

# Established Outpatient Care and Follow-Up After Acute Psychiatric Service Use Among Youths and Young Adults

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**Objective:** This study explored follow-up after hospitalization and emergency room (ER) use for mental health among youths and young adults with private insurance.

**Methods:** The IBM MarketScan commercial database (2013–2018) was used to identify people ages 12–27 with a mental health hospitalization (N=95,153) or ER use (N=108,576). Factors associated with outpatient mental health follow-up within 7 and 30 days of discharge were determined via logistic models with generalized estimating equations that accounted for state variation.

**Results:** Of those hospitalized, 42.7% received follow-up within 7 days (67.4% within 30 days). Of those with ER use, 28.6% received follow-up within 7 days (46.4% within 30 days). Type of established outpatient care predicted follow-up after hospitalization and ER use. Compared with people with no established care, the likelihood of receiving follow-up within

7 days was highest among those with mental health and primary care (hospitalization, adjusted odds ratio [AOR]=2.81, 95% confidence interval [CI]=2.68–2.94; ER use, AOR=4.06, 95% CI=3.72–4.42), followed by those with mental health care only (hospitalization, AOR=2.57, 95% CI=2.45–2.70; ER use, AOR=3.48, 95% CI=3.17–3.82) and those with primary care only (hospitalization, AOR=1.20, 95% CI=1.15–1.26; ER use, AOR=1.22, 95% CI=1.16–1.28). Similar trends were observed within 30 days of discharge.

**Conclusions:** Follow-up rates after acute mental health service use among youths and young adults were suboptimal. Having established mental health care more strongly predicted receiving follow-up than did having established primary care. Improving engagement with outpatient mental health care providers may increase follow-up rates.

*Psychiatric Services* 2022; 0:1–8; doi: 10.1176/appi.ps.202200047

In 2021, the Surgeon General of the United States (1) and the Centers for Disease Control and Prevention (2) warned of an accelerating mental health crisis among adolescents. During 2021, 44.2% of high school students experienced persistent sadness or hopelessness, 19.9% seriously considered suicide, and 9.0% attempted suicide (3). Rates of hospitalization and emergency room (ER) use for a mental condition and substance use disorder are increasing (4, 5). In 2012, mental and substance use disorders were among the top 10 reasons for teen hospitalization (6), and from 2009 to 2015, ER visits for mental health reasons increased by 56.4% among pediatric patients and by 40.8% among adults (7).

Efforts to improve the quality of care for youths and young adults with mental health conditions include increasing rates of follow-up care after acute mental health service use (i.e., hospitalizations and ER use). Follow-ups with a mental health care provider within 7 and 30 days are national quality measures (8, 9) associated with improved medication adherence, decreased suicide risk, and increased

long-term health care engagement (10, 11). Although about half of Medicaid-insured youths and young adults receive outpatient mental health care follow-up (10, 12), follow-up

## HIGHLIGHTS

- Of youths and young adults who visited the emergency room for a mental health reason, 28.6% received follow-up within 7 days and 46.4% within 30 days.
- Follow-up within 7 days of discharge from a hospitalization for mental health was observed among 42.7% of youths and young adults (67.4% within 30 days).
- The strongest predictor of receiving follow-up was having established primary and mental health care during the 6 months prior to acute service use.
- Follow-up rates were notably low among those with a comorbid substance use disorder.

rates among youths and young adults with private insurance are unknown. Youths and young adults may experience unique challenges because they typically interact with multiple systems and agencies (13, 14) and may be underserved in current mental health systems (15). This study sought to determine rates and predictors of mental health care follow-up within 7 and 30 days of a hospitalization or ER use for a mental health condition among youths and young adults with private insurance and to examine differences by age group.

## METHODS

### Stakeholder Engagement

Stakeholders included representatives from key organizations (see Table S1 in the online supplement to this article). Two 1.5-hour virtual forums elicited stakeholder perspectives (one before study launch to ensure the research generated relevant knowledge and one to share preliminary findings to gain real-world insight into data interpretation).

### Data Set

This study used the IBM MarketScan commercial database (2013–2018), one of the largest collections of nationally representative patient data in the United States (16). These data include comprehensive, deidentified health insurance claims across the continuum of care (e.g., inpatient, outpatient, carve-out behavioral health care) from large employers and health plans that provide private health care coverage for employees, spouses, and dependents (16).

The database's inpatient admissions table summarizes information about a hospital admission by using certain criteria (e.g., claims related to room and board). The admissions table includes all encounters associated with an admission, as well as a variable indicating the principal diagnosis (i.e., the main reason for admission). The database's outpatient services table includes claims for services in doctors' offices, hospital outpatient facilities, and ERs. ER use claims are defined by place of service, revenue, procedure, or service subcategory code (see Table S2 in the online supplement) (17). The outpatient table includes the first-listed diagnosis associated with the ER use claims.

### Study Sample

We created two samples defined by health care setting: inpatients (hospitalization) and those using the ER. Both samples included patients ages 12–27 who had an acute event stemming from a mental health condition (i.e., major depressive disorder, bipolar disorder, schizophrenia, other psychotic disorders, anxiety disorders or phobias, post-traumatic stress disorder [PTSD], and disruptive disorders) (see Table S3 in the online supplement). Individuals with a self-harm or suicide-related code were also included, as were patients with a primary diagnosis of eating disorders or substance use disorder who had a psychiatric diagnosis or a self-harm or suicide-related claim coded with the remaining

diagnosis codes. Those still receiving care at discharge from an inpatient hospitalization (i.e., transferred to another facility, still a patient, other) or who had missing data were excluded, as were those whose mental health or substance use claims were not covered or were suppressed. If an ER visit resulted in an inpatient admission, the patient was included in the inpatient sample rather than in the ER sample. Patients without continuous insurance coverage during the study period, those missing information on health plan coverage, or those who had a subsequent inpatient or ER visit before an outpatient follow-up visit were excluded. The final samples included 95,153 inpatients and 108,576 ER patients (Figures S1 and S2 in the online supplement). This retrospective cohort study was deemed to be non-human subjects research by the institutional review board of the University of Massachusetts Chan Medical School.

### Outcome Measures

We created two primary binary outcome variables: outpatient mental health follow-up within 7 and within 30 days of discharge from the acute mental health visit. These variables were created to align with national quality measures defined in the Healthcare Effectiveness Data and Information Set (HEDIS) (8, 9). HEDIS specifications for follow-up exclude acute visits that are followed by readmission to inpatient care settings within 30 days of the initial acute care visit; thus, we included these visits only when outpatient follow-up care occurred prior to the readmission. Outpatient mental health care was defined as a visit with a specialty mental health care provider (e.g., psychiatrist, child psychiatrist) for evaluation, management, psychotherapy, or other psychiatric care, including psychiatric facility partial hospitalizations (Table S4 in the online supplement).

Secondary outcomes included any follow-up care (primary care, outpatient mental health care). Primary care use included visits with a primary care provider (e.g., internal medicine, family practice, or pediatric provider) for health promotion, disease prevention, health maintenance, or patient education in an outpatient setting (18). Outpatient care was categorized as primary care or as mental health care, according to provider type, Current Procedural Terminology codes, and place of service; outpatient mental health care was further defined through the specific place of service or service subcategory codes (Table S4 in the online supplement). Analyses for those with comorbid substance use examined follow-up care specifically for substance use (Table S5 in the online supplement).

### Exposure Measure

The primary determinant was established outpatient care, defined as having had at least one visit with a provider in the 6 months prior to the acute mental health event. Use in the 6 months prior to acute care was explored because of previous research examining established care and follow-up rates (12). Established outpatient care was categorized as primary care and mental health care, mental health care

only, primary care only, or none, according to the definitions for outpatient care described above.

### Covariates

Covariates included age at time of service (categorized as 12–17 or 18–27), sex (male or female), health care plan type, psychiatric diagnosis, whether the acute event was self-harm or suicide related, and medical complexity. Health care plan type was categorized as high deductible or consumer driven; basic, major medical, or comprehensive; preferred provider organization; and all others (exclusive provider organization, health maintenance organization, point-of-service plans). Acute mental health service use was categorized as self-harm or suicide related if the event included any diagnosis code related to suicide (Table S3 in the online supplement). Inpatient data included length of hospital stay ( $\leq 3$  days, 4–6 days, 7–10 days, or  $\geq 11$  days) and whether the individual left against medical advice. Medical complexity was measured by the Pediatric Medical Complexity Algorithm (less conservative version 3.1) (19). The psychiatric diagnoses used to define our sample were removed from the algorithm. Individuals' conditions were classified as complex chronic (more than one body system involved or one or more progressive or malignant conditions), noncomplex chronic (one body system involved, not progressive or malignant), and nonchronic disease.

### Data Analysis

We estimated the proportion of patients who received outpatient mental health care within 7 days and 30 days of discharge and describe characteristics overall and by the presence of outpatient mental health follow-up. We focused on absolute differences of  $\geq 5\%$  because seemingly trivial differences are likely to be statistically significant with large samples. We quantified the association of established outpatient care with the presence of outpatient mental health follow-up after an acute mental health event and adjusted the analyses for the available patient-level covariates by using generalized estimating equation models to account for clustering by state. Adjusted odds ratios (AORs) and corresponding 95% confidence intervals (CIs) were estimated. Analyses examined the distribution of established outpatient care by covariate (Tables S6 and S7 in the online supplement) and factors associated with any follow-up (Tables S8 and S9 in the online supplement), stratified by 2-year age intervals (Tables S10 and S11 in the online supplement) and psychiatric diagnosis (Tables S12 and S13 in the online supplement).

## RESULTS

### Hospitalizations

Average inpatient age was 18.9 years. The most common length of stay in the hospital was 4–6 days, and 1.5% left against medical advice (Table 1). The most common primary diagnosis was major depression (53.7%), followed by bipolar

disorder (22.3%); least common were PTSD (0.9%), comorbid eating disorders (1%), and disruptive disorders (1%). Self-harm, suicidal ideation, or suicide attempt was coded on 56.9% of hospitalizations (most common in major depressive disorder admissions [71.4%,  $N=36,448$  of 51,061]; least common in comorbid eating disorder admissions [11.7%,  $N=116$  of 992]).

About one-third had used both primary and mental health care during the 6 months before hospitalization, whereas 22.8% had no established outpatient care (Table 1). Established care was most common among those with comorbid eating disorders and least common among those with psychotic disorders (Tables S6 and S7 in the online supplement). Patients who were younger, female, and had complex chronic conditions had a higher prevalence of established outpatient care.

Mental health follow-up was received by 42.7% of patients within 7 days and by 67.4% within 30 days (Table 1). The strongest predictor of mental health follow-up was established outpatient care during the 6 months prior to the hospitalization, with type of established care affecting likelihood of follow-up (Table 2). Compared with those with no established outpatient care, those with both primary care and mental health care had the highest odds of receiving follow-up (within 7 days,  $AOR=2.81$ , 95%  $CI=2.68-2.94$ ), and those with only mental health care were 2.57 times as likely (95%  $CI=2.45-2.70$ ) to receive mental health follow-up within 7 days of discharge. Among patients with any kind of established care, those with only primary care were the least likely to receive mental health follow-up (within 7 days,  $AOR=1.20$ , 95%  $CI=1.15-1.26$ ). Similar patterns were observed for 30-day follow-up.

In most age groups, each type of established outpatient care predicted mental health follow-up within 7 days (Table S10 in the online supplement). Established mental health outpatient care (with or without primary care) predicted mental health follow-up regardless of primary diagnosis code (Table S12 in the online supplement).

Older age and leaving against medical advice were associated with decreased likelihood of mental health follow-up (Table 2). Female sex, hospitalizations related to self-harm or suicidality, and longer length of stay were associated with increased likelihood of mental health follow-up. Compared with those hospitalized for major depression, those hospitalized for schizophrenia, bipolar disorder, PTSD, disruptive disorders, or comorbid substance use disorder were less likely to receive mental health follow-up within 7 days or 30 days. The primary reasons for hospitalization among those with mental health follow-up within 7 days differed slightly by age group (Table S10 in the online supplement). Of those hospitalized for co-occurring substance use disorder, 23.7% ( $N=2,124$  of 8,946) received follow-up within 7 days (within 30 days, 41.0%,  $N=3,668$  of 8,946), and 42.3% ( $N=3,780$  of 8,946) had follow-up specifically for substance use within 7 days (within 30 days, 53.4%,  $N=4,780$  of 8,946).

**TABLE 1. Individual-level characteristics of youths and young adults who used acute mental health services, 2013–2018**

Characteristic	Inpatient hospitalization (N=95,153)		Emergency room use (N=108,576)	
	N	%	N	%
Age in years				
12–17	39,337	41.3	37,393	34.4
18–27	55,816	58.7	71,183	65.6
Female	53,453	56.2	62,857	57.9
Health plan type				
Basic, major medical, comprehensive	2,890	3.0	2,721	2.5
Preferred provider organization	56,296	59.2	62,138	57.2
High deductible, consumer driven	16,221	17.1	20,193	18.6
All other health plans <sup>a</sup>	19,746	20.8	23,524	21.7
Pediatric medical complexity				
Nonchronic	58,788	61.8	76,423	70.4
Noncomplex chronic	22,238	23.4	20,947	19.3
Complex chronic	14,127	14.9	11,206	10.3
Left against medical advice	1,447	1.5	—	—
Length of stay in days				
≤3	25,728	27.0		
4–6	36,879	38.8		
7–10	20,741	21.8		
≥11	11,805	12.4		
Primary reason for admission				
Schizophrenia	4,565	4.8	1,392	1.3
Bipolar disorder	21,225	22.3	7,322	6.7
Major depression	51,061	53.7	24,922	23.0
Anxiety disorders, phobias	2,152	2.3	47,826	44.1
Posttraumatic stress disorder	811	.9	607	.6
Other psychotic disorders	3,326	3.5	2,964	2.7
Disruptive disorders	950	1.0	4,040	3.7
Substance use related (comorbid) <sup>b</sup>	8,946	9.4	8,309	7.7
Eating disorders (comorbid) <sup>b</sup>	992	1.0	153	.1
Self-harm or suicide-related event <sup>c</sup>	54,105	56.9	27,652	25.5
Established outpatient health care engagement				
Primary care and mental health care	31,811	33.4	28,036	25.8
Mental health care only	27,775	29.2	22,396	20.6
Primary care only	13,906	14.6	24,279	22.4
None	21,661	22.8	33,865	31.2
Mental health care follow-up				
Within 7 days	40,619	42.7	31,033	28.6
Within 30 days	64,148	67.4	50,402	46.4

<sup>a</sup> Including exclusive provider organization, health maintenance organization, and point-of-service plans.

<sup>b</sup> Patients were included in this group if the primary diagnosis code for the acute event was for substance use or eating disorders (respectively) and a code for schizophrenia, bipolar disorder, major depression, anxiety disorders or phobias, posttraumatic stress disorder, other psychotic disorders, or disruptive disorders was included in any of the remaining diagnosis codes (see Table S2 in the online supplement).

<sup>c</sup> Patients were classified as having a self-harm or suicide-related event if either of these diagnosis codes was documented for the acute event (regardless of the mental health conditions above). Some patients did not have a mental health condition (other than a suicide-related event or self-harm), and for this reason, the values for primary reason for admission do not sum to 100% (see Table S2 in the online supplement).

**ER Visits**

Of those who visited the ER for a mental health reason, the average age was 19.5. A majority were female (57.9%), had a preferred provider organization plan type (57.2%), and had no chronic health conditions other than mental disorder (70.4%) (Table 1). The primary diagnosis codes were anxiety disorders or phobias (44.1%) and major depression (23.0%). One in four visits carried a code for self-harm, suicidal ideation, or suicide attempt (most common in major depressive

disorder [34.7%, N=8,645 of 24,922]; least common in anxiety disorders [3.7%, N=1,750 of 47,826]).

Nearly one-third lacked established outpatient care before the ER visit. Mental health follow-up was received by 28.6% of patients within 7 days and by 46.4% within 30 days. Any kind of follow-up increased the percentages to 34.1% within 7 days and 55.5% within 30 days (Table S9 in the online supplement).

The strongest predictor of mental health follow-up was established outpatient care (Table 3). Compared with those with no established outpatient care, those with both primary care and mental health care were the most likely to receive follow-up (within 7 days, AOR=4.06, 95% CI=3.72–4.42), and those with established mental health care were 3.48 times as likely (95% CI=3.17–3.82) to receive follow-up within 7 days, after the analyses were adjusted for all other covariates. Among patients with any kind of established care, those with primary care only had the lowest odds of receiving follow-up (within 7 days, AOR=1.22, 95% CI=1.16–1.28).

In most age groups, each type of established outpatient care predicted mental health follow-up within 7 days (Table S11 in the online supplement). Established outpatient mental

health care (with or without primary care) predicted mental health follow-up regardless of the primary diagnosis code (Table S13 in the online supplement). Older age was associated with decreased likelihood of receiving mental health follow-up, and self-harm or a suicide-related event was associated with increased likelihood of follow-up (Table 3).

Compared with anxiety disorders or phobias, increased likelihood of receiving follow-up was observed for those

**TABLE 2. Factors associated with mental health follow-up among youths and young adults after hospitalization for mental health, 2013–2018**

	7-day follow-up				30-day follow-up			
	N	%	AOR	95% CI	N	%	AOR	95% CI
Established outpatient health care engagement								
None (reference)	5,687	26.3			10,290	47.5		
Primary care and mental health care	16,868	53.0	2.81	2.68–2.94	25,195	79.2	3.76	3.51–4.03
Mental health care only	13,717	49.4	2.57	2.45–2.70	20,952	75.4	3.25	3.06–3.46
Primary care only	4,347	31.3	1.20	1.15–1.26	7,711	55.5	1.29	1.22–1.35
Age in years								
18–27 (reference)	21,260	38.1			34,360	61.6		
12–17	19,359	49.2	1.24	1.20–1.29	29,788	75.7	1.42	1.34–1.51
Sex								
Male (reference)	16,107	38.6			26,201	62.8		
Female	24,512	45.9	1.14	1.11–1.16	37,947	71.0	1.16	1.13–1.20
Plan type								
All other health plans (reference) <sup>a</sup>	8,225	41.7			13,062	66.2		
Basic, major medical, comprehensive	1,070	37.0	.83	.65–1.06	1,702	58.9	.73	.53–1.00
Preferred provider organization	24,232	43.0	1.07	.93–1.23	38,180	67.8	1.07	.91–1.27
High deductible, consumer driven	7,092	43.7	1.08	.95–1.22	11,204	69.1	1.08	.94–1.24
Pediatric medical complexity								
Nonchronic (reference)	24,680	42.0			39,380	67.0		
Noncomplex chronic	9,760	43.9	1.01	.98–1.05	15,235	68.5	.98	.94–1.02
Complex chronic	6,179	43.7	1.01	.97–1.05	9,533	67.5	.94	.90–.98
Length of stay in days								
≤3 (reference)	9,708	37.7			15,985	62.1		
4–6	16,384	44.4	1.21	1.15–1.28	25,750	69.8	1.25	1.20–1.30
7–10	9,591	46.2	1.28	1.21–1.35	14,742	71.1	1.30	1.22–1.39
≥11	4,936	41.8	1.13	1.06–1.22	7,671	65.0	1.11	1.04–1.19
Left against medical advice								
No (reference)	40,131	42.8			63,387	67.6		
Yes	488	33.7	.94	.83–1.06	761	52.6	.78	.69–.88
Primary reason for admission								
Major depression (reference)	23,738	46.5			36,923	72.3		
Schizophrenia	1,760	38.6	.83	.75–.92	2,880	63.1	.83	.75–.91
Bipolar disorder	9,107	42.9	.85	.81–.88	14,475	68.2	.81	.78–.85
Anxiety disorders, phobias	986	45.8	.95	.88–1.02	1,503	69.8	.85	.78–.93
Posttraumatic stress disorder	339	41.8	.74	.68–.81	543	67.0	.67	.58–.77
Other psychotic disorders	1,295	38.9	.93	.86–1.01	2,160	64.9	1.02	.94–1.11
Disruptive disorders	328	34.5	.58	.50–.68	581	61.2	.55	.47–.64
Substance use related (comorbid) <sup>b</sup>	2,124	23.7	.46	.41–.51	3,668	41.0	.37	.34–.39
Eating disorders (comorbid) <sup>b</sup>	520	52.4	.99	.87–1.13	724	73.0	.76	.62–.92
Self-harm or suicide-related event <sup>c</sup>								
No (reference)	16,308	39.7			25,962	63.3		
Yes	24,311	44.9	1.08	1.04–1.12	38,186	70.6	1.11	1.06–1.16

<sup>a</sup> Including exclusive provider organization, health maintenance organization, and point-of-service plans.

<sup>b</sup> Patients were included in this group if the primary diagnosis code for the acute event was for either substance use or eating disorders and a code for schizophrenia, bipolar disorder, major depression, anxiety disorders or phobias, posttraumatic stress disorder, other psychotic disorders, or disruptive disorders was included in any of the remaining diagnosis codes (see Table S2 in the online supplement).

<sup>c</sup> Patients were classified as having a self-harm or suicide-related event if either of these diagnosis codes was documented for the acute event (regardless of the mental health conditions above) (see Table S2 in the online supplement).

with major depression, PTSD, or bipolar disorder (30 days only); those using the ER for disruptive disorders (7 days only) and comorbid substance use were less likely to receive follow-up care. The primary reasons for ER use among those with mental health follow-up within 7 days differed slightly by age group (Table S11 in the online supplement). Of those with ER visits for substance use, 18.9% (N=1,574 of 8,309) received mental health follow-up within 7 days (within 30 days, 33.8%, N=2,804 of 8,309), and 11.5% (N=957 of 8,309) received follow-up specifically for substance use within 7 days (within 30 days, 17.9%, N=1,485 of 8,309).

## DISCUSSION

Over 50% of the privately insured youths and young adults in our data set lacked mental health follow-up within 7 days of a hospitalization or ER use for a mental health reason. Established outpatient care was the strongest predictor of follow-up. Those with self-harm or suicide ideation or attempt were more likely to receive follow-up, yet over 50% did not receive follow-up within 7 days of acute service use. Rates of follow-up (mental health and substance use specific) were notably low among those with comorbid substance use disorder.

Our findings were consistent with those of previous research indicating that having established care increases the likelihood of receiving follow-up care after acute service use (12). To our knowledge, this was the first study to show that type of

**TABLE 3. Factors associated with mental health follow-up among youths and young adults after emergency room use for mental health, 2013–2018**

	7-day follow-up				30-day follow-up			
	N	%	AOR	95% CI	N	%	AOR	95% CI
Established outpatient health care engagement								
None (reference)	5,022	14.8			8,862	26.2		
Primary care and mental health care	12,597	44.9	4.06	3.72–4.42	19,388	69.2	5.47	5.10–5.87
Mental health care only	8,926	39.9	3.48	3.17–3.82	14,296	63.8	4.53	4.16–4.93
Primary care only	4,488	18.5	1.22	1.16–1.28	7,856	32.4	1.26	1.21–1.31
Age in years								
18–27 (reference)	17,224	24.2			29,075	40.9		
12–17	13,809	36.9	1.42	1.34–1.50	21,327	57.0	1.43	1.36–1.51
Sex								
Male (reference)	12,348	27.0			20,339	44.5		
Female	18,685	29.7	1.00	.97–1.03	30,063	47.8	1.00	.97–1.03
Plan type								
All other health plans (reference) <sup>a</sup>	6,468	27.5			10,665	45.3		
Basic, major medical, comprehensive	725	26.6	.96	.81–1.15	1,186	43.6	.90	.74–1.09
Preferred provider organization	18,021	29.0	1.07	.95–1.21	29,093	46.8	1.06	.93–1.20
High deductible, consumer driven	5,819	28.8	1.05	.95–1.15	9,458	46.8	1.06	.95–1.16
Pediatric medical complexity								
Nonchronic (reference)	21,265	27.8			34,561	45.2		
Noncomplex chronic	6,332	30.2	1.01	.98–1.04	10,208	48.7	1.02	.98–1.05
Complex chronic	3,436	30.7	.98	.94–1.02	5,633	50.3	1.00	.96–1.05
Primary reason for admission								
Anxiety disorders, phobias (reference)	11,551	24.2			18,864	39.4		
Schizophrenia	368	26.4	.90	.75–1.08	656	47.1	1.02	.85–1.22
Bipolar disorder	2,414	33.0	1.03	.93–1.14	4,070	55.6	1.22	1.12–1.34
Major depression	9,420	37.8	1.35	1.28–1.42	14,696	59.0	1.52	1.46–1.59
Posttraumatic stress disorder	241	39.7	1.42	1.13–1.78	343	56.5	1.30	1.12–1.51
Other psychotic disorders	670	22.6	.89	.79–1.00	1,219	41.1	1.05	.93–1.17
Disruptive disorders	1,231	30.5	.83	.77–.90	2,054	50.8	.91	.82–1.01
Substance use related (comorbid) <sup>b</sup>	1,574	18.9	.62	.59–.66	2,804	33.8	.62	.59–.66
Eating disorders (comorbid) <sup>b</sup>	69	45.1	1.37	1.05–1.78	101	66.0	1.38	.97–1.95
Self-harm or suicide-related event <sup>c</sup>								
No (reference)	21,551	26.6			35,304	43.6		
Yes	9,482	34.3	1.20	1.12–1.27	15,098	54.6	1.29	1.23–1.36

<sup>a</sup> Including exclusive provider organization, health maintenance organization, and point-of-service plans.

<sup>b</sup> Patients were included in this group if the primary diagnosis code for the acute event was for either substance use or eating disorders and a code for schizophrenia, bipolar disorder, major depression, anxiety disorders or phobias, posttraumatic stress disorder, other psychotic disorders, or disruptive disorders was included in any of the remaining diagnosis codes (see Table S2 in the online supplement).

<sup>c</sup> Patients were classified as having a self-harm or suicide-related event if either of these diagnosis codes was documented for the acute event (regardless of the mental health conditions above) (see Table S2 in the online supplement).

established care affects rates of follow-up. Youths and young adults with both established primary care and mental health care were the most likely to receive mental health follow-up. These results highlight that having both established primary care and mental health care is essential to improving

of hospitalizations were related to suicidal ideation or suicide attempt, yet 55.1% of those experiencing suicide-related symptoms did not receive follow-up after discharge. ER use related to suicide attempt or suicidal ideation was relatively low, likely because ER visits resulting in a

follow-up after acute mental health care use. Given the documented shortage of mental health professionals (20), primary care has become the de facto mental health care system (21). Our study suggested that primary care alone may be less able to connect youths and young adults who have mental health conditions to recommended specialty care in a timely manner. Improving rates of follow-up after acute service use for mental health conditions is one of many reasons to support national efforts to integrate primary and mental health care (22–25). In addition, increased access to coordinated specialty care would likely benefit many of these youths, especially those experiencing first-episode psychosis (26). Coordinated specialty care is a team-based, recovery-oriented intervention demonstrated to decrease hospitalization rates and increase education and employment rates (27).

Alarming suicide trends among youths have been documented (28, 29) and exacerbated by the COVID-19 pandemic (30, 31). Suicide risk is significantly increased after ER use or hospitalization (32). In several studies, follow-up care after acute service use for suicide attempt has been associated with lower risk of suicide reattempt and suicide, making this care particularly important for those engaging in self-harm or experiencing suicidal ideation (10, 33). A majority

hospitalization were included in the inpatient sample. This factor may have produced an ER sample that disproportionately included those with anxiety disorders or phobias, which had the lowest prevalence of suicide-related symptoms. Given these considerations, the 65.7% of patients who did not receive follow-up within 7 days of an ER visit related to suicide represent a major gap in care. Efforts such as the Zero Suicide initiative (34) aim to prevent suicide for those under the care of health systems. An effort to improve transitions in care through increased follow-up after acute service use could target suicide prevention among high-risk youths, potentially by requiring those with suicide risk factors to have follow-up appointments at hospital discharge. In addition, the potential iatrogenic effects of inpatient psychiatric care emphasize the need to prevent hospitalization entirely (35), possibly via national efforts such as the 988 hotline to provide specialized care during a mental health crisis (36).

About one-third of those who came to the ER for a mental health condition lacked established outpatient care, and <50% received mental health follow-up within 30 days of discharge. Low rates of outpatient health care utilization have been documented (37–39) among the young adult population. Because the patients in our study were privately insured and had a documented psychiatric diagnosis, these low rates are concerning. ER care is typically less comprehensive and shorter than inpatient hospitalization, providing less opportunity to set up follow-up care. This missed opportunity could be improved by increasing utilization of case management (40) and by requiring patients to have a follow-up appointment at discharge. Of all mental health conditions explored, those with comorbid substance use as the primary reason for ER use had the lowest rates of follow-up care (overall and substance use specific). Recent efforts have focused on follow-up care for adults with comorbid substance use disorder, because of the high rates of hospital readmission and postdischarge mortality among this population (41). Considering the rising rates of substance use-related deaths (42) and youth-related concerns (43), these trends require more detailed research.

The study was limited in that mental health condition was identified only through diagnostic codes, because no information regarding functional status was available. However, the validity of administrative claims data and diagnostic codes for identifying psychiatric diagnoses has been documented (16, 44). We also lacked information on race-ethnicity and other social determinants of health. In addition, mental health care may have been received in settings not included in the database, such as schools or out-of-network facilities. Nevertheless, to our knowledge, this study was the first to examine the associations between established outpatient care and mental health follow-up rates after acute mental health care use among privately insured youths.

## CONCLUSIONS

These findings underscore the importance of increasing rates of established outpatient mental health and primary care to improve mental health follow-up rates after acute service use for mental health reasons among youths and young adults. Integration of primary and mental health care may help achieve optimal follow-up rates. In ER settings, special attention should be given to those with comorbid substance use and those showing signs of self-harm or suicidality.

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This research was supported by the National Institute of General Medical Sciences Medical Scientist Training Program (T32-GM-107000) and by a National Center for Advancing Translational Sciences TL1 training grant (TR-001454) from the U.S. National Institutes of Health. The authors thank the stakeholders involved: representatives from the Young Adult Advisory Board from the Implementation Science and Practice Advances Research Center at the University of Massachusetts Chan Medical School, the National Federation of Families, Got Transition (from the National Alliance to Advance Adolescent Health), Mental Health America, Commonwealth Medicine, and Reliant Medical Group. The opinions expressed here do not necessarily represent the views of these organizations.

The authors report no financial relationships with commercial interests. Received January 27, 2022; revision received April 5, 2022; accepted May 6, 2022; published online \_\_\_\_\_.

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