



Specialty Physician Designation in Referrals from a Vertically Integrated PCMH

Andrew D. Schreiner¹ , Keri T. Holmes-Maybank¹ , Jingwen Zhang¹, Justin Marsden¹, Patrick D. Mauldin¹, and William P. Moran¹

Abstract

Introduction: Primary care referrals to specialty physicians once relied upon the medical skill of the specialist, the quality of past communication, and previous consultative experiences. As health systems vertically integrate, patterns of specialty physician referral designation are not known.

Methods: This cross-sectional study from a patient-centered medical home (PCMH) evaluated the proportion of referrals with named specialists. All outpatient specialty referrals from the PCMH between July and December of 2014 were eligible for inclusion, and 410 patients were randomly selected for chart review. The outcome of interest was specialty physician designation. Other variables of interest included PCMH provider experience, the reason for referral, and time to specialty visit. Univariate analysis was performed with Fisher exact tests.

Results: Of 410 specialty referrals, 43.7% were made to medical specialties, 41.7% to surgical specialties, and 14.6% to ancillary specialties. Resident physicians placed 224 referrals (54.6%), faculty physicians ordered 155 (37.8%), and advanced practice providers ordered 31 (7.6%). Only 11.2% of the specialty referral orders designated a specific physician. No differences appeared in the reason for referral, the referral destination, the proportion of visits scheduled and attended, or the time to schedule between those referrals with and without specialty physician designation. Faculty physicians identified a specific specialist in 21.4% of referrals compared to residents doing so in 4.9% ($P < .0001$).

Conclusion: Patient-centered medical home referrals named a specific specialty physician infrequently, suggesting a shift from the historical reliance on the individual characteristics of the specialist in the referral process.

Keywords

referrals, vertical integration, consultation, specialty care, relationships

Background

Specialty referrals are the intersection of care where patients, primary care physicians (PCPs), and specialty physicians work to address the patients' medical problems. The referral process begins with the patient and/or PCP's decision to engage specialty services. This decision takes into account the patient's medical problem, the question in need of answering (or procedure needing to be performed), the type of specialist needed, the destination health system, and the specific specialty physician desired.¹

Historically, the qualities of the specific physician designated to provide specialty services played a critical role in this process.²⁻⁵ Studies of specialty referrals in the 1990s identified factors important to PCPs in the referral process. One study, utilizing survey data, found the most important factors in

referral decisions including the type of illness (90%), the medical skill of the specialty physician (90%), previous positive experiences with the individual provider (86%), and the availability for consultation (76%).⁶ The location and hospital affiliation of the specialty provider (51%) carried significantly less impact on the referral designation. Later studies reported

¹ Department of Medicine, Medical University of South Carolina, Charleston, SC, USA

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Corresponding Author:

Andrew D. Schreiner, Division of General Internal Medicine, Medical University of South Carolina, Charleston, SC 29425, USA.
 Email: schrein@musc.edu



similar results, identifying the medical skill of the specialty clinician, previous experience with the specialist, appointment timeliness, quality of communication, the likelihood of good patient–physician rapport, and the likelihood the specialist directs the patient back to the PCP as the most influential factors in the referral decision. Again, hospital affiliation played only a minor role in the referral process.⁷ Since the mid-2000, health-care systems have increasingly moved toward vertical integration, with hospitals purchasing physician practices and bringing once independent complementary health-care services into contractual alignment with shared interests.^{8–10} This shift aims to improve the coordination of care and maximize efficiency, but hazards of vertical integration may include increased spending and reduced marketplace competition.¹¹ Vertically integrated relationships have yet to improve the quality of care delivered.¹⁰ Requests for specialty consultation provide an opportunity to study these issues in a vertically integrated health system and find targets for improvement.¹²

This study evaluates whether physician experience influences specialty clinician specification in specialty referrals within a vertically integrated academic patient-centered medical home (PCMH). To better understand this issue, we studied the proportion of specialty referrals from an academic PCMH with a specific specialty physician designation.

Methods

This case study of specialty referrals from a PCMH assessed the proportion of referrals with a specific physician designation. We also studied the relationship between the PCP's experience and the decision to name a specialty physician in consultative requests.

Our study took place in the Internal Medicine PCMH at the Medical University of South Carolina (MUSC). This academic clinic comprised 14 faculty physicians, more than 90 resident physicians in training, and up to 4 advanced practice providers (APPs, nurse practitioners and physician assistants). The clinic cares for a diverse and medically complex patient population with up to 38 000 visits per year.

A cross-sectional analysis was performed for all specialty referral orders placed between July 1 and December 31, 2014. Specialty referrals included any requests for consultation identified in the electronic health record (EHR) using structured data.

Of the 4113 specialty referrals identified, 410 (~10%) were randomly selected for chart review. Investigators applied a data abstraction tool, developed in REDCap, to each of the randomly selected charts. Data were obtained from structured fields and free text within the referral orders and clinical documentation (office or telephone note) at the time of the request.

The outcome of interest was evidence of a specific specialty provider designation at the time of referral. This outcome was discerned from a structured field in all

EHR referral orders, as well as evaluation of all same day clinical documentation for mention of a named specialty clinician.

The primary variable of interest was the experience of the provider ordering the referral. Providers were categorized as faculty physicians, resident physicians, or APPs. Faculty physicians were further stratified by the number of years since completion of graduate medical training: 0 to 2 years, 3 to 5 years, 6 to 10 years, 11 to 20 years, 21 to 30 years, and 31+ years post-residency.

Other variables included the reason for referral, the specialty destination, the proportion of referrals scheduled, the time (in days) between the referral order and the first scheduled specialty provider visit, and the proportion of referrals resulting in a completed specialty visit. The reason for referral was determined during chart review using free text from referral orders and progress notes temporally associated with the referral order. Categories of reasons for referral included diagnosis, therapy, procedural, and others. Specialty destination variables were classified as medical, surgical, and ancillary specialties (Table 1). We calculated the proportions of scheduled and attended specialty visits using structured data, and the mean time in days between order placement and the date of the first scheduled visit.

Univariate analysis with Fisher exact test compared proportions of referrals with designated specialty providers placed by resident and faculty PCPs. Fisher exact test was also used to compare variables between those referrals with a specialty provider designation and those without. Using Student *t* test, the number of days between referral order and first scheduled appointment were compared between those referral orders with and without a named specialist.

SAS 9.3 (SAS Institute Inc., Cary, NC) was used for statistical analyses. This project was approved by the MUSC Institutional Review Board.

Results

Among the 410 specialty referrals reviewed, 179 (43.7%) were made to medical specialties, 171 (41.7%) to surgical specialties, and 60 (14.6%) to ancillary specialties (Table 1). Resident physicians placed 224 referrals (54.6%), faculty physicians ordered 155 (37.8%), and APPs placed 31 (7.6%, Table 2). Reasons for specialty consultation were evenly distributed with 118 (28.8%) for diagnosis, 96 (23.4%) for procedural needs, 103 (25.1%) for therapeutic concerns, and 93 (22.7%) for various other purposes. Of those referrals ordered, 325 (79.3%) resulted in scheduled visits to specialty providers, with an average of 38.9 days between the consultative request and the scheduled date. Only 244 (59.5%) of the 410 referrals had documentation of a completed specialty visit.

In aggregate, 46 (11.2%) of the 410 specialty referral orders designated a specific physician (Table 3). No statistically significant differences appeared in the reason for referral, the referral specialty, the proportion of visits scheduled and

Table 1. Referral Orders by Destination and Specialty.

Specialty Referrals	Counts	%
Medical specialty	179	43.7
Allergy and immunology	1	0.6
Cardiology	15	8.4
Endocrinology	25	14.0
Gastroenterology	56	31.3
Hematology and oncology	9	5.0
Infectious disease	1	0.6
Nephrology	6	3.4
Neurology	10	5.6
Pain medicine	6	3.4
Psychiatry	14	7.8
Pulmonary	28	15.6
Rheumatology	7	3.9
Sleep medicine	1	0.6
Surgical specialty	171	41.7
Dermatology	36	21.1
General surgery	4	2.3
Neurosurgery	8	4.7
Obstetrics and gynecology	22	12.9
Ophthalmology	34	19.9
Oral surgery	1	0.6
Orthopedic surgery	36	21.1
Otolaryngology	8	4.7
Plastic surgery	4	2.3
Radiology	2	1.1
Surgical oncology	6	3.5
Urology	10	5.8
Ancillary services	60	15
Audiology	4	6.7
Behavioral health	3	5.0
Dental medicine	5	8.3
Dietitian	5	8.3
Home health services	3	5.0
Nutrition	1	1.7
Optometry	1	1.7
Pharmacist	23	38.3
Podiatry	11	18.3
Psychology	3	5.0
Wound care	1	1.7

Table 2. Referral Orders by Ordering Provider Experience.

	Faculty	Resident	APP	Overall
Total referrals	155	224	31	410
Reason for referral				
Diagnosis	42 (27.1%)	59 (26.3%)	17 (54.8%)	118 (28.8%)
Procedure	39 (25.2%)	52 (23.2%)	5 (16.1%)	96 (23.4%)
Therapy	56 (36.1%)	39 (17.4%)	8 (25.8%)	103 (25.1%)
Other	18 (11.6%)	74 (33.0%)	1 (3.2%)	93 (22.7%)
Referral destination				
Medical specialty	64 (41.3%)	103 (46.0%)	12 (38.7%)	179 (43.7%)
Surgical specialty	69 (44.5%)	86 (38.4%)	16 (51.6%)	171 (41.7%)
Ancillary service	22 (14.2%)	35 (15.6%)	3 (9.7%)	60 (14.6%)
Visits scheduled	125 (80.6%)	172 (76.8%)	28 (90.3%)	325 (79.3%)
Days to scheduled	47.1	34.9	26.3	38.9
Visits attended	103 (66.5%)	119 (53.1%)	22 (71.0%)	244 (59.5%)

Table 3. Referral Orders by Specialist Designation.

	Specialist Designation (n = 46)	No Designation (n = 364)	P-value ^a
Reason for referral			
Diagnosis	14 (30.4%)	104 (28.6%)	.863
Procedure	7 (15.2%)	89 (24.4%)	.198
Therapy	16 (34.8%)	120 (33.0%)	.868
Other	9 (19.6%)	51 (14.0%)	.374
Referral destination			
Medical specialty	26 (56.5%)	153 (42.0%)	.275
Surgical specialty	18 (39.1%)	153 (42.0%)	.885
Ancillary service	2 (4.3%)	58 (15.9%)	.067
Visits scheduled	39 (84.8%)	286 (78.6%)	.440
Days to scheduled	40.3	38.7	.808 ^b
Visits attended	30 (65.2%)	215 (59.1%)	.524

^aFisher exact test.^bTwo sample t test.

attended, or the time to scheduling between referrals with and without named clinicians.

Faculty physicians identified a specific specialist in 33 (21.4%) of 154 referrals, compared to residents doing so in 11 (4.9%) of their 224 referrals ($P < .01$). Advanced practice providers only identified specialty physicians in 2 (6.5%) of 31 referral orders.

Statistically significant differences appeared in the proportion of faculty referral orders identifying a named specialty physician by years of faculty experience. Faculty with 0 to 2 years of experience named a specific specialist in 7% of referrals, compared to 25% of faculty with 3 to 5 years, 25% in faculty with 6 to 10 years, 10% in faculty with 11 to 20 years, 38% in faculty with 21 to 30 years, and 33% in faculty with more than 30 years of experience (χ^2 , $P < .01$).

Discussion

Providers infrequently identified a specific specialty physician in the studied referral orders, suggesting a departure from the traditional emphasis on the individual characteristics of the specialist in the referral process. The PCPs experience likely contributes to these observations, as faculty providers named specialty clinicians more often than residents, with additional variation in referral patterns by years of faculty experience.

Multiple factors may play a role in these findings. The time spent in a particular practice or health system likely contributes to a lack of specialty provider identification. Internal medicine residents spend 5 years, at most, in the PCMH practice and many of the referrals placed by faculty originated from

providers with fewer than 5 years of experience. Though residents rotate in different specialties and forge relationships with specialty clinicians, residents are still less likely to have longitudinal experience with specialty physicians or full knowledge of the services they provide, leading to less-specific referrals. Early-career providers possibly had insufficient time to cultivate relationships with specialists and receive inconsistent education on the process, resulting in generic referral orders.¹³ These findings may also reflect previously studied referral practices shaped by physician status.¹⁴⁻¹⁶ Long-tenured physicians refer to other long-tenured physicians, whereas newer faculty may rely on more general referral destinations.^{14,15} In addition, as health systems aim to improve access and the timeliness of care, less-specific referrals may allow for shorter wait times, improving patient satisfaction and minimizing the time burden of the patient problem. Although increasing the flexibility for scheduling with a specialty provider should, in theory, accelerate the pace of the referral process, this was not borne out in our study. Also, as specialty physicians become more sub-specialized, proper identification of the specific physician to address a particular issue may prove more difficult than in the past.¹⁷ Referring physicians may have relationships with individual specialty providers, but may not fully appreciate the niches of the specialty practice, resulting in more generalized referral orders for specialty services.

Several limitations of this study should be considered. These data are obtained from one PCMH at an academic medical center and further investigation of trends in referrals in other health systems is needed. Furthermore, historical descriptions of factors driving referral patterns relied upon surveys assessing PCPs' beliefs about specialty referrals. This study relies upon behavioral data and PCPs may still believe in the importance of specific specialist qualities, but have behaviorally changed in the setting of a dynamically shifting health system. Finally, this work relies upon documentation in the HER and cannot track external referrals or those made in combination with undocumented communications.

Assessing how change in specialty provider designation impacts patient experience is of paramount importance. Patients trust the PCP to operate as their agents, acting with fidelity, competence, honesty, and confidentiality.¹⁸ In the referral process, the patient places their trust in the PCP to get them to the proper specialist to solve their issue. Referral decisions based on the PCP's previous experience and the medical skill of the specialty clinician highlight personal trust between the providers, affecting the patient's trust in the specialist.^{18,19} Lack of specificity may transfer this implicit trust relationship from an individual provider to the institution or system, instilling the belief that the institution only employs competent specialty physicians. The trust relationship between the PCP and the patient transfers to the health system, and subsequently, the specialty provider. This allows for the development of "system" trust and influences the new relationships developed with other employed physicians. Previous work has shown that patients exhibit greater trust in individual physicians than in health systems, with trust more deeply "rooted in fundamental

aspects of the treatment relationship than in shifting social and institutional frameworks."^{18,20,21} Further study may shed light on how referrals and referral specificity affect patient trust and the relationships with PCPs, specialists, and health systems.

Authors' Note

All authors have made substantial contributions to the design of this work and the analysis of the data. All authors participated in drafting the article and providing critical revisions. All authors have approved the version to be published. All authors take public responsibility for the content.


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ORCID iD

Andrew D. Schreiner  <https://orcid.org/0000-0003-0914-3182>

Keri T. Holmes-Maybank  <https://orcid.org/0000-0003-1829-7167>

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Author Biographies

Andrew D. Schreiner, MD, MSCR is an assistant professor of Medicine and general internist at the Medical University of South Carolina (MUSC).

Keri T. Holmes-Maybank, MD, MSCR is an assistant professor of Medicine and hospitalist at MUSC.

Jingwen Zhang, MS is a biostatistician with expertise in health services research at MUSC.

Justin Marsden, BS, is a health services researcher with expertise in data management and electronic health records.

Patrick D. Mauldin, PhD, is a professor of Medicine and economist who leads the Health Service Research and Policy section at MUSC.

William P. Moran, MD, MS, is a professor of Medicine and Director of the Division of General Internal Medicine at MUSC.