Warm Handoffs and Attendance at Initial Integrated Behavioral Health Appointments

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ABSTRACT

Though integrated behavioral health programs often encourage primary care physicians to refer patients by means of a personal introduction (warm handoff), data are limited regarding the benefits of warm handoffs. We conducted a retrospective study of adult primary care patients referred to behavioral health clinicians in an urban, safety-net hospital to investigate the association between warm handoffs and attendance rates at subsequent initial behavioral health appointments. In multivariable analyses, patients referred via warm handoffs were not more likely to attend initial appointments (OR = 0.96; 95% CI, 0.79-1.18; $P = .71$). A prospective study is necessary to confirm the role of warm handoffs.

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INTRODUCTION

Warm handoffs are a common and often recommended feature of programs that integrate behavioral health services into primary care.[1] In a typical warm handoff, primary care clinicians refer patients to an integrated behavioral health clinician by directly introducing the patient. Warm handoffs have theoretical benefits, including building patients' trust in behavioral health clinicians and reducing patients' stigma about behavioral health care, which could translate to improved attendance at subsequent behavioral health appointments. Attendance to mental health appointments is low and a barrier to broadening access to care.[2] Yet, whether warm handoffs improve attendance is unclear. Two previous studies have addressed this question with conflicting results.[3,4] Because warm handoffs require investment of clinician time and physician training, more data regarding their benefit would be useful. Our objective was to determine whether warm handoffs are associated with improved attendance at subsequent initial integrated behavioral health appointments.

METHODS

Boston Medical Center is an urban safety-net hospital serving primarily minority and low-income patients. In 2014, the hospital-based general internal medicine and family medicine clinics began a program of integrated behavioral health in which mental health clinicians (primarily social workers) offer evaluation, short-course therapy, and substance use counseling to patients. Primary care clinicians can refer patients using either warm handoffs to the program clinicians, who meet with the patient and schedule an intake encounter, or by having front desk staff schedule an initial appointment. We conducted a retrospective analysis of clinical and scheduling data from new referrals to the integrated behavioral health program from July 1, 2015, to December 31, 2016. The primary independent variable was whether the patient had a warm handoff encounter with a mental health clinician before the initial appointment. The mental health clinicians noted a warm handoff in the electronic health record (EHR). The primary outcome was whether the patient attended their initial program appoint-

ment. The institutional review board at Boston University Medical Center approved this study as exempt.

We used multiple logistic regression to examine the association between warm handoffs and the primary outcome variable. We included covariates in the adjusted models with a priori clinical relevance or statistically significance in bivariable analyses ($P \leq .2$). Based on the hypothesis that such diagnoses might worsen attendance rates, we included the following potential confounders: substance use disorders, posttraumatic stress disorder (PTSD), bipolar disorder, and schizophrenia.[2,5] Variance inflation factors for predictors were below 1.5, suggesting absence of collinearity. We performed a sensitivity analysis to determine whether the model would change if all same-day appointments were referred by warm handoffs. We were concerned that if the program clinicians converted warm handoffs into same-day initial appointments (as they did in 39 documented occurrences), they may not have documented warm handoffs in the EHR, leading us to undercount warm handoffs for this group of patients. All analyses were conducted using SAS 9.1 (SAS Institute Inc).

Table 1. Characteristics of Patients Referred to the Integrated Behavioral Health Program in Primary Care, July 1, 2015 to December 31, 2016 (N = 2,690)

Characteristic	Percent of Total	Attended Initial Appointment No. (%)
Age, y		
18-40	50.04	514 (38.19)
41-64	44.68	511 (42.51)
≥65	5.28	62 (43.66)
Female sex	58.74	611 (38.67)
Race/ethnicity		
Non-Hispanic black/ African-American	47.14	472 (37.19)
Non-Hispanic white	24.05	292 (45.13)
Other or missing race	9.44	113 (44.49)
Hispanic/Latino (any race)	19.33	210 (40.38)
Primary language		
English	81.00	877 (40.25)
Non-English	19.00	210 (41.10)
Insurance		
Medicaid	58.10	601 (38.45)
Medicare	13.64	147 (40.05)
Commercial	21.08	254 (44.80)
Other	4.91	57 (43.18)
Behavioral health diagnoses[a]		
Depression	28.74	324 (41.91)
Anxiety	17.06	186 (40.52)
Bipolar disorder	2.90	36 (46.15)
Panic disorder	2.23	21 (35.00)
PTSD	6.58	82 (46.33)
Schizophrenia	9.44	116 (45.67)
Substance use disorder	18.25	192 (39.10)
Medical comorbidities		
Type 2 diabetes	15.43	171 (41.20)
Chronic obstructive pulmonary disease	19.29	209 (40.27)
Received warm handoff	20.15	221 (40.77)
Time from referral to scheduled initial appointment		
Same day as referral	6.80	150 (81.97)
>1 d, but ≤30 d after referral	71.00	766 (40.10)
>30 d after referral	21.97	169 (28.60)

PTSD = posttraumatic stress disorder.

[a]Taken from problem lists in the electronic health record.

RESULTS

A total of 2,690 patients were scheduled for initial appointments with the behavioral health clinicians; a primary care clinician referred 21% using a warm handoff. Of these patients, 1,087 (40%) attended initial behavioral health appointment (Table 1).

Table 2 shows results of multivariable analyses adjusting for age, sex, race, insurance, substance use disorders, bipolar disorder, PTSD, schizophrenia, and days until next appointment. Patients referred by warm handoffs did not have an increased odds of attending the initial appointment. Having an initial appointment scheduled within 30 days of the referral was significantly associated with attendance, and the association was even stronger when the initial appointment was scheduled to take place on the same day as the referral.

In the sensitivity analysis that assumed all same-day appointments were referred by warm handoffs, our findings did not change; we still failed to find an association between warm handoffs and attendance.

DISCUSSION

In this study, warm handoffs were not associated with improved attendance at initial behavioral health appointments. The most significant predictor of attendance at an initial appointment was time from referral until appointment, consistent with other studies in specialty mental health and other clinical settings.[6-10]

The retrospective design of this study allows for unmeasured confounding. Primary care clinicians may preferentially perform warm handoffs for patients they perceive are the least likely to attend an appointment, such as patients who have severe mental health conditions or substance use disorders, low health literacy, reluctance to engage with behavioral health services, disorganization, social barriers, or other factors. Though our model included some of these potential

Table 2. Analysis of Patient Characteristics Associated With Attendance at Initial Integrated Behavioral Health Appointments in Primary Care

Variable	Unadjusted OR (95% CI)	*P* Value	Adjusted OR (95% CI)[a]	*P* Value
Age, y				
18-40	1.00		1.00	
41-64	1.20 (1.02-1.40)	.03	1.31 (1.1-1.56)	.002
≥65	1.25 (0.88-1.78)	.20	1.42 (0.96-2.11)	.081
Sex				
Female	1.00		1.00	
Male	1.19 (1.02-1.39)	.03	1.13 (0.96-1.33)	.15
Race/ethnicity				
Non-Hispanic black/ African-American	1.00		1.00	
Hispanic (any race)	1.14 (0.93-1.41)	.21	1.15 (0.93-1.43)	.20
Non-Hispanic white	1.39 (1.15-1.68)	.0008	1.35 (1.10-1.67)	.004
Other/missing race	1.35 (1.03-1.78)	.03	1.42 (1.07-1.88)	.016
Insurance				
Medicaid	1.00		1.00	
Medicare	1.06 (0.84-1.33)	.64	0.95 (0.73-1.24)	.70
Commercial	1.28 (1.06-1.56)	.01	1.32 (1.07-1.61)	.008
Other	1.20 (0.84-1.72)	.31	1.26 (0.86-1.83)	.23
Behavioral health diagnosis[b]				
Substance use disorder	0.94 (0.77-1.14)	.52	0.75 (0.60-0.95)	.016
Bipolar disorder	0.79 (0.50-1.23)	.30	0.89 (0.55-1.46)	.66
PTSD	0.77 (0.57-1.05)	.10	0.74 (0.53-1.03)	.076
Schizophrenia	0.79 (0.61-1.02)	.07	0.80 (0.61-1.06)	.13
Received warm handoff	1.02 (0.84-1.23)	.85	0.96 (0.79-1.18)	.71
Appointment scheduled on same day as referral	7.62 (5.18-11.20)	<.0001	11.66 (7.65-17.76)	<.001
Appointment within 1 mo	0.96 (0.81-1.13)	.61	1.67 (1.37-2.05)	<.001

OR = odds ratio; PTSD = posttraumatic stress disorder.

[a] Adjusted for age, sex, race, insurance, substance use disorders, bipolar disorder, PTSD, schizophrenia, and days until next appointment.

[b] Taken from problem lists in the electronic health record. Reference is not having each diagnosis.

confounders, EHR data cannot capture all relevant factors. Another possible explanation is the heterogeneity of warm handoffs conducted in a real-world setting. Ideally, during warm handoffs, behavioral health clinicians establish rapport with patients, deliver brief supportive counseling or a brief intervention, and educate patients about the integrated behavioral health program. In a busy underserved clinic such as ours, however, integrated clinicians may not always have the opportunity to deliver all aspects of a warm handoff, and its potential in improving attendance may not be realized.

A prospective study comparing different types of warm handoffs to standard referrals is needed to determine whether warm handoffs improve attendance at initial intake appointments, and which features of warm handoffs are most beneficial for shich patients. In the interim, reducing appointments wait times is likely to improve attendance at initial behavioral health intakes.

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