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After studying this article, you should be able to:

- Schedule follow-up mental health appointments as part of the standard of care for inpatient psychiatric discharge planning

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Effect of Scheduling a Post-Discharge Outpatient Mental Health Appointment on the Likelihood of Successful Transition From Hospital to Community-Based Care

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ABSTRACT

Objective: This study examined a cohort of 15,520 inpatient psychiatric discharges to determine associations between scheduling an outpatient mental health appointment as part of discharge planning and attending outpatient care following discharge after control for patient, hospital, and system characteristics.

Methods: 2012–2013 New York State Medicaid and other administrative databases were used to examine patients who were aged under 65 years, admitted to an inpatient psychiatric unit, and discharged to the community. Outcomes included attending an outpatient mental health service within 7 and 30 days following inpatient discharge. Scheduling a mental health outpatient appointment as part of the discharge plan was the primary predictor variable, and potentially confounding covariates were addressed by adjusting for propensity scores estimating the likelihood of having an outpatient appointment scheduled.

Results: Among 15,520 discharged patients, 11,945 (77%) had an outpatient appointment scheduled with a mental health provider as part of their discharge planning. After adjustment for propensity scores, patients who had an outpatient appointment scheduled were significantly more likely to attend an outpatient mental health service within 7 (OR = 1.69; 95% CI, 1.48–1.94) and 30 days (OR = 1.65; 95% CI, 1.42–1.93) compared to patients who did not have an appointment scheduled. Even among those with a low propensity to have an appointment scheduled, scheduling an outpatient appointment was associated with attending outpatient services.

Conclusions: Scheduling an outpatient mental health appointment is an effective and low-resource discharge planning practice that should be an important target for inpatient psychiatric clinical quality measurement and improvement.

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Clinical Points

- Scheduling a follow-up outpatient mental health appointment is a widely recommended discharge planning practice for inpatient psychiatric care, yet little is known regarding how often patients receive this practice as well as its effectiveness.
- Scheduling an outpatient appointment increased the odds of patients attending a post-discharge appointment after controlling for a wide range of patient, hospital, and service system characteristics known to impact care transitions.
- Even among patients at highest risk for failed care transitions—eg, those who were homeless, had co-occurring substance use disorders, or were not engaged in care prior to admission—scheduling an aftercare appointment significantly increased the odds of a successful care transition.

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The period immediately following discharge from inpatient psychiatric care poses substantial risks of serious and even life-threatening adverse outcomes. Foremost among them is the risk of premature treatment disengagement,[1–4] which in turn increases the risk of relapse and hospital readmission,[5–11] homelessness,[12,13] violent behavior,[14,15] criminal justice involvement,[16,17] and all-cause mortality including suicide.[18–20] These risks are especially concerning given the high rates of failed transitions from inpatient to outpatient mental health care: 42%–51% of adults[1,2,21] and 31%–45% of youth[21–24] do not receive any outpatient mental health treatment for their disorders within 30 days of inpatient discharge.

Scheduling timely appointments for outpatient mental health follow-up care is widely accepted as a standard of care for inpatient psychiatric treatment.[25–30] Little is known, however, regarding the proportions of hospitalized individuals who receive this routine discharge planning activity as well as its effectiveness. Timely scheduling of initial outpatient visits following discharge has been associated with improved rates of attending outpatient mental health services,[31–37] although negative findings have also been reported.[38] However, nearly all prior studies were either single-site reports or did not rigorously control for differences between patients who did and did not receive scheduling of outpatient mental health appointments.[4,32,39,40] In this study, we examined the association between having an outpatient mental health appointment scheduled as part of discharge planning and attending outpatient mental health care, controlling for several patient, hospital, and system characteristics in a cohort of over 15,000 inpatient psychiatric admissions. Additionally, we repeated the analyses for the subgroup of patients who had co-occurring substance use disorders, a patient population known to be especially unlikely to receive comprehensive discharge planning and at high risk for failed care transitions.[41] For both analyses, we hypothesized that after control for potential confounds, patients who had an outpatient appointment scheduled as part of discharge planning would have a higher likelihood of attending an initial outpatient mental health service.

METHODS

Data were collected as part of a statewide quality assurance program and were obtained from 4 primary sources: (1) Medicaid claims records (including both patient and clinician data), (2) the 2012–2013 American Hospital Association Annual Survey, (3) the 2012–2013 Health Resources and Human Services Administration Area Resource File, and (4) a 2012–2013 New York State (NYS) Managed Behavioral Healthcare Organization (MBHO) Discharge File created during a statewide quality assurance program in which NYS contracted with 5 MBHOs in geographically distinct regions to review discharge planning practices for fee-for-service inpatient psychiatric admissions. Medicaid claims and the MBHO Discharge File data are owned by the NYS Department of Health and Office of Mental Health, respectively, and are not available for sharing. Area Resource File data are available from the federal Health Resources and Human Services Administration, and annual hospital survey data can be obtained from the American Hospital Association.

Patients were eligible for the initial sample if they (1) were < 65 years of age, (2) were admitted to an inpatient psychiatric unit during 2012–2013 with a principal diagnosis of a mental disorder, (3) had an inpatient length of stay of ≤ 60 days, (4) were discharged to the community, (5) had Medicaid eligibility for at least 11 of the 12 months prior to admission, and (6) were not Medicare beneficiaries. A total of 18,793 subjects met these criteria. Of these, 888 patients did not have information relating to outpatient appointments made as a part of the discharge plan, yielding a population of 17,905 subjects considered for propensity score adjustment (described subsequently). Only the first observed inpatient admission was included for patients with more than one inpatient psychiatric admission during 2012–2013. The local Institutional Review Board approved the study and granted a waiver of individual consent.

Variables of Interest

The outcome variables, which were calculated with Medicaid claims data, were defined as attending an outpatient mental health service within 7 and 30 days following

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inpatient discharge. An outpatient mental health service visit was defined as a Medicaid claim for a visit at a state mental health–licensed outpatient setting or any outpatient service with a primary diagnosis of a mental disorder provided by a mental health practitioner or physician. Outpatient visits were tracked for up to 60 days following hospital discharge, under the assumption that care transition practices were unlikely to affect longer-term outpatient follow-up care.

The primary independent variable was a dichotomous measure of whether the inpatient psychiatric treatment team scheduled a mental health outpatient appointment following discharge. This variable was reported for each discharge by the MBHOs, which were instructed to code whether an appointment for outpatient mental health treatment was part of the discharge plan for each case and, if so, to list the date of the appointment. In a reliability study, 214 randomly selected hospital medical records of patients included in the cohort were compared to MBHO ratings. Raters reviewing the hospital records were required to verify that the aftercare provider listed in the medical record was a licensed mental health clinic, mental health specialty provider (eg, Assertive Community Treatment), or behavioral health independent practitioner. Using these rating guidelines for the hospital medical records, we found acceptable reliability ($\kappa = 0.43$) between the MBHO reports of appointments being scheduled and documentation in the hospital medical records.

Propensity Score Adjustment and Analytic Plan

Given the observational nature of the data, we expected an imbalance among the patient, hospital, and service system characteristics of inpatients who did and did not have outpatient appointments scheduled as part of their discharge plan. Accordingly, among the 17,905 eligible subjects, propensity scores were created to account for the likelihood of inpatient providers' scheduling an outpatient appointment. Propensity scores estimated the probability of having an outpatient mental health appointment scheduled conditional on observed patient, hospital, and service system factors.

Patient-level variables included demographic characteristics, primary inpatient discharge diagnosis, co-occurring substance use disorder at discharge, prior engagement in outpatient mental health services preceding admission, homelessness at admission, and burden of co-occurring medical conditions using a modified Elixhauser Comorbidity Index (ECI) that calculated scores based on clinical diagnoses recorded in inpatient or outpatient records during the 12 months prior to inpatient admission.[42–44] The ECI score was modified to exclude mental disorder categories (depression, psychosis, alcohol use, and drug use) because all of the patients in the study population had a mental disorder diagnosis and we sought a measure capturing only non-psychiatric medical comorbidity.

Hospital-level variables included number of hospital beds, hospital ownership, psychiatric discharges, psychiatric discharges with substance use disorder diagnosis, percentage of psychiatric population with 2 or more psychiatric discharges, medical resident teaching status, and whether the hospital provided outpatient mental health services. Finally, service system variables based on counties in which patients resided documented regional mental health resources (provider density), poverty, and urban/rural regions. An additional variable was created to distinguish among the 5 different MBHOs reporting data in the study.

Using all 20 patient-, hospital-, and system-level variables, random forest regression was employed to construct the propensity scores for the likelihood of having an outpatient mental health appointment scheduled. Tuning parameters were optimized using the out-of-bag (OOB) misclassification rate with 4 randomly selected variables assessed at each node split, a leaf size of 1, and a maximum tree depth of 50 nodes. The OOB misclassification rate remained stable between 50 and 500 trees, so 50 trees were used. Once propensity scores were calculated, we examined the overlap of the distribution of propensity scores for those with and without appointments scheduled; 2,385 subjects exhibited propensity scores that were non-overlapping, ie, being either higher or lower than all scores in the opposing group, and were thus trimmed from the sample. Scores for the remaining 15,520 subjects were split into 5 strata of equal width. Standardized differences for all 20 independent variables were averaged across the 5 strata as a measure of achieved balance (see Table 1).

Kaplan-Meier curves to visualize differences in outpatient care attendance over time between the two groups were used. Logistic regression models estimated the association between having an outpatient appointment scheduled and 7- and 30-day attendance at outpatient mental health services. Both logistic regression models were fit with generalized estimating equations to control for the within-hospital correlation of observations and adjusted for propensity score stratum. We also fit models by adding an interaction term to test whether propensity score stratum influenced the association between having an appointment scheduled and attending outpatient care. Finally, the full analysis was repeated for those subjects with a co-occurring discharge diagnosis of substance use disorder.

All analyses were performed using SAS version 9.4 (2016; SAS Institute Inc; Cary, North Carolina), including PROC HPFOREST in SAS Enterprise Miner for random forest regression.

RESULTS

The final analytic sample included 15,520 unique individuals discharged from inpatient psychiatric units to the community during the 2-year study period for whom information was available regarding whether a post-discharge appointment was scheduled prior to their discharge. Among these discharged patients, 11,945 (77%) had an outpatient appointment scheduled with a mental health provider as part of their discharge planning. Of the total sample, 5,958 (38%) attended an outpatient mental

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Table 1. Patient-, Hospital-, and System-Level Characteristics of 15,520 Inpatient Psychiatric Patients

Variable	Total Sample	Had an Outpatient Mental Health Appointment Scheduled: No (n = 3,575) n	No (n = 3,575) Column %	Yes (n = 11,945) n	Yes (n = 11,945) Column %	Standardized Difference Mean Over Propensity Score Strata Column %
Patient Level						
Age, y						
4–12	1,294	187	5.23	1,107	9.27	0.10
13–17	1,885	473	13.23	1,412	11.82	0.12
18–35	4,785	1,043	29.17	3,742	31.33	0.07
36–64	7,556	1,872	52.36	5,684	47.58	0.09
Sex						
Female	7,061	1,524	42.63	5,537	46.35	0.05
Male	8,459	2,051	57.37	6,408	53.65	0.05
Race/ethnicity						
Non-Hispanic white	5,725	1,202	33.62	4,523	37.87	0.13
Non-Hispanic black	5,615	1,392	38.94	4,223	35.35	0.09
Puerto Rican/Hispanic	1,823	408	11.41	1,415	11.85	0.09
Other	1,347	352	9.85	995	8.33	0.07
Unknown	1,010	221	6.18	789	6.61	0.06
Length of stay, d						
0–4	2,279	557	15.58	1,722	14.42	0.15
5–14	7,886	1,725	48.25	6,161	51.58	0.08
15–30	4,068	954	26.69	3,114	26.07	0.03
31–60	1,287	339	9.48	948	7.94	0.06
Homeless at admission						
No	13,444	2,828	79.10	10,616	88.87	0.21
Yes	1,234	385	10.77	849	7.11	0.15
Primary diagnosis at discharge						
Schizophrenia disorders	4,590	1,042	29.15	3,548	29.70	0.13
Schizoaffective disorders	1,697	378	10.57	1,319	11.04	0.04
Bipolar disorders	5,048	1,227	34.32	3,821	31.99	0.06
Depressive disorders	2,744	618	17.29	2,126	17.80	0.06
Other mental health disorders	1,441	310	8.67	1,131	9.47	0.16
Co-occurring substance use diagnosis at discharge						
No	9,342	1,779	49.76	7,563	63.32	0.20
Yes	6,178	1,796	50.24	4,382	36.68	0.20
Medical comorbidity in previous 12 mo (non-behavioral health)[a]						
0	4,746	1,048	29.58	3,698	31.31	0.06
1–3	7,531	1,683	47.50	5,848	49.52	0.03
4 or higher	3,076	812	22.92	2,264	19.17	0.05
Prior engagement in psychiatric outpatient services						
Active (past mo)	7,465	1,411	39.47	6,054	50.68	0.15
Recent (past 12 mo, but not past mo)	3,330	812	22.71	2,518	21.08	0.10
None (none in past 12 mo)	4,725	1,352	37.82	3,373	28.24	0.16
Hospital Level						
No. of hospital beds						
Small: less than 100	544	90	2.52	454	3.80	0.13
Medium: 100–499	7,877	1,699	47.52	6,178	51.72	0.13
Large: 500 or more	7,099	1,786	49.96	5,313	44.48	0.10
Hospital ownership						
Public	4,226	1,107	30.97	3,119	26.11	0.08
Private not-for-profit	9,738	2,138	59.80	7,600	63.62	0.12
Private for-profit	1,556	330	9.23	1,226	10.26	0.09
Psychiatric discharges that were Medicaid						
Low: less than 49%	3,044	634	17.73	2,410	20.18	0.06
Medium: 49%–71%	7,350	1,462	40.90	5,888	49.29	0.11
High: over 71%	5,126	1,479	41.37	3,647	30.53	0.15
Hospital provides outpatient psychiatric services						
No	1,536	318	8.90	1,218	10.20	0.15
Yes	13,984	3,257	91.10	10,727	89.80	0.15
Teaching hospital						
No	2,050	422	11.80	1,628	13.63	0.12
Yes	13,470	3,153	88.20	10,317	86.37	0.12
Psychiatric discharges with substance use disorder diagnosis						
Low: less than 34%	3,249	753	21.06	2,496	20.90	0.11
Medium: 34%–60%	9,155	2,196	61.43	6,959	58.26	0.11
High: over 60%	3,116	626	17.51	2,490	20.85	0.08

(continued)

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Table 1 (continued).

Variable	Total Sample	Had an Outpatient Mental Health Appointment Scheduled: No (n = 3,575) n	No (n = 3,575) Column %	Yes (n = 11,945) n	Yes (n = 11,945) Column %	Standardized Difference Average Over Propensity Score Strata Column %
Psychiatric population with 2 or more psychiatric discharges						
Low: less than 24.5%	2,666	490	13.71	2,176	18.22	0.15
Medium: 24.5%–35%	7,915	1,738	48.62	6,177	51.71	0.07
High: over 35%	4,939	1,347	37.68	3,592	30.07	0.11
System Level						
Behavioral Health Organization						
Western	1,960	222	6.21	1,738	14.55	0.28
Central	1,119	164	4.59	955	7.99	0.16
Hudson River	4,256	1,101	30.80	3,155	26.41	0.11
New York City	6,584	1,852	51.80	4,732	39.61	0.20
Long Island	1,601	236	6.60	1,365	11.43	0.12
County population in poverty[b]						
Low: less than 15%	5,225	1,067	30.24	4,158	35.14	0.08
Medium: 15%–19%	5,353	1,275	36.13	4,078	34.47	0.05
High: 20% or higher	4,783	1,187	33.64	3,596	30.39	0.08
Mental health workers per 100,000 residents[b]						
Low: less than 67	976	128	3.63	848	7.17	0.13
Medium: 67 to 166	8,526	2,010	56.96	6,516	55.07	0.15
High: 167 or more	5,859	1,391	39.42	4,468	37.76	0.17
Urban/rural classification[b]						
Large central metro	9,189	2,360	66.87	6,829	57.72	0.20
Large fringe metro	3,040	630	17.85	2,410	20.37	0.13
Medium metro	1,365	251	7.11	1,114	9.42	0.10
Small metro	655	134	3.80	521	4.40	0.10
Micropolitan	805	105	2.98	700	5.92	0.13
Noncore	307	49	1.39	258	2.18	0.05

[a]Data missing for 167 cases.
[b]Data missing for 159 cases.

health service within 7 days following discharge and 9,146 (59%) attended a service within 30 days of discharge.

Figure 1 shows the cumulative rate of patients attending outpatient mental health visits following discharge, with separate curves displaying cumulative probabilities for those who had and did not have an outpatient mental health appointment scheduled as part of their discharge plan. The differences between the two groups was evident by the second day following discharge and increased in magnitude until around day 10 following discharge; after day 10, the difference in cumulative probabilities of attending outpatient visits between those who did or did not have appointments scheduled appeared relatively constant (Figure 1). The proportions of patients attending outpatient visits within 7 and 30 days were 23% and 39%, respectively, for patients who did not have appointments scheduled as part of their discharge plans, versus 43% and 65%, respectively, for patients who did have appointments scheduled prior to discharge.

Patient-, hospital-, and system-level characteristics of the 15,520 patients are presented in Table 1. For propensity score stratification, standardized differences were calculated comparing patients who did and did not have an outpatient mental health appointment scheduled as part of their discharge plan. After trimming cases to create the final propensity score strata and optimally minimize residual bias,[45] only 2 variables had standardized difference scores >0.2 (Table 1): homelessness status at hospital admission and MBHO completing the review. We additionally controlled for those 2 variables in a sensitivity analysis, and the results did not change.

Table 2 summarizes results of unadjusted and adjusted logistic regression models for the association between having an outpatient appointment scheduled as part of discharge planning and attending an outpatient mental health service within 7 and 30 days following discharge. In the propensity score–adjusted model, patients who had an outpatient appointment scheduled as part of their discharge plan were significantly more likely to attend outpatient services within 7 days (OR = 1.69; 95% CI, 1.48–1.94; $P < .0001$) and 30 days (OR = 1.65; 95% CI, 1.42–1.93; $P < .0001$) of hospital discharge as compared to those who did not have an appointment scheduled.

Figure 2 displays results for each of the 5 propensity score strata at 7 and 30 days, respectively. Individuals who had an outpatient mental health appointment scheduled as part of their discharge plan had a greater odds of attending an outpatient mental health service following discharge regardless of the probability of having been scheduled for an appointment. In Figure 2, even in propensity score stratum 1, representing patients with the highest concentration of characteristics associated with not having an outpatient appointment scheduled, having an appointment scheduled increased the odds of attending an outpatient visit within

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Figure 1. Cumulative Rates of Patients Attending Outpatient Mental Health Appointments Following Discharge From a Psychiatric Inpatient Unit (N = 15,520)

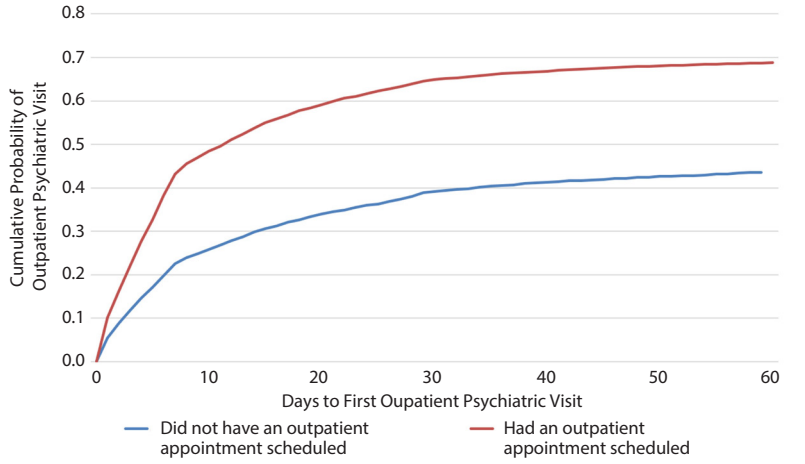

Table 2. Unadjusted and Adjusted Associations Between Having an Outpatient Mental Health Appointment Scheduled and Attending Outpatient Mental Health Services Within 7 and 30 Days Following Discharge

	Had an Outpatient Appointment Scheduled		Unadjusted			Adjusted		
Patient Group	n	%	OR	95% CI	*P*	OR	95% CI	*P*
Total sample (n = 11,945)								
7-Day attendance	5,152	43.13	2.61	2.16–3.15	< .0001	1.69	1.48–1.94	< .0001
30-Day attendance	7,747	64.86	2.87	2.33–3.54	< .0001	1.65	1.42–1.93	< .0001
Co-occurring substance use subgroup (n = 3,971)								
7-Day attendance	1,347	33.92	2.75	2.24–3.38	< .0001	2.05	1.68–2.51	< .0001
30-Day attendance	2,157	54.32	2.72	2.25–3.28	< .0001	1.83	1.52–2.2	< .0001

Abbreviation: OR = odds ratio.

7 days. This association was significant for all strata except for stratum 1, in which it failed to achieve a *P* value < .05 in part because of the small sample size. This stratum included 387 patients who did not have an outpatient mental health appointment scheduled as part of their discharge plans and 29 patients who had an outpatient appointment scheduled.

The propensity score analysis was repeated for the subgroup of discharged patients with a co-occurring substance use diagnosis at hospital discharge (n = 5,744). Of these patients, 1,626 (28%) and 2,697 (47%) attended an outpatient visit within 7 and 30 days, respectively. In the adjusted model for this subgroup, patients who had an outpatient appointment scheduled with a mental health provider as part of their discharge plan were more likely to attend outpatient mental health services within 7 days (34% attended a visit; OR = 2.05; 95% CI, 1.68–2.51; *P* < .0001) and 30 days (54% attended a visit; OR = 1.83; 95% CI, 1.52–2.2; *P* < .0001) as compared to those who did not have an appointment scheduled (Table 2). Odds ratios favored patients who had appointments scheduled and were significant at *P* < .05 for all analyses except for the 7-day outcome in stratum 1, which included patients who were least likely to have an appointment scheduled and was much smaller. This stratum included 40 patients who did not have an appointment scheduled and 5 who did have an appointment scheduled.

DISCUSSION

Scheduling follow-up mental health appointments is an accepted standard of care for inpatient psychiatric discharge planning, and there is no rationale for not completing this routine practice. There is, however, little research documenting the prevalence of this practice and its impact on care transitions. These questions are especially relevant given the substantial proportions of patients who fail to attend outpatient mental health care in a timely manner following discharge from inpatient psychiatric units: 41% of discharged patients in this study did not see an outpatient mental health provider in the 30 days following discharge,

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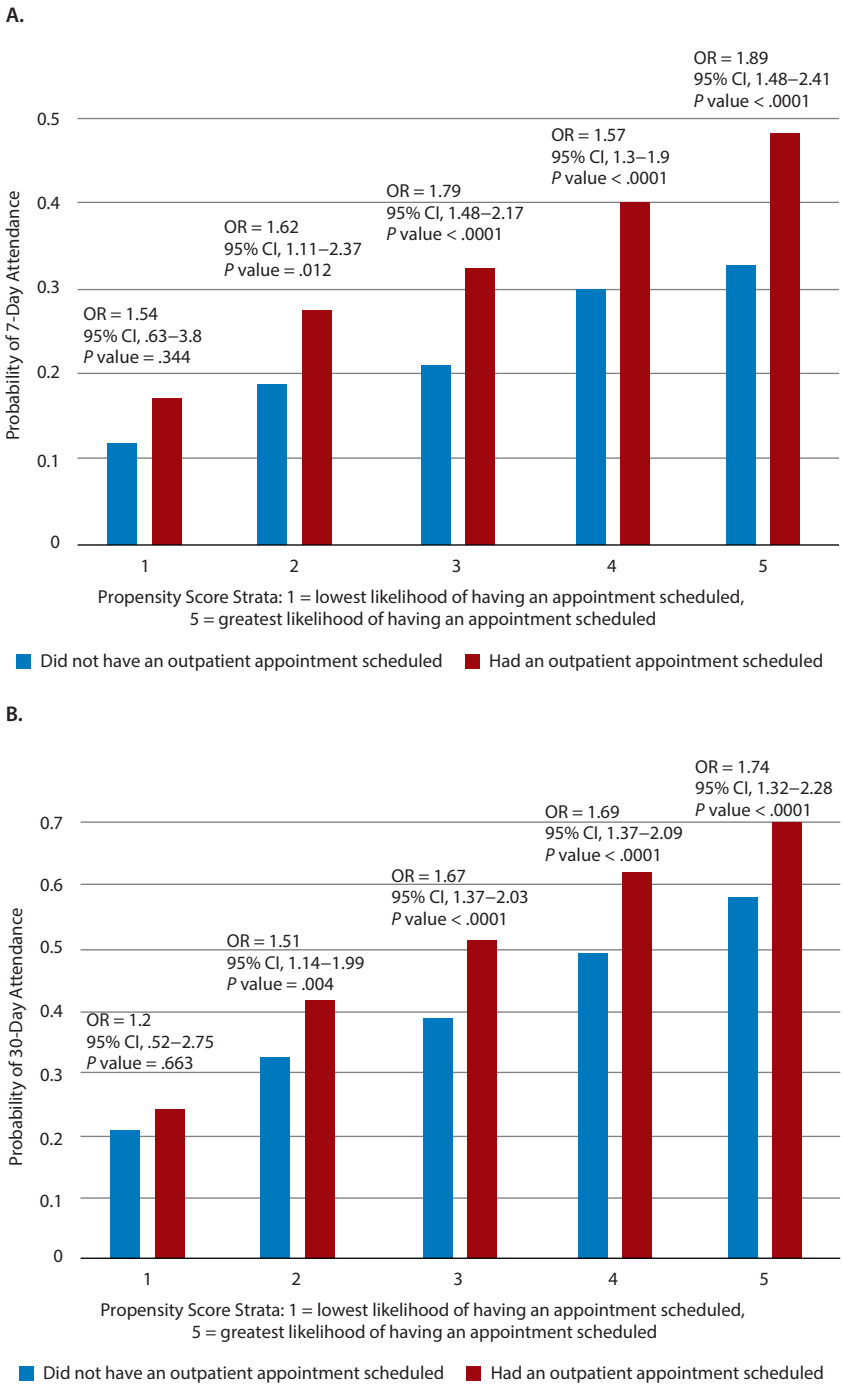
Figure 2. Probability of Attending an Outpatient Mental Health Service Within (A) 7 Days and (B) 30 Days Following Inpatient Discharge



Abbreviation: OR = odds ratio.

similar to in other published reports.[1,2] Discharge planning practices that promote successful care transitions should be key focus areas for clinical quality measurement and improvement activities.

We had a unique opportunity to evaluate the association between this discharge planning activity and successful care transitions by linking multiple administrative databases for a large cohort. Psychiatric inpatient teams scheduled outpatient follow-up appointments with a mental health provider for 77% of more than 15,000 Medicaid beneficiaries discharged from psychiatric inpatient units over a 2-year period. Patients who had a post-discharge appointment scheduled were significantly more likely to attend an outpatient mental health service within both 7 and 30 days following hospital discharge, even after control for a wide range of factors that were correlated with scheduling a follow-up appointment.

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Our data also indicate that scheduling an appointment as part of the discharge plan is most likely to have an impact on care transitions in the first 7–10 days following discharge. This finding is consistent with known standards of care endorsing scheduling appointments within 7 days following discharge; one would not expect routine discharge planning activities to influence treatment behaviors over longer periods following discharge when other clinical, social, and environmental factors become more likely to have an impact.

Although we could find no published data for comparison, our finding that 77% of discharged patients had an outpatient appointment scheduled as part of their discharge plan appears lower than expected given that this routine practice is a standard of care for hospitalized patients endorsed by opinion leaders,[25] the Institute of Medicine,[26] the National Committee for Quality Assurance,[27] and the Joint Commission.[28] There are several reasons why psychiatric inpatient teams may not schedule post-discharge appointments including patients refusing follow-up, lack of community providers able to see patients in a timely manner, and short lengths of stay that strain resources to complete adequate discharge planning. Further research is needed to identify strategies for psychiatric inpatient teams to increase rates of completing routine discharge planning activities for all patients regardless of their care coordination needs.

Of note, 50% of the patients who did not have an appointment scheduled had a co-occurring substance use disorder (as compared to 37% of those who had an appointment scheduled). This group very likely included patients with substance use disorders that directly impacted their participation in care and follow-up, for example through refusal to accept substance use aftercare recommendations or a desire to leave the hospital prematurely when experiencing withdrawal symptoms or severe cravings. This finding could also reflect negative staff attitudes toward patients with substance use disorders that in turn can influence the quality of care.[46] Co-occurring substance use is a well-established predictor of poor outcomes in psychiatric treatment, and hospital providers should be encouraged to pay greater attention to its management in acute settings. This is especially important given our finding that scheduling an aftercare appointment remained significantly associated with attending a visit following discharge within this subgroup of discharged patients with a co-occurring substance use disorders.

We also note geographic variation in the proportion of discharged patients for whom providers scheduled outpatient appointments. Among patients treated in hospitals in the large, urban/metropolitan area of New York City and the neighboring Hudson River region, 72% and 74%, respectively, had appointments scheduled as part of their discharge plans. These rates were lower than those observed among patients treated in hospitals in the Long Island (85%), Central (85%), and Western (89%) regions. This difference could reflect different standards of care across the regions or variability in data collection and reporting across the MBHOs. It may also reflect racial/ethnic disparities in treatment planning given the higher rates of minority populations treated in large urban/metropolitan areas such as greater New York City. We did not find an impact of race/ethnicity in our aforementioned statewide analysis, but given known racial/ethnic disparities in mental health treatment outcomes, this is an area deserving further focus.

Having an outpatient appointment scheduled as part of discharge planning increased the odds of attending a mental health service following discharge in all propensity score strata, indicating that this routine discharge planning activity was effective even in subgroups of patients at highest risk for not having an outpatient appointment scheduled. It would be neither feasible nor appropriate to attempt a randomized clinical trial to estimate the impact of routine discharge planning practice such as scheduling follow-up appointments. Instead, propensity score stratification allowed us to minimize potential bias associated with a range of patient, hospital, and service system covariates. Of note, these covariates included homelessness, the presence of a co-occurring substance use disorder, and a history of not engaging in care prior to admission, which are known predictors of failed care transitions and other adverse outcomes following discharge. Psychiatric inpatient clinicians may believe that routine discharge planning will be ineffective based upon their prior experiences with these complex patients, who commonly need more intensive care management interventions to increase the likelihood of successful care transitions.[1,2,5–9] However, data from this study suggest that even among patients who were both least likely to receive discharge planning and most likely to have failed care transitions, scheduling an appointment with an outpatient mental health provider following discharge increased the odds of a successful care transition. Scheduling follow-up outpatient mental health appointments is a low-resource activity that should be considered an important target for hospital continuous quality improvement initiatives to improve discharge planning and increase rates of successful care transitions.

Several potential limitations of the study must be considered. Although we controlled for a range of patient, hospital, and service system variables, there are quite likely additional unmeasured variables that may affect attendance at outpatient appointments, eg, transportation limitations and attitudinal factors. There is also significant potential for measurement error given that we relied on multiple MBHOs independently reporting provider discharge planning activities. Findings from a Medicaid population may not generalize to commercial or Medicare populations due to a number of factors, and the New York State Medicaid population that served as our source for the study sample is likely to be different from other state Medicaid populations given variations in eligibility and enrollment practices across states.

Despite these potential limitations, the findings should be of interest to policy makers and clinical leaders. Future research should examine mechanisms underlying successful discharge planning and care transitions, including

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potentially relevant issues such as the role of familiarity of the community-based provider and whether additional discharge planning practices (forwarding care summaries, follow-up communications) further improve engagement in care following hospital discharge. An increasingly common approach to discharge planning for high-need patients is to refer to walk-in clinics, presuming that allowing the patient flexibility in determining when to follow-up after discharge may increase the likelihood of a successful transition. It is not clear whether failing to schedule appointments at fixed dates and times and allowing this flexibility will increase or decrease the likelihood of successful care transitions for various patient groups. Finally, for some patients, routine discharge planning practices such as scheduling outpatient mental health appointments will be insufficient to ensure a successful care transition. Research is needed to identify these individuals and determine what levels of increasingly intensive care transition interventions are necessary to meet their needs. In the meantime, findings underscore the importance of scheduling outpatient appointments as part of routine discharge planning for patients being treated in psychiatric inpatient units.

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POSTTEST

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1. **According to the literature, approximately what proportion of individuals (both youth and adults) who are admitted for hospital psychiatric treatment attend an outpatient visit with a mental health provider within 30 days following discharge?**
   a. 10%–30%
   b. 30%–50%
   c. 50%–70%
   d. 70%–90%

2. **In this study sample, 23% of psychiatric inpatients had no outpatient appointment scheduled with a mental health provider as part of their discharge planning. How did the 7-day and 30-day follow-up rates for patients who did *not* have appointments scheduled with outpatient providers as part of their discharge plans compare with those who *did*?**
   a. The 7-day attendance rate was the same, but the 30-day rate was lower.
   b. Both follow-up times had higher attendance rates.
   c. Both follow-up times had lower attendance rates.
   d. Scheduling appointments before discharge made no difference in attendance rates at either follow-up time.

3. **You are caring for the following inpatients. According to the results of this study, which one would benefit from having a post-discharge appointment scheduled with a mental health provider as part of his or her pre-discharge process?**
   a. Luis has had schizoaffective disorder for several years and had unstable housing prior to admission.
   b. Deshawn is being treated for first-episode schizophrenia and was not already engaged in community-based care prior to admission.
   c. Willametta has bipolar disorder and comorbid alcohol use disorder.
   d. All of the above; scheduling a post-discharge appointment with a mental health provider improves follow-up rates for patients with serious mental illness, even those with predictors of poor follow-up.

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