Tools to Improve Referrals From Primary Care to Specialty Care

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ABSTRACT

OBJECTIVES: Referrals from primary to specialty care are a critical first step in coordination of specialty care, but shortcomings in the appropriateness, clarity, or completeness of referrals are common. We examined (1) whether 3 tools to coordinate specialty care are associated with better referral characteristics and (2) whether greater perceived helpfulness of these tools is associated with better referral characteristics among specialists who use all 3 of them.

STUDY DESIGN: National online survey about care coordination among medical specialists receiving referrals in the Veterans Health Administration.

METHODS: Adjusted odds ratios (ORs) for associations between use and helpfulness of 3 coordination tools (service agreements, referral templates, and e-consults) and perceived frequency of 3 referral characteristics (appropriateness, clarity, and completeness).

RESULTS: Among specialists (N = 497), use of referral templates was associated with perceptions that referrals were more frequently appropriate (adjusted OR, 1.5; 95% CI, 1.0-2.4), clear (adjusted OR, 1.6; 95% CI, 1.0-2.5), and complete (adjusted OR, 1.9; 95% CI, 1.1-3.2). Use of e-consults was associated with more frequent referral clarity (adjusted OR, 1.7; 95% CI, 1.0-3.0). Among specialists using all 3 tools, those reporting that templates were very helpful also perceived more frequent referral clarity (adjusted OR, 3.1; 95% CI, 1.1-8.5) and completeness (adjusted OR, 3.6; 95% CI, 1.5-8.7). Service agreements were not associated with any referral characteristic.

CONCLUSIONS: Well-designed referral templates may help improve the clarity and completeness of primary care–specialty care referrals. Existing templates may provide models that can be adapted in collaboration with primary care and broadly applied to improve referrals. Work is needed to improve the impact of service agreements and e-consults on referrals.

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More than 100 million ambulatory care visits resulted in a specialty care referral in 2009, and the number continues to rise.[1] As the number of providers involved in a patient's care increases, so does the risk of care fragmentation. Care fragmentation occurs when patient care and information is shared across multiple providers without accounting for the needs and actions of all involved. Fragmented care can lead to patient and provider dissatisfaction, resource waste, and potentially devastating health consequences.[2] Risks to patients include missed and unmet needs,[3] duplicated tests,[4] medication errors,[5] and confusion about their treatment.[6] These risks increase exponentially with more sources of medical care,[7] raising costs and putting sicker patients in greater danger.[2]

Referral from primary care to specialty care creates the link between the 2 services and sets the stage for the direction and scope of the patient's specialty evaluation and care plan. Referrals are therefore a critical first step in coordination of specialty care. Ideally, referrals should reflect a mutual understanding between the primary care provider (PCP) and specialist about when evaluation or care for a condition exceeds a reasonable level for management in primary care (ie, appropriateness for referral). The referral from primary care should also convey a clear question and sufficient historical information about the patient and their condition to focus the consultation (ie, the clarity and completeness of the referral). However, referrals that do not meet these standards are common[8] and can result in delayed, duplicative, or incomplete specialty care evaluations, with attendant compromises in the quality of patient care.

Veterans make more than 11 million visits a year to medical specialists within the Veterans Health Administration (VHA),[9] which is among the largest integrated healthcare systems in the United States. Preventing adverse outcomes through care coordination is a cornerstone of the VHA's effort to deliver high-quality specialty care. The VHA has implemented several approaches to improve the clinical appropriateness and content of referrals. Service agreements (ie, care coordination agreements) between local primary and specialty care services outline expectations for each

TAKEAWAY POINTS

Referrals to specialty care from primary care may be inappropriate, unclear, or incomplete, which can contribute to suboptimal specialist evaluations.

- In a survey of Veterans Health Administration medical specialists, use of referral templates was associated with specialist perceptions of more frequent referral appropriateness, clarity, and completeness.
- E-consult use was associated only with referral clarity; service agreement use was not associated with any referral characteristic.
- Well-designed templates, developed in collaboration with primary care providers, may help improve the quality of primary care–specialty care referrals.
- Work is needed to improve the impact of e-consults and service agreements on referral quality.

stage of the referral process and include guidelines about clinically appropriate referrals and referral content.[10] Referral templates created by specialty services within the shared electronic health record (EHR) are used to structure referrals and guide PCPs in terms of what content to include.[3] E-consults are a third coordination tool, intended to shuttle less-complex questions to consultation by chart review so that referrals for face-to-face visits need only be placed for appropriate clinical situations that require a more intense level of service.[11] Specialists can request further specification of the referral question or inclusion of additional historical information at the time of e-consult or if they convert an e-consult to a traditional referral.

Specialty services commonly use these tools (service agreements, templates, and e-consults), but little is known about the degree to which any of them improve the appropriateness, clarity, and completeness of referrals from primary care and, thereby, more effectively serve to coordinate care between PCPs and specialists.

We used data from an online survey of VHA specialists' experience with care coordination to examine the relationships between the use of each of these 3 referral tools and the frequency of desirable referral characteristics. We addressed the following questions: Is the use of referral tools to coordinate specialty care associated with specialists' perceptions of better referrals? Among specialists who use all 3 tools, are those who rate the tools as very helpful more likely to report better referrals?

METHODS

We used data from an online survey about specialty care coordination among 2533 clinicians from 13 medical specialties across the VHA in 2016 to 2017 (25% response rate).[12] The study was focused on the experience of clinicians in medical subspecialties who receive referrals. Participants were recruited using a combination of random sampling, posting the survey link to a VHA specialist listserv, and a convenience sample of facility specialty section chiefs who encouraged their physicians to respond. Email addresses were tracked to avoid participation more than once; responses themselves were anonymous. Incentives were not offered, consistent with VHA policy. The survey was administered using SurveyMonkey.[13] The study was approved by the institutional review board at the Bedford Veterans Affairs Medical Center.

Respondents reported on both their use (yes/no) and perceived helpfulness of several tools that could be used to coordinate specialty care. We examined 3 tools that we hypothesized to have a relationship to desirable elements of the PCP's referral request: service agreements, referral templates, and e-consults. Respondents were asked: "If you used them in the last 3 months, how helpful were these tools in promoting coordination of care with PCPs?" Based on the distribution of responses, and to create meaningful categories, we categorized response options as "not used" (not available to me or available to me but did not use in the last 3 months), "at most somewhat helpful" (not at all helpful, a little helpful, or somewhat helpful), and "very helpful" (very helpful or extremely helpful). Secondarily, we collapsed all ratings of helpfulness to create a category for "used" (vs "not used").

In a separate section of the survey, respondents reported the appropriateness, clarity, and completeness of referrals by answering 3 questions: "How often did consult requests reflect an understanding on the part of the PCP about what constitutes an appropriate referral to your specialty clinic?", "How often was the reason for the consult request sufficiently clear, such that you understood what the referring PCP was asking of you?", and "How often did the consult request itself include sufficient clinical history and other information to meet your immediate needs?". Response options were provided on a 7-point scale (never, rarely [less than 10% of the time], occasionally [about 30% of the time], sometimes [about 50% of the time], frequently [about 70% of the time], usually [about 90% of the time], and always). Based on the distribution of responses, and to retain meaningful categories, we dichotomized responses as "half the time or less" versus "more than half the time."

Statistical Analysis

The goal of our analysis was to characterize the associations between 3 care coordination tools (service agreements, templates, and e-consults) and the appropriateness, clarity, and completeness of referrals. We hypothesized that, for each tool, specialists who used the tool to coordinate care with PCPs would be more likely to report that referrals received from PCPs were appropriate, clear, and complete more than half the time. We used logistic regression models to estimate associations between use of each of the 3 tools and the outcomes (separate models for each of specialists' perceptions of the appropriateness, clarity, and completeness of referrals). Based on their potential impact on specialists' perceptions of the quality of PCP referrals, we adjusted for specialist age, sex, years in VHA, number of VHA clinical sessions per week, and percentage of consult requests related to procedures (≤25% vs >25%).

We also hypothesized that those who rated a tool as very helpful would be more likely to report that referrals were appropriate, clear, and complete than would specialists who rated the tool as at most somewhat helpful. The analysis for this hypothesis was limited to specialists who reported using all 3 tools, so that all respondents would be able to provide meaningful ratings of the perceived relative helpfulness of all 3 tools. Because crude odds ratios (ORs) and 95% CIs for all analyses were very similar to adjusted results (data not shown), we display only the adjusted results in the Tables.

RESULTS

Sample Characteristics

The analytic sample was composed of 497 specialists who provided complete information on all relevant variables. Thirty-nine percent were female, 48% were younger than 50 years, and 54% had been a VHA specialist for less than 10 years (**Table 1**). Twenty-one percent had more than 5 clinic sessions weekly, and 58% reported that 25% or fewer of referrals were related to procedures.

E-consults were the most commonly used coordination tool (87%), followed by referral templates (69%) and service agreements (41%). One-third (33%) of respondents used all 3 referral tools.

About half (55%) of specialists reported that referrals were appropriate more than half the time, 67% reported that referrals were clear more than half the time, and 25% reported that referrals were complete more than half the time.

TABLE 1. Characteristics of Medical Specialist Respondents (N = 497)

Variable	n (%)
Female	192 (39)
Age in years	
<40	103 (21)
40-49	136 (27)
50-59	123 (25)
≥60	135 (27)
Years in VHA	
<5	155 (31)
5-10	116 (23)
>10	226 (46)
>5 clinic sessions weekly	104 (21)
Percentage of referrals related to procedures	
≤25%	291 (58)
>25%	206 (42)
Subspecialty	
Allergy and immunology	6 (1)
Cardiology	70 (14)
Critical care/pulmonary disease	72 (14)
Dermatology	34 (7)
Endocrinology	32 (7)
Gastroenterology	63 (13)
Geriatric medicine	6 (1)
Hematology-oncology	38 (7)
Infectious disease	43 (9)
Nephrology	34 (7)
Neurology	65 (13)
Rheumatology	32 (7)

VHA indicates Veterans Health Administration.

Use of Coordination Tools and Perceptions of Referral Characteristics

Specialists who provided templates to structure PCP referrals were statistically more likely to report that referrals were appropriate, clear, and complete more than half the time (**Table 2**). Specialists who used e-consults were statistically more likely to report that referrals were clear more than half the time. Use of service agreements was not associated with any referral characteristic (Table 2).

Helpfulness of Tools and Perceptions of Referral Characteristics

Among specialists who reported using all 3 coordination tools (33%; n = 163), 54% rated e-consults as very helpful, 26% rated templates as very helpful, and 17% rated service agreements as very helpful (**Table 3**). Those describing templates as very helpful were statistically more likely to report that referrals were clear and complete more than half the time compared with those describing templates as at most somewhat helpful. Perceived helpfulness of e-consults and service agreements were not associated with any referral characteristics.

DISCUSSION

Referrals from primary care to specialty care can be difficult to coordinate, and shortcomings are longstanding.[14,15] The referral request from primary care to specialty care is a critical first step in coordination as it focuses and informs the specialist's consultation. Appropriate, clear, and complete referrals increase the likelihood that the specialist can provide timely, thorough, and efficient care. Our findings about shortcomings in the referral process are consistent with those in the literature.[3,8,16-21] Our study extends this knowledge base by examining how commonly used mechanisms to coordinate care affect important referral characteristics.

We found that VHA specialists who use referral templates were more likely to report that referrals were appropriate, clear, and complete more than half the time, and specialists who used e-consults were more likely to report that referrals were clear. Use of service agreements was not associated with any referral characteristic. Among specialists who used all 3 tools together, those who reported referral templates to be very helpful were also more likely to report that referrals were clear and complete more than half of the time.

Only about half of respondents indicated that referrals were appropriate more than half the time. Reducing inappropriate referrals is critical to ensuring timely access to care. However,

TABLE 2. Association Between Use of Coordination Tools and Specialists' Perspectives of Referral Characteristics (N = 497)[a]

	Appropriateness		Clarity		Completeness	
	Referrals Appropriate >50% of the Time n (%)	Adjusted[b] OR (95% CI)	Referrals Clear >50% of the Time n (%)	Adjusted[b] OR (95% CI)	Referrals Complete >50% of the Time n (%)	Adjusted[b] OR (95% CI)
Service agreements						
Not used (n = 292)	172 (59)	Reference	199 (68)	Reference	68 (23)	Reference
Used (n = 205)	103 (50)	0.7 (0.5-1.0)	132 (64)	0.7 (0.5-1.1)	58 (28)	1.0 (0.7-1.6)
Referral templates						
Not used (n = 156)	81 (52)	Reference	95 (61)	Reference	27 (17)	Reference
Used (n = 341)	194 (57)	**1.5 (1.0-2.4)**	236 (69)	**1.6 (1.0-2.5)**	99 (29)	**1.9 (1.1-3.2)**
E-consults						
Not used (n = 63)	37 (59)	Reference	34 (54)	Reference	12 (19)	Reference
Used (n = 434)	238 (55)	0.8 (0.5-1.4)	297 (68)	**1.7 (1.0-3.0)**	114 (26)	1.3 (0.6-2.5)

OR indicates odds ratio.

[a]Bold text indicates statistically significant findings based on OR and 95% CI.

[b]Model adjusted for age, gender, years in Veterans Health Administration, number of clinic sessions weekly, and percentage of referrals related to procedures.

TABLE 3. Association Between Helpfulness of Coordination Tools and Specialists' Perspectives of Referral Characteristics Among Specialists Using All 3 Tools (N = 163)[a]

	Appropriateness		Clarity		Completeness	
	Referrals Appropriate >50% of the Time n (%)	Adjusted[b] OR (95% CI)	Referrals Clear >50% of the Time n (%)	Adjusted[b] OR (95% CI)	Referrals Complete >50% of the Time n (%)	Adjusted[b] OR (95% CI)
Service agreements						
At most somewhat helpful (n = 136)	67 (49)	Reference	89 (65)	Reference	40 (29)	Reference
Very helpful (n = 27)	13 (48)	0.7 (0.2-1.8)	20 (74)	0.9 (0.3-2.7)	10 (37)	0.8 (0.3-2.4)
Referral templates						
At most somewhat helpful (n = 121)	56 (46)	Reference	75 (62)	Reference	30 (25)	Reference
Very helpful (n = 42)	24 (57)	1.7 (0.8-3.9)	34 (81)	**3.1 (1.1-8.5)**	20 (48)	**3.6 (1.5-8.7)**
E-consults						
At most somewhat helpful (n = 75)	34 (45)	Reference	46 (61)	Reference	23 (31)	Reference
Very helpful (n = 88)	46 (52)	1.3 (0.7-2.6)	63 (72)	1.5 (0.7-3.0)	27 (31)	0.9 (0.4-1.9)

OR indicates odds ratio.

[a]Bold text indicates statistically significant findings based on OR and 95% CI.

[b]Model adjusted for age, gender, years in Veterans Health Administration, number of clinic sessions weekly, and percentage of referrals related to procedures.

there are often differences in what specialists and PCPs consider appropriate for referral; there may also be differences in what is considered appropriate for a given modality when other modalities are available (eg, face-to-face vs e-consult). Just 67% of specialists in our study reported that referrals were clear more than half the time. If referrals are not clear, specialists may address the wrong issue, or they may address the right issue but too narrowly or too broadly for the PCP's and the patient's purposes.

An even lower percentage of respondents—just 25%—reported that referrals were complete more than half the time. These results show that although data are technically available to all providers through the shared EHR, specialists still look for relevant information to be selected and included alongside the referral question. This can be helpful because specialist errors in identification of relevant data can lead to their repeating work, duplicating tests, or suggesting treatments that have already been found ineffective or harmful. Also, PCPs are likely to have a high-level understanding of the relevant data such that they can provide meaning within the referral over and above that gleaned by specialists from review of the day-by-day record. PCPs are thus in a strong position to translate a list of data into useable and meaningful information. On the other hand, PCPs may not know exactly what information would be useful for the specialist's evaluation. Including many details just because they *might* be important is a waste of their effort and limited time.

Referral templates may be useful for improving the appropriateness, clarity, and completeness of referrals. Templates can include a field that specifies the need for a clear question and can be tailored so that they guide the PCP as to what data should be included and whether referral is indicated for a specific given condition. Templates in the VHA are embedded in the EHR as the tool by which to request a referral. They are simple to create and require a minimum of effort to incorporate into the workflow.

Referral templates are usually "homegrown" and vary widely in their content and specificity of instructions they provide. Our data suggest that templates must be carefully crafted and implemented in order to improve referrals. Only 26% of specialists who used all 3 tools reported that templates were very helpful, but those specialists were more than 3 times as likely to report that referrals were clear and complete more than half the time.

It is important to note that in other studies, PCPs have reported that templates can be poorly laid out, be overly rigid in their structure, require irrelevant details, or require that labs and tests be ordered for which interpretation is within the specialist's scope, but for which responsibility for follow-up lies with the PCP.[3,16] Future work should examine specialty- and condition-specific templates already in use and identify which are perceived as most helpful by specialists and PCPs alike. Standardized templates modeled on those rated as very helpful by both parties could improve referrals at low cost and improve the efficiency and quality of specialty care more widely.

We observed an association between e-consult use and referral question clarity. It is possible that PCPs with the option to decide between face-to-face patient consultation and e-consult are prompted to articulate the purpose of the referral more clearly; this is an area for future study. It is notable that use of e-consults was not associated with referral appropriateness given that e-consults are intended as a tool to promote the more clinically appropriate routing of referrals. E-consult use is robust in the VHA, but that usage includes "curbside" questions that might otherwise not be formally asked (and so would not have led to an inappropriate referral).[22] Therefore, the impact of e-consults on reducing inappropriate referrals may not be great. Combining coordination tools, for example, by applying referral templates to e-consult requests, may result in a stronger association between e-consult use and referral clarity and completeness.

A minority of specialists (17%) using service agreements found them very helpful in coordination. We found no association between the use or perceived helpfulness of service agreements and any desirable referral characteristic. These findings are consistent with those of a recent study in which VHA PCPs and specialists reported that existing service agreements were usually ineffective, failing to guide timing of referrals and what information needed to be exchanged.[19] However, given the low percentage of "very helpful" ratings, these findings should be considered provisional and the impact of service agreements on referral characteristics should be examined again after that tool has matured in the VHA.

Like templates, service agreements tend to be homegrown, with wide variation in their form and content but similar potential for clinician buy-in. However, their scopes are much broader, use is not embedded in the workflow, and they are not routinely developed in partnership with primary care. These features may explain why, although referrals are a key topic of service agreements, we did not observe an association with referral characteristics. In a study conducted outside the VHA, service agreements were most successful when both parties to the agreement already had stable communication pathways and strong working relationships.[23] Research is needed on collaborative efforts between PCPs and specialists to develop service agreements, integrate agreements into the clinical workflow, and test their impact on referral characteristics.

Our findings are broadly relevant because service agreements, referral templates, and e-consults are all tools that are used in non-VHA settings. As healthcare systems move toward interoperable EHRs, there is increased opportunity to build the supports for referrals into the workflow (as they often are in the VHA), such that specialty care coordination is improved. Studies like the current one can inform these efforts.

Limitations

Our study has limitations. It is cross-sectional and observational; we cannot make causal inferences. We examined 3 tools that vary widely in their form and processes across services and facilities. The overall survey generated a 25% response rate. This response rate is better than that for a recent VHA physician online survey,[24] but it is possible that respondents were those who were particularly displeased with the state of coordination with PCPs. Although we sampled widely, not all specialties were equally represented in the sample, introducing the possibility of bias. However, the item response distributions that we observed did not suggest that respondents were predominately negative or positive with respect to their consultation experiences. Future work could focus on or oversample certain specialties to better examine potential differences across them. Our findings may not be generalizable to surgical or other nonmedical specialties or to nonambulatory referral contexts. We examined associations between the helpfulness of tools and referral characteristics only among specialists who reported use of all 3 tools. It may be that perceived helpfulness has different associations with referral characteristics among specialists who use 1 or 2 of the examined tools. Of the sample, 87% reported using e-consults, which may have limited the power of the study to identify differences between that group and the minority of specialist providers who do not use e-consults and who may differ in their referral processes in other ways from the majority of providers who use this referral tool. Finally, our study measured only the specialist perspective. It is likely that the PCPs' views would differ on the helpfulness of the same tools on the frequency of certain characteristics of the referral process as they experience it (eg, in the consultation note from the specialist). Future work should examine both the specialist and PCP perspectives on coordination of specialty care, because approaches to measuring and improving coordination need to work for both parties (and the patient).

CONCLUSIONS

Referral templates were associated with specialists perceiving that referrals were appropriate, clear, and complete. Referral templates may be useful for improving care coordination between primary care and specialty care in the VHA and other practice settings. Existing templates can provide models that could be adapted and broadly applied in collaboration with primary care to improve referrals. The use of e-consults was also associated with perceived referral clarity. Service agreements in their current state do not appear to have an association with desirable referral characteristics. Given that both e-consults and service agreements are intended specifically to improve coordination between primary care and specialty care, efforts are warranted to strengthen their impact. With the number of specialty care visits continuing to increase yearly, further efforts to improve the appropriateness, clarity, and completeness of referrals are needed. ■

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