology, Infectious Disease, General Surgery, and the surgery subspecialties. An updated listing of physicians by section was obtained from Tulane Hospital and Clinic, and all physicians within the above sections were included in the study. Excluded were physicians from the following sections: Pediatrics, Obstetrics, Ophthalmology, Ear-Nose-Throat, Dermatology, Anesthesiology, Human Genetics, Clinical Pharmacology, and Radiology.

For purposes of analysis, we classified the physician specialty groups as general internal medicine, medical subspecialties, and surgery. The general internal medicine group consisted of the general internists, and the medical subspecialty group included all the specialties of medicine except general internal medicine. Because the number of surgeons was fairly small, general surgery and the subspecialties of surgery were combined as the surgery group.

#### Survey Instrument

We developed our survey questions based on the American Medical Association's description of the physician's role in establishing and approving home health orders.<sup>7</sup> In defining the quality measures, we used the approach of Benson and Miller,<sup>22</sup> whereby specific indicators are defined from selected aspects of various parameters of care. The physician's responsibilities as indicated by the American Medical Association included developing treatment plans, reviewing medications, assessing the type of care and level of services, and determining service continuation based on the patient's status and progress.

On our survey form, physicians were asked to indicate their level of satisfaction with each variable by answering the questions listed in Table 1 with "always,"

“usually,” “infrequently,” or “never.” We also asked about the number of patients, time required to manage home health patients, and other persons initiating requests for home health services (when not the primary physician). The surveys were mailed to each physician at their clinic address at Tulane University Medical Center. Second and third reminder notices were sent to physicians who had not responded after 2 consecutive weeks. We conducted the study over an 8-week period ending March 15, 1994. The surveys were coded so that the respondents and their clinical sections could not be identified during the analysis.

**Analysis**

The initial analysis was summarily descriptive and included the percentage of physicians “always” satisfied, “usually or always” satisfied, and “never” satisfied. Percent ratios were used as measurements of effect. Rate ratios were used as measurements of association between physician satisfaction and potential modifying factors.<sup>23</sup> These factors included the physician’s specialty group and the level of the physician’s participation in home healthcare. The level of physician participation was judged by the frequency with which they followed up with home health patients and the frequency with which they initiated their own orders for routine services or special services. We used the chi-square test to determine statistical significance. The level of statistical significance was defined at an alpha of 0.05.

... RESULTS ...

Sixty-nine of the 83 physicians (83%) surveyed responded to our questionnaire. The distribution of respondents by specialty is shown in Table 2. On average, physicians in the general internal medicine section followed up with the largest number of home health patients, 11.6 per physician per month (Table 2). The average number for surgeons and medical subspecialists was 2.8 and 4.2, respectively. Seventy-nine percent of the medical subspecialists indicated that they “usually or always” had home health patients. For general internists and surgeons, the frequencies were 58% each.

Seventy percent of physicians “usually or always” initiated their routine orders, and 65% initiated their orders for special services (Table 2). When the orders were not initiated directly by the physicians themselves, they were usually initiated by resident physicians, social workers, or other physicians. Only 36 of the 69 respondents (52%) answered the question regarding how much time they spent reviewing and approving the orders submitted. Those who answered said the time ranged from 1 to 30 minutes. The average length of time was 9 minutes (median, 6.5 minutes; mode, 5 minutes).

**Physician Satisfaction with Home Healthcare**

Five questions addressed physician satisfaction with the quality of home healthcare; four were related to the quality of the orders and one pertained to the delivery of home health service. The results are summarized in Tables 3 and 4.

*Timeliness of Orders.* Fifty-two percent of physicians indicated that the orders were “usually or always” submitted in a timely manner (Table 3). Nine percent reported that the orders were “always” timely, and 9% indicated that they were “never” timely. No statistically significant differences were seen among specialty groups regarding their satisfaction with the timeliness of the orders (Table 4). Timeliness of orders was statistically significantly associated with initiation of routine orders and initiation of orders for special services ( $P < 0.01$ ). Physicians who “usually or always” initiated their

**Table 1.** Sample Questions on Survey of Physicians’ Assessment of Home Healthcare Order Quality

1. Do you have patients who receive home healthcare through home health agencies? How many per month?
2. Do you initiate your own routine orders for your patients on home healthcare? Are orders for special services initiated by you? Who else initiates the routine orders? Who else initiates the orders for special services?
3. Are the orders submitted from home health agencies sent back in a timely manner so you can thoroughly review them before they are implemented? How much time does it usually take for you to review and approve the orders?
4. Are the medications on the home healthcare treatment form consistent with those prescribed?
5. Are the level of services and the type of services on the home health service treatment form appropriate for the patient’s condition?
6. Is the information on the home healthcare treatment form sufficient to determine whether the home health services should be continued?
7. Are you satisfied with the delivery of home health services by home health agencies?

**Table 2.** Distribution of Survey Respondents by Specialty

Specialties	Survey Respondents	R Order*	S Order*	Frequency of Having HHC Patients <sup>†</sup>	No. of Patients <sup>†</sup> (SD)
General Medicine	12/14 (86%)	11/12 (92%)	12/12 (100%)	7/12 (58%)	11.6 (8.4)
Medical subspecialty	38/49 (78%)	33/38 (87%)	33/38 (87%)	30/38 (79%)	4.2 (4.2)
Nephrology	7/7 (100%)	6/7 (86%)	6/7 (86%)	6/7 (86%)	8.1 (7.6)
Cardiology	5/10 (50%)	5/5 (100%)	5/5 (100%)	5/5 (100%)	5.1 (5.5)
Infectious Disease	5/5 (100%)	3/5 (60%)	4/5 (80%)	4/5 (80%)	4.7 (2.9)
Pulmonary	5/7 (71%)	3/5 (60%)	4/5 (80%)	5/5 (100%)	2.4 (1.2)
Hematology/Oncology	5/5 (100%)	4/5 (80%)	5/5 (100%)	4/5 (80%)	2.8 (1.8)
Gastroenterology	4/6 (67%)	4/4 (100%)	4/4 (100%)	3/4 (75%)	1.5 (0.4)
Immunology/Rheumatology	4/4 (100%)	2/4 (50%)	2/4 (50%)	3/4 (75%)	1.4 (0.6)
Endocrine	3/3 (100%)	3/3 (100%)	3/3 (100%)	3/3 (100%)	3.3 (1.2)
Surgery	19/20 (95%)	10/19 (53%)	0/19 (0%)	11/19 (58%)	2.8 (2.4)
All Specialties	69/83 (83%)	48/69 (70%)	45/69 (65%)	48/69 (70%)	5.04 (6.0)

R Order = initiation of routine orders; S Order = initiation of special service orders; HHC = home healthcare; SD = standard deviation.

\*Number and percent that answered "usually or always."

<sup>†</sup>Average number of patients per physician per month

**Table 3.** Physician Satisfaction with Home Healthcare (HHC) Orders

Quality Measures for HHC Orders	Physician Specialty Group			
	General Internal Medicine	Surgery	Medical Subspecialty	All Groups
Timeliness of Orders				
Usually or Always	9/12 (75%)	6/19 (32%)	20/36 (56%)	35/67 (52%)
Always	1/12 (8%)	2/19 (11%)	3/36 (8%)	6/67 (9%)
Never	0/12 (0%)	2/19 (11%)	4/36 (11%)	6/67 (9%)
Consistency in Medications				
Usually or always	11/11 (100%)	14/17 (82%)	36/38 (95%)	61/66 (92%)
Always	2/11 (18%)	3/17 (18%)	8/38 (21%)	13/66 (20%)
Never	0/11 (0%)	1/17 (6%)	0/38 (0%)	1/66 (2%)
Appropriateness of Services				
Usually or always	12/12 (100%)	16/19 (84%)	37/38 (97%)	65/69 (94%)
Always	3/12 (25%)	2/19 (11%)	3/38 (8%)	8/69 (12%)
Never	0/12 (0%)	0/19 (0%)	0/38 (0%)	0/69 (0%)
Sufficiency of Data on Form				
Usually or always	12/12 (100%)	10/18 (56%)	25/38 (66%)	47/68 (69%)
Always	1/12 (8%)	0/18 (0%)	3/38 (8%)	4/68 (6%)
Never	0/12 (0%)	1/18 (6%)	2/38 (5%)	3/68 (4%)
Satisfied with HHC Services				
Usually or always	12/12 (100%)	15/19 (79%)	33/37 (89%)	60/68 (88%)
Always	4/12 (33%)	0/19 (0%)	0/37 (0%)	4/68 (6%)
Never	0/12 (0%)	0/19 (0%)	0/37 (0%)	0/68 (0%)

**Table 4.** Factors Associated with Physician Satisfaction with Home Healthcare (HHC) Orders

Measures of HHC Orders Quality	Having HHC Patients	Initiating R Order	Initiating S Order	GIM/SPEC/SURG	Satisfied with HHC
Timeliness of Orders RR	1.22	1.38	1.60	2.37 1.75 1.00	1.22
Chi-square P value	1.71 NS	6.73 < 0.01	6.67 < 0.01	5.90 NS	3.75 < 0.05
Consistency in Medications RR	0.83	0.97	3.50	2.37 1.75 1.00	1.52
Chi-square P value	0.35 NS	1.41 NS	5.30 < 0.02	3.65 NS	3.95 < 0.05
Appropriateness of Services RR	0.68	1.60	*	1.18 1.15 1.00	2.75
Chi-square P value	1.86 NS	1.99 NS	7.08 < 0.01	4.91 NS	9.11 < 0.01
Sufficiency of Data on Form RR	0.72	1.60	1.38	1.80 1.12 1.00	1.54
Chi-square P value	3.92 < 0.05	0.19 NS	2.58 NS	7.11 < 0.05	17.13 < 0.01
Satisfied with HHC Services RR	0.65	1.55	1.36	1.26 1.12 1.00	NA
Chi-square P value	4.05 < 0.05	1.26 NS	1.06 NS	3.21 NS	NA NA

R Order = routine order; S Order = special service orders; GIM = general internal medicine; SPEC = medical subspecialty; SURG = surgery; RR = rate ratio; NS = not statistically significant; NA = not applicable.  
\*The rates are 69% and 0%, respectively

own orders were more likely to indicate that the orders were “usually or always” timely.

*Consistency in Medications.* Ninety-two percent of physicians reported that the medications on the certification form were “usually or always” consistent with the prescribed medications (Table 3). Twenty percent noted that the medications were “always” consistent, and 2% indicated that they were “never” consistent with that prescribed. There were no statistically significant differences among specialty groups regarding their satisfaction with the consistency in medications (Table 4). Consistency in medications was statistically significantly associated with initiation of orders for special services

( $P < 0.02$ ). Physicians who “usually or always” initiated their orders for special services were 3.5 times more likely to indicate that the medications on the form were “usually or always” consistent with that prescribed.

*Appropriateness of Services.* Ninety-four percent of physicians indicated that the level of care and type of services were “usually or always” appropriate for the patient’s condition (Table 3). Twelve percent reported they were “always” appropriate, and none indicated they were “never” appropriate. No statistically significant differences were seen among the specialty groups regarding their satisfaction with the appropriateness of services. Appropriateness of services was

statistically significantly associated with initiation of orders for special services ( $P < 0.01$ ). Physicians who "usually or always" initiated their orders for special services were more likely to indicate that the type and level of services were "usually or always" appropriate.

*Sufficiency of Data on Form.* Only 69% of physicians reported that the quality of data on the home healthcare form was "usually or always" sufficient to assess whether the service should be continued (Table 3). About 6% noted that the data were "always" sufficient, while 4% indicated that they were "never" sufficient. All 12 of the general internists responding to our survey believed that the data were sufficient to assess the continuation of service. Only 56% and 66% of the surgeons and medical subspecialists, respectively, felt that the data were sufficient. These differences between specialty groups were statistically significant ( $P < 0.05$ ) (Table 4). Sufficiency of the data was inversely associated with the number of patients followed up, a statistically significant finding ( $P < 0.05$ ) (Table 4). Physicians who "usually or always" followed up with home health patients were 1.4 times less likely to assess the data as "usually or always" sufficient.

*General Satisfaction.* Eighty-eight percent of physicians stated that they were "usually or always" satisfied with the delivery of home health services (Table 3). Six percent reported that they were "always" satisfied, and none said they were "never" satisfied. There were no statistically significant differences between the type of specialty group and satisfaction with the delivery of home health services (Table 4). Satisfaction with the delivery of home health services was inversely related to the frequency with which physicians had home health patients. This finding was statistically significant ( $P < 0.05$ ) (Table 4). Physicians who "usually or always" had home health patients were 1.5 times less likely to indicate that they were "usually or always" satisfied with the delivery of home health services.

Physician satisfaction with home health service delivery was statistically significantly associated with each of the four measures for home health order quality. Physicians who reported that the data on the certification form were "usually or always" sufficient to assess the continuation of home health service were 1.5 times more likely to be satisfied with the delivery of home health services. Physicians who assessed the level of care and type of services as appropriate were 2.8 times more likely to be satisfied with home health service delivery. Those who indicated that the orders were timely were 1.2 times more likely to be satisfied with home health service delivery. Physicians who reported that the medications were consistent with those pre-

scribed were 1.5 times more likely to be satisfied with the service delivery.

### ... DISCUSSION ...

Physicians are essential to the provision of home health services under the present system that uses home health agencies. However, only a limited amount of information has been published on home healthcare from the perspective of the practicing physician. Our study specifically examined the views of physicians on the quality of home health orders generated by home health agencies. The physicians in our study were from diverse disciplines and specialties. Additionally, the home health patients on which the physicians based their assessments were cared for by many different home health agencies.

Consistent with the findings of previous studies, most physicians (88%) were satisfied with the delivery of home health services by home health agencies. As more specific questions were addressed, relatively lower percentages were satisfied with the timeliness of orders and the sufficiency of data on the certification form. For this population, timeliness of orders and sufficient data are areas for which quality assessment and quality improvement might be needed.

Only one of the four measures of home health order quality was significantly different among physician specialties. General internists were more likely to report that the data on the home health form were sufficient to assess service continuation. Perhaps the general internists who manage patients with multiple chronic conditions followed up with their home healthcare patients for a longer time. Thus they would be better able to gather more information over time to assess when to discontinue home health services.

Physicians who frequently followed up with home health patients compared with those who did not were less satisfied with the delivery of home health services. They also were less satisfied with the sufficiency of the data to assess service continuation and the appropriateness of the level and type of service. Our data did not indicate the reason for these findings, and our findings are only associations, not causative factors. However, the data suggest that areas that need quality improvement may be more recognizable by physicians who participate more in home healthcare management.

Physicians who initiated their own orders were more often satisfied with the timeliness of orders and consistency in medications with those prescribed. This may be explained as follows: the designated coworkers for physicians who did not initiate their

own orders might change the patients' medical regimen without the primary physicians' knowledge. The orders might be sent first to the coworkers, causing a delay before they are re-routed to the primary physician. However, the precise explanation for these findings cannot be determined from our study. Our comments are hypotheses to be addressed in future studies using a larger, broader study population.

Results of our study are limited by the small survey sample drawn exclusively from the academic setting at Tulane University Medical Center. Thus the absolute measurements for home health service quality at Tulane Medical Center might not be generalizable to all practice settings. Also, we did not address all predictors of satisfaction with home healthcare. However, this was only a pilot study, focusing on those relevant factors associated with the treatment plan. We considered the treatment plan and order form to be the principal means by which home health agencies and physicians interact. As demonstrated in our study, satisfaction with each of the measures of quality derived from the treatment plans was associated with satisfaction in the delivery of home health service.

#### ... CONCLUSION ...

In general, most physicians are satisfied with the delivery of home healthcare services. For the first time, we have demonstrated in a pilot study that physicians overall are satisfied with the quality of orders in home healthcare. However, at least in this setting, there are specific areas of orders quality with which physicians are less satisfied: the timeliness of the orders and the sufficiency of the data on the home healthcare form to assess service continuation.

Further studies using a larger population and more specific indicators for these measures of order quality are needed. Also, studies are needed to further define the relationship between the physician's satisfaction with the quality of orders and the overall quality of service delivery. In designing such a study, the specialty of the physician and the level of physician's participation in home care should be considered.

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