Disparities in Repeat Visits to Emergency Departments Among Transition-Age Youths With Mental Health Needs

Yumiko Aratani, Ph.D.
Sophia Addy, M.P.H.

Objective: **The purpose of this study was to examine racial-ethnic and gender differences in return visits to emergency services among transition-age youths (aged 17 to 24 years) with mental health needs.**
Methods: **Data were from the California Emergency Department and Ambulatory Surgery Data. Logistic regression was used to examine the odds of returning to an emergency department among youths who had a psychiatric diagnosis (N=33,588).**
Results: **About 41% of the sample returned to the emergency department within a year. Compared with white males, the odds of returning were lower for Hispanic males (odds ratio [OR]=.89) and Asian males (OR=.59) and higher for white females (OR=1.21), African-American females (OR=1.49), Hispanic females (OR=1.24), and Native American females (OR=2.09).**
Conclusions: **Repeat visits to emergency departments among transition-age youths with psychiatric diagnoses may indicate limited access to or lack of high-quality care. The disparities indicate a need for culturally sensitive and gender-specific services for this vulnerable population. (*Psychiatric Services* 65: 685–688, 2014; doi: 10.1176/appi.ps.201300012)**

Dr. Aratani is with the National Center for Children in Poverty, Columbia University Mailman School of Public Health, New York City (e-mail: ya61@columbia.edu). Ms Addy is with the School of Medicine, St. George's University, St. George's, Grenada.

The number of emergency department visits among children and youths with mental health conditions is increasing (1,2). However, many emergency departments lack specialists, funding, or adequate medical equipment (2). In addition, the need to visit an emergency department also implies a lack of access to appropriate community-based mental health services. Transition-age youths (aged 17 to 24 years) with mental health needs are particularly vulnerable to not receiving appropriate care because of weak institutional and financial links between child-serving and adult-serving mental health systems (3), and they are less likely than other age groups to seek mental health services (4). Further, this age group tends to have adverse health outcomes related to alcohol consumption and cigarette smoking, and they are more likely to visit emergency departments (5).

Youths from racial-ethnic minority groups often do not receive needed community-based mental health care (6). Racial and ethnic differences in patterns of emergency service use may exist. However, research in this area is scant (7). Previous research on such differences among children and youths with mental health needs have focused on psychiatric emergencies, and the findings were inconclusive (7,8). Using California Medicaid claims data for children under age 18, Snowden and colleagues (7) examined return to hospital-based crisis stabilization after an initial visit to an emergency department. They found that compared with whites, African Americans were more likely to return, whereas Latinos, Asian Americans, and Native Americans were less likely. Another study that looked at return visits to an emergency department by pediatric psychiatric patients found that African-American youths were more likely than non–African American youths to have a return visit (8); but limited information was provided on the race-ethnicity of patients, and the sample of non–African American youths was very small.

Studies have also found gender differences in mental health service use by transition-age youths (4,9). Two studies found that females were more likely than males to return to emergency services (5,10). Another study, based on a predominantly African-American sample, found no gender differences (8).

The study reported here examined racial-ethnic, and gender disparities in repeat visits to emergency department services among youths aged 17 to 24 years with mental health needs. Because youths with mental health conditions may have adverse health outcomes as a result of their psychological problems, this study explored racial-ethnic and gender differences in return to the emergency department among youths who had a psychiatric diagnosis at the first visit.

Methods

Data were from the Emergency Department and Ambulatory Surgery Data, a data set maintained by the California Office of Statewide Health Planning and Development and compiled by hospitals and clinics from mandated quarterly reports of each outpatient encounter. The data include

demographic and clinical characteristics of patients and payment and facility information. The study was approved by the California Institutional Review Board and Columbia University's Institutional Review Board.

The original data set included service users aged 17 to 24 who visited an emergency department in 2006 and 2007, who had not received any services in the previous six months, and who received a psychiatric diagnosis as the primary or secondary diagnosis at the first visit to the emergency department (i.e., a new episode). The sample for this study was a subgroup of this data set—namely, all transition-age youths with a new episode who made an initial visit to an emergency department from July 2006 to June 2007 (N=33,718). Youths who visited the emergency department after June 2007 were excluded because the observation period was less than six months (the administrative data were available until December 2007). Cases with missing information in the following areas were also excluded from the analysis: disposition, 13 cases; insurance information, 99 cases; gender, six cases; invalid race, four cases; and youths who died in the emergency department, eight cases. Thus the final sample included data on 33,588 youths who visited an emergency department.

Youths who returned to the emergency department at least once after the first visit were coded as 1; those who did not return were coded as 0. The race-ethnicity variable was created from two variables: self-reported race of the patient and whether the patient reported Hispanic ethnicity. The variables used in the study were non-Hispanic white, non-Hispanic black, Hispanic, Asian/Pacific Islander, Native American (American Indian/Alaska Native), other race-ethnicity, and unknown race-ethnicity. For gender, female was coded as 1, and male was coded as 0. A series of dummy variables for the interaction terms between each racial-ethnic group and females was created: non-Hispanic white males or females, non-Hispanic black males or females, Hispanic males or females, Asian/Pacific Islander males or females, Native American males or females, other males or females, and males or females of unknown race-ethnicity.

The following covariates have been found to be significant determinants of emergency department use: age (10) (continuous variables ranging from 17 to 24 years), insurance status (8,10) (coded as a series of dummy variables for public, private, or self-pay), and the population size of the service user's county of residence (4) (coded as small, under 100,000; midsize, between 100,000 and 1,000,000; large, >1,000,000; and those with missing information on county of residence, including homeless youths or those from outside California).

Clinical characteristics have been found to be determinants of repeat visits to the emergency department (8,10). The *ICD-9-CM* psychiatric diagnosis at the first visit was coded as a series of dummy variables for depressive, psychotic, bipolar, anxiety, behavioral, developmental, and alcohol or drug use disorders, in addition to co-occurring disorders (mental and substance use disorders), as in previous research (6). Type of disposition after the initial visit has also been found to be a determinant of repeat visits (8). It was coded as series of dummy variables, including referral for non–mental health medical care, referral to psychiatric care, sent home for self-care, sent home under specific care, and left against medical advice or refused care. It was important to control for the various demographic and clinical characteristics of youths and to examine whether demographic or clinical differences among youths from racial-ethnic minority groups contributed to differences in rates of repeat visits to an emergency department. Logistic regression was used to examine the odds of having a repeat visit.

Results

In the sample of 33,588 youths, 51% were white, 9% were African American, 27% were Hispanic, 4% were Asian, <1% were Native American, 4% were other, and 4% were of unknown race-ethnicity. Compared with the racial-ethnic composition of the California population of youths (11), white youths were considerably overrepresented, African-American youths were slightly overrepresented, Hispanic and Asian youths were underrepresented, and the proportion of Native American youths in the sample reflected the larger population. Females constituted 47% of the sample. Most youths in the sample (95%) were from large cities.

At the first emergency department visit from July 2006 to June 2007, about 46% of the youths in the sample were given a diagnosis of an alcohol or drug use disorder, and 18% were given a diagnosis of an anxiety disorder. Other diagnoses were for depressive (8%), psychotic (4%), bipolar (3%), behavioral (2%), and developmental (1%) disorders. In terms of disposition, most youths (87%) were sent home for self-care, 5% were referred to other medical facilities (for non–mental health medical care), 5% were referred to psychiatric facilities, 2% left against medical advice, and <1% were sent home with specific medical supervision. Forty-one percent of the youths returned to the emergency department after the index diagnostic visit.

As shown in Table 1, racial-ethnic and gender differences in repeat visits to the emergency department were found, and the differences remained even after the analysis controlled for demographic and clinical characteristics. Compared with white males, the odds of returning were lower for Hispanic males (OR=.89), Asian males (OR=.59), males in the "other" category (OR=.75), and males of unknown race-ethnicity (OR=.85). No significant difference in the likelihood of a return visit by African-American males and by white males was found. All the females except Asians and those of unknown race-ethnicity were significantly more likely than white males to return to an emergency department: white females, OR=1.21; African-American females, OR=1.49; Hispanic females, OR=1.24; Native American females, OR=2.09; and females in the "other" category, OR=1.43.

Discussion

This study examined patterns of emergency department use among transition-age youths with mental health needs. Overall, there were significant gender differences in return visits among youths from diverse racial-ethnic backgrounds. Compared with white males, African-American females were more likely to return to the emergency department; however, African-American

Table 1

Logistic regression models of predictors of a return visit to emergency services among 33,588 transition-age youths with mental health needs

Variable	Model 1[a]			Model 2[b]			Model 3[c]		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
Males (reference: white males)									
African American	1.16	1.05–1.28	.003	1.13	1.02–1.25	.018	1.10	.99–1.21	ns
Hispanic	.92	.86–.98	.008	.88	.83–.94	.001	.89	.83–.95	.001
Asian	.59	.50–.69	.001	.62	.52–.72	.001	.59	.51–.70	.001
Native American	1.04	.71–1.54	ns	.82	.55–1.22	ns	.81	.55–1.21	.001
Other	.76	.66–.87	.001	.76	.66–.87	.001	.75	.66–.87	.001
Unknown race-ethnicity	.82	.71–.94	.005	.86	.74–.99	.032	.85	.73–.98	.001
Females (reference: white males)									
White	1.21	1.15–1.28	.001	1.21	1.14–1.28	.001	1.21	1.15–1.28	.001
African American	1.48	1.31–1.69	.001	1.46	1.29–1.67	.001	1.49	1.31–1.70	.001
Hispanic	1.28	1.19–1.38	.001	1.25	1.15–1.35	.001	1.24	1.15–1.34	.001
Asian	1.16	.94–1.44	ns	1.15	.93–1.42	ns	1.17	.94–1.45	ns
Native American	1.96	1.11–3.47	.021	2.07	1.16–3.72	.014	2.09	1.17–3.75	.013
Other	1.44	1.18–1.76	ns	1.43	1.17–1.75	.001	1.43	1.17–1.75	.001
Unknown race-ethnicity	1.10	.91–1.33	.001	1.07	.89–1.31	ns	1.10	.91–1.33	ns
Age				.93	.93–.94	.001	.93	.93–.94	.001
County of residence (reference: small county)									
Medium				.76	.69–.84	.001	.75	.67–.82	.001
Large				.65	.59–.72	.001	.63	.57–.70	.001
Homeless or missing information				.40	.34–.46	.001	.38	.33–.44	.001
Insurance (reference: public insurance)									
Self-pay				.62	.59–.65	.001	.63	.60–.66	.001
Private				.53	.50–.55	.001	.53	.51–.56	.001
Diagnosis (reference: substance use disorder)									
Depressive disorder							1.02	.94–1.11	ns
Bipolar disorder							1.43	1.27–1.61	.001
Psychotic disorder							1.65	1.48–1.84	.001
Developmental disorder							.94	.77–1.14	ns
Anxiety disorder							1.11	1.05–1.17	.001
Behavioral disorder							1.27	1.10–1.46	.001
Co-occurring disorders							1.14	1.07–1.21	.001
Disposition (reference: sent home)									
Sent to non–mental health care							.98	.90–1.08	ns
Left against medical advice							1.10	.96–1.27	ns
Sent to psychiatric care							1.12	1.02–1.23	.021
Sent home under specific care							.91	.37–2.24	ns

[a] Model 1 included only race-ethnicity and gender.

[b] Model 2 controlled for youths' age, county of residence, and insurance type.

[c] Model 3 controlled for youths' age, county of residence, insurance type, clinical diagnosis, and disposition at the first visit.

males were no more likely than white males to have a return visit. Hispanic males were less likely and Hispanic females were more likely than white males to return to the emergency department. Asian males were less likely than white males to have a return visit, whereas the odds of a return visit for Asian females were the same as for white males. Finally, compared with white males, Native American males were less likely to return to the emergency department, but Native American females were significantly more likely.

The study had some limitations. The data lacked variables considered to be strong determinants of emergency service use among youths, such as access to outpatient mental health services and whether the emergency visit was the result of a suicide attempt. Psychiatric diagnoses given during hurried emergency visits may not be accurate. No information was available about English proficiency, a factor that has been found to affect use of mental health services (6). The data set also lacked details on the type of treatment that patients received in the emergency department and on provider-level characteristics, such as years of professional experience and degree of cultural and linguistic competency, all of which can affect service use among nonwhite youths (12).

Conclusions

This study found racial-ethnic and gender disparities in the emergency department use among transition-age youths with mental health needs. These findings have implications for public health. Previous research has indicated that youths from racial-ethnic minority groups with mental health needs have risk factors for use of emergency care, such as low income and less access to community-based mental health services (7).

Even after the analysis controlled for socioeconomic and clinical characteristics, racial-ethnic disparities were found in repeat visits to emergency services. In addition, gender was a strong determinant of repeat visits; females of all racial-ethnic backgrounds except for Asian females were significantly more likely than white males to have a repeat visit. Although this finding is consistent with previous studies (8,10), it is still unclear why young females of specific racial-ethnic backgrounds were more likely than their male counterparts to return to an emergency department. Previous research has found that young females and young males use mental health services for treatment of different mental health problems. However, in this study, even after the analysis controlled for clinical characteristics, gender differences in return to an emergency department were found. Young females have more positive attitudes toward mental health services; however, their higher rate of repeat emergency visits may indicate a lack of available mental health care. For example, young females have been found to be less likely than males to receive psychotropic medications (9). Further research is needed to explain why young females with mental health needs have a higher likelihood of returning to emergency care. Future research also should investigate in more detail patterns of emergency department visits, such as the frequency of visits. Because gender differences in help-seeking behaviors for mental health problems emerge during adolescence, it is important to develop gender-sensitive mental health care, as well as culturally competent services. It is also important to improve emergency department data to capture information on persons whose race is categorized as "other" and "unknown."

Acknowledgments and disclosures

This project was funded by the California Endowment.

The authors report no competing interests.

References

1. Grupp-Phelan J, Harman JS, Kelleher KJ: Trends in mental health and chronic condition visits by children presenting for care at US emergency departments. Public Health Reports 122:55–61, 2007
2. Cooper J, Masi R: Child and Youth Emergency Mental Health Care: A National Problem. New York, National Center for Children in Poverty, Columbia University Mailman School of Public Health, 2007
3. Pottick KJ, Bilder S, Vander Stoep A, et al: US patterns of mental health service utilization for transition-age youth and young adults. Journal of Behavioral Health Services and Research 35:373–389, 2008
4. Gonzalez JM: How do attitudes toward mental health treatment vary by age, gender, and ethnicity/race in young adults? Journal of Community Psychology 33:611–629, 2005
5. Lin M-T, Burgess JF, Jr, Carey K: The association between serious psychological distress and emergency department utilization among young adults in the USA. Social Psychiatry and Psychiatric Epidemiology 47:939–947, 2012
6. Aratani Y, Cooper J: Racial and ethnic disparities in the continuation of community-based children's mental health services. Journal of Behavioral Health Services and Research, 2010
7. Snowden LR, Masland MC, Libby AM, et al: Racial/ethnic minority children's use of psychiatric emergency care in California's Public Mental Health System. American Journal of Public Health 98:118–124, 2008
8. Goldstein AB, Frosch E, Davarya S, et al: Factors associated with a six-month return to emergency services among child and adolescent psychiatric patients. Psychiatric Services 58:1489–1492, 2007
9. Maschi T, Scwalbe CS, Morgen K, et al: Exploring the influence of gender on adolescents' service needs and service pathways. Children and Youth Services Review 31:257–264, 2009
10. Newton AS, Ali S, Johnson DW, et al: Who comes back? Characteristics and predictors of return to emergency department services for pediatric mental health care. Academic Emergency Medicine 17:177–186, 2010
11. Cooper J, Aratani Y, Masi R, et al: Unclaimed Children Revisited: California Case Study. New York, Columbia University Mailman School of Public Health, National Center for Children in Poverty, 2010
12. Alegria M, Carson NJ, Goncalves M, et al: Disparities in treatment for substance use disorders and co-occurring disorders for ethnic/racial minority youth. Journal of the American Academy of Child and Adolescent Psychiatry 50:22–31, 2011