

Emergency Department and Hospital Use Among Adolescents With Justice System Involvement

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abstract

OBJECTIVES: Adolescents with justice system involvement have high rates of physical and behavioral health disorders and are potentially high users of costly health care services. We examined emergency department (ED) and hospital use among a national sample of adolescents with various levels of justice involvement.

METHODS: Cross-sectional analysis using the 2009 to 2014 National Survey on Drug Use and Health. We included adolescents aged 12 to 17 and used multivariable logistic and negative binomial regression models, adjusting for sociodemographic and health differences, to compare ED and hospital use among adolescents with and without justice involvement.

RESULTS: Our sample included 1375 adolescents with past year arrest, 2450 with past year probation or parole, 1324 with past year juvenile detention, and 97 976 without past year justice involvement. In adjusted analyses, adolescents with any justice system involvement, compared to those without, were more likely to have used the ED (38.5%–39.5% vs 31.0%; $P < .001$) or been hospitalized in the past 12 months (7.1%–8.8% vs 4.8%; $P < .01$). After adjustment, adolescents with justice involvement also had more ED visits per 100 person-years (77.7–92.9 vs 62.8; $P < .01$) and hospital nights per 100 person-years (43.3–53.7 vs 18.0; $P < .01$). Use was highest among adolescents with justice involvement who reported fair or poor health, an illicit drug use disorder, or a mood disorder.

CONCLUSIONS: Adolescents with justice involvement had substantially higher rates of ED and hospital use. Providing comprehensive support services to adolescents with justice involvement may improve health care use patterns and reduce health care spending.

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Dr Winkelman conceptualized and designed the study, conducted the analysis, and drafted the initial manuscript; Dr Genao interpreted data and critically reviewed and revised the manuscript; Dr Wildeman interpreted data and critically reviewed the manuscript; Dr Wang conceptualized the study and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of their work.

DOI: <https://doi.org/10.1542/peds.2017-1144>

Accepted for publication Aug 9, 2017

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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WHAT'S KNOWN ON THIS SUBJECT: Adolescents with justice system involvement have high rates of physical and behavioral health disorders and may have high levels of health care use. To date, national studies have only examined acute care use among adults with justice system involvement.

WHAT THIS STUDY ADDS: Adolescents with justice system involvement, particularly those who report fair or poor health or a substance use or mood disorder, had substantially higher rates of emergency department and hospital use compared with adolescents without recent justice involvement.

To cite: Winkelman T.N.A., Genao I, Wildeman C, et al. Emergency Department and Hospital Use Among Adolescents With Justice System Involvement. *Pediatrics*. 2017; 140(5):e20171144

Nearly 1 in 5 adolescents will experience an arrest (not related to a minor traffic violation) by the age of 18.¹ An arrest initiates contact with the juvenile justice system and, in many cases, leads to court proceedings and further involvement with corrections. Over a quarter of a million adolescents are ultimately sentenced to probation (ie, community supervision), and over 100 000 adolescents are placed in juvenile detention each year.²

Adolescents involved in the justice system have high rates of mental health, physical health, and substance use disorders compared with the general adolescent population.^{3–6} Many adolescents do not receive age appropriate health care before an arrest, and they also do not receive needed health care after their involvement with the justice system.⁷ In longitudinal studies, researchers suggest young adults who were involved in the juvenile justice system have mortality rates 4 times higher than individuals without juvenile justice contact⁸ and are more likely to develop risk factors for cardiac disease.⁹ Even when the justice system attempts to connect adolescents to health care after involvement, the care is often poorly coordinated.^{7,10,11}

Adolescents with justice involvement are potentially high users of costly health care services because of their comorbidities and the life disruptions associated with justice involvement itself. In studies of adults with justice involvement, researchers suggest adults with justice involvement use emergency department (ED) and hospital services at higher rates than the general adult population^{12,13} and have worse access to care.^{14,15} Whether adolescents with justice involvement use ED and hospital services at similarly higher rates is unknown.

In this study, we sought to address 2 key aims using nationally representative data: (1) to compare

ED and hospital use among adolescents with and without recent justice involvement, and (2) to examine use patterns among adolescents with justice involvement who have health conditions known to be prevalent in this population (ie, substance use disorders, depression, communicable diseases, and asthma).⁵ Such disease-specific data can help providers and policymakers develop targeted interventions for adolescents with justice involvement. We hypothesized that adolescents involved in the justice system, like adults with a history of justice involvement, would have high rates of ED and hospital use compared with adolescents without justice involvement and that adolescents with justice involvement who also reported having substance use disorders would have particularly high rates of use.

METHODS

Data Source and Study Population

We used 6 years of data (2009–2014) from the National Survey on Drug Use and Health (NSDUH), a nationally representative, cross-sectional, household survey that provides information on drug use and mental health among US residents ages 12 and older.¹⁶ Individuals in noninstitutional group housing (eg, college dormitories, military barracks) and without permanent housing (eg, living in a homeless shelter) are included in the sample, although currently institutionalized individuals (eg, hospitalized, currently incarcerated) are not. In the survey, a combination of personal interviewing and audio computer-assisted self-interviewing is used. Audio computer-assisted self-interviewing provides respondents with a private and confidential means of responding to questions to maximize validity of reporting sensitive behaviors.¹⁷ Adolescents aged 12 to 17 are oversampled to

provide more precise estimates among this population. We restricted our sample to male and female adolescents aged 12 to 17. Our analysis did not require institutional review board approval because it falls under the University of Michigan Medical School's policy for research using publicly available data sets.

Justice Involvement History

Adolescent respondents were asked to identify several types of justice involvement within the previous 12 months. They could indicate whether they had been arrested, been on probation or parole (ie, any type of community supervision), or spent 1 or more nights in a juvenile detention center in the past 12 months. The majority (95.3%) of adolescents under community supervision in the past year reported being on probation. Adolescents who spent time in a juvenile detention center were considered to have the most intense justice involvement because detained adolescents are more likely to have committed a serious offense.¹⁸ Those who were arrested but not sentenced to any form of supervision were considered to have the least intense justice involvement. Justice categories were mutually exclusive, and individuals were assigned to the most intense category reported in the past 12 months.

Outcomes

The key outcomes we considered in our first aim were any ED visit, number of ED visits per 100 person-years, any hospitalization, and number of hospital nights per 100 person-years. We also examined the mean number of hospital nights among adolescents who had been hospitalized. Adolescent respondents were asked how many times they had been treated in an ED in the past 12 months. We created a dichotomous variable that indicated whether an individual had been seen 1 or more times in the past 12 months as well as

a count variable indicating the total number of visits for each respondent. Respondents were also asked to report whether they had stayed in a hospital overnight in the past 12 months. Patients who reported any hospitalization were then asked to indicate the total number of nights they spent in a hospital in the past 12 months.

Our second aim was to determine the use patterns of adolescents with justice involvement who reported having specific health conditions. We compared use among adolescents with justice involvement who reported fair or poor health, illicit drug use disorder other than marijuana (defined in NSDUH as abuse or dependence of hallucinogens, inhalants, tranquilizers, cocaine, heroin, opioids, stimulants, or sedatives), marijuana use disorder, alcohol use disorder, nicotine dependence, mood disorder, a communicable disease, or asthma to average use rates among adolescents with justice involvement.

Covariates

We included a number of covariates in our analyses to control for differences between adolescents with and without juvenile justice involvement.¹⁹ We included basic demographic characteristics (ie, sex, age, race) as well as a number of sociodemographic characteristics that influence health care use (school enrollment, household income, government assistance programs, and parents in the household).^{7,20} Health-related factors were also included as covariates, such as health insurance, self-reported health, and several health conditions. Substance use disorders (illicit drugs other than marijuana, marijuana alone, and alcohol) and major depressive episodes were identified by a validated screening tool based on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* criteria.²¹ Nicotine

dependence was based on the Nicotine Dependence Syndrome Scale. Self-reported physical health disorders (communicable diseases and asthma) and anxiety were based on reported physician diagnosis. Communicable diseases were defined as any diagnosis of tuberculosis or sexually transmitted infection in the last year or a diagnosis of HIV ever in the past. These outcomes were combined because they all require antimicrobial therapy and because of the small sample sizes in individual categories.

Statistical Analysis

We first tabulated sociodemographic characteristics by level of justice involvement to provide descriptive statistics of our study population.

Next, we used logistic regression and predictive margins to obtain unadjusted estimates of any ED or hospitalization in the past year among adolescents by level of justice involvement. We then used multivariable logistic regression, controlling for the covariates described above, and predictive margins to obtain adjusted estimates of any past year ED or hospital use.

We used multivariable negative binomial regression, because of overdispersion in our outcome,²² to obtain both unadjusted and adjusted estimates of ED visits and hospital nights per 100 person-years. For adolescents who reported any hospitalization, we estimated the total number of nights spent in the hospital using multivariable negative binomial regression and controlling for all covariates. For the purposes of this study, adolescents without justice involvement were made the reference group.

Finally, we conducted exploratory analyses using multivariable logistic regression and predictive margins to obtain adjusted ED and hospital use rates among adolescents with justice involvement by health condition.

We accounted for complex survey design and clustered sampling using Stata version 14.2 (StataCorp, College Station, TX). For all analyses, we used individual-level survey weights provided by the Center for Behavioral Health Statistics and Quality to allow for nationally representative estimates unless otherwise noted. Two-sided *P* values <.05 were considered statistically significant.

RESULTS

Sample Characteristics

Our unweighted sample consisted of 5149 adolescents with and 97976 adolescents without justice involvement in the past year, representative of 1.1 and 23.5 million adolescents, respectively, during each year of the study period. Adolescents with justice involvement were more likely to be boys, be older, be African American or Hispanic, have a lower household income, have Medicaid, and be in worse health compared with adolescents without past year justice involvement (Table 1).

ED Use by Level of Justice Involvement

In unadjusted analyses (Table 2), adolescents across all levels of justice involvement were significantly more likely than adolescents without past year justice involvement to report an ED visit in the preceding 12 months (*P* < .001 for all comparisons). After adjusting for differences in sociodemographic factors and health status (Table 2), adolescents with past year arrest, probation or parole, or juvenile detention remained significantly more likely to report a past year ED visit than adolescents without justice involvement (no past year justice involvement: 31.0% [95% confidence interval (CI), 30.6–31.5]; past year arrest: 38.5% [95% CI, 34.7–42.2]; past year probation or parole: 38.8% [95% CI, 35.7–41.9]; past year juvenile detention: 39.5% [95% CI, 35.2–43.7]).

TABLE 1 Sociodemographic Characteristics of Study Population, United States, 2009 to 2014

Characteristic	Unweighted <i>n</i> (Weighted %)			
	Not Justice-Involved Within Last 12 mo (<i>n</i> = 97 976)	Arrest Within Last 12 mo (<i>n</i> = 1375)	Probation or Parole Within Last 12 mo (<i>n</i> = 2450)	Juvenile Detention Within Past 12 mo (<i>n</i> = 1324)
Weighted population estimate (<i>N</i>)	23 500 000	300 000	525 000	275 000
Female	48 763 (49.5)	533 (37.4)	872 (35.3)	452 (33.8)
Age, y				
12–13	31 782 (32.5)	133 (9.6)	339 (13.1)	170 (14.5)
14	16 434 (16.9)	157 (11.4)	319 (15.1)	166 (13.6)
15	16 657 (17.0)	309 (22.2)	476 (19.2)	253 (18.2)
16	16 742 (16.8)	367 (27.7)	624 (25.0)	345 (25.1)
17	16 361 (16.7)	409 (29.1)	692 (27.6)	390 (28.6)
Race or ethnicity				
White, non-Hispanic	57 082 (56.7)	597 (42.3)	1159 (47.0)	520 (39.7)
African American, non-Hispanic	12 830 (13.9)	294 (22.6)	458 (20.0)	372 (30.9)
Hispanic	18 243 (21.1)	323 (28.3)	596 (26.8)	255 (22.9)
Other	9821 (8.3)	161 (6.8)	237 (6.3)	177 (6.5)
Enrolled in school	97 146 (99.3)	1320 (95.9)	2331 (95.0)	1215 (92.9)
Household income, % Federal Poverty Level				
<100	56 329 (20.7)	564 (34.2)	891 (38.3)	399 (43.4)
100–200	21 787 (22.1)	367 (25.1)	695 (26.9)	361 (26.4)
>200	19 860 (57.2)	444 (40.6)	864 (34.9)	564 (30.2)
Family participated in ≥1 government assistance programs	24 558 (24.5)	565 (41.5)	1083 (44.7)	676 (49.8)
Mother not in household	7790 (7.9)	193 (12.3)	378 (14.6)	233 (16.6)
Father not in household	26 192 (25.2)	573 (39.2)	1043 (41.1)	648 (45.8)
Health insurance				
Private	60 562 (61.0)	568 (39.8)	959 (37.9)	422 (30.8)
Medicaid	28 427 (28.9)	646 (47.3)	1200 (49.2)	749 (56.6)
Other	3342 (3.3)	46 (2.6)	83 (3.0)	57 (4.3)
Uninsured	5645 (6.7)	115 (10.3)	208 (9.9)	96 (8.3)
Fair or poor self-reported health	3536 (3.5)	104 (7.6)	187 (7.7)	104 (7.2)
Mood disorder ^a	4805 (4.8)	158 (11.5)	300 (13.3)	210 (17.3)
Illicit drug use disorder other than marijuana ^b	1120 (1.1)	103 (7.3)	214 (8.3)	154 (11.8)
Marijuana use disorder ^c	2524 (2.4)	281 (22.3)	444 (16.5)	320 (23.5)
Alcohol use disorder ^c	3111 (3.0)	271 (17.8)	431 (15.7)	308 (21.9)
Nicotine dependence ^d	1123 (1.0)	147 (9.4)	273 (8.5)	206 (14.8)
Communicable disease ^e	360 (0.3)	25 (1.2)	31 (1.6)	33 (3.4)
Asthma ^a	9623 (9.8)	188 (13.0)	309 (12.6)	195 (15.7)

^a Individual reported being told by a doctor that they had the condition in the past year.

^b Any dependence or abuse of hallucinogens, inhalants, tranquilizers, cocaine, heroin, opioids, stimulants, or sedatives within the last 12 mo based on *DSM-IV* criteria.

^c Any dependence or abuse within the last 12 mo based on *DSM-IV* criteria.

^d Based on the Nicotine Dependence Syndrome Scale.

^e Individual reported being told by a doctor in the last year that they had tuberculosis or a sexually transmitted infection, or they were ever told by a doctor that they had HIV.

We also found that the number of ED visits per 100 person-years was substantially higher among adolescents involved in the justice system (Table 2). Adolescents who had spent time in juvenile detention had the highest number of visits per 100 person-years with visit levels 126% higher than adolescents without past year justice involvement (139.8 vs 61.7 visits per 100 person-years; $P < .001$) in unadjusted analyses. After

adjustment, differences between adolescents with and without justice involvement were smaller, but ED visits remained significantly higher among adolescents with justice involvement (no past year justice involvement: 62.8 visits per 100 person-years [95% CI, 61.5–64.1]; past year arrest: 77.7 visits per 100 person-years [95% CI, 66.6–88.8]; past year probation or parole: 84.1 visits per 100 person-years [95% CI, 69.9–98.2]; past year juvenile

detention: 92.9 visits per 100 person-years [95% CI, 72.0–113.7]).

Hospitalization by Level of Justice Involvement

Similarly, adolescents with past year justice involvement were significantly more likely to report at least 1 hospitalization in the past 12 months (Table 2). In unadjusted analyses, compared with adolescents without past year justice involvement, adolescents

TABLE 2 Unadjusted and Adjusted Estimates of Health Care Use by Level of Justice Involvement, United States, 2009 to 2014

	Not Justice-Involved Within Last 12 mo	Arrest Within Last 12 mo	Probation or Parole Within Last 12 mo	Juvenile Detention Within Past 12 mo
ED visit in last 12 mo (%)	Ref			
Unadjusted	30.7 (30.3–31.2)	45.5 (41.7–49.3)**	46.5 (43.3–49.7)**	51.1 (47.0–55.1)** ^a
Adjusted ^b	31.0 (30.6–31.5)	38.5 (34.7–42.2)**	38.8 (35.7–41.9)**	39.5 (35.2–43.7)**
ED visits per 100 person-years (n)	Ref			
Unadjusted	61.7 (60.5–62.9)	97.2 (84.1–110.3)**	114.2 (98.5–129.9)**	139.8 (111.7–167.9)** ^a
Adjusted ^b	62.8 (61.5–64.1)	77.7 (66.6–88.8)*	84.1 (69.9–98.2)*	92.9 (72.0–113.7)*
Hospitalization in last 12 mo (%)	Ref			
Unadjusted	4.7 (4.5–4.8)	10.6 (8.4–12.8)**	11.8 (9.9–13.8)**	15.8 (13.1–18.5)** ^{a,c}
Adjusted ^b	4.8 (4.6–5.0)	7.2 (5.4–8.9)*	7.1 (5.8–8.4)**	8.8 (6.9–10.7)**
Hospital nights per 100 person-years (n)	Ref			
Unadjusted	15.6 (14.6–16.5)	54.8 (32.1–77.6)**	60.0 (43.6–76.3)**	90.3 (68.4–112.3)** ^{a,c}
Adjusted ^b	18.0 (16.6–19.5)	43.3 (18.6–67.9)*	44.9 (26.8–63.0)**	53.7 (34.1–73.2)**

Ref, reference group.

^a Significantly different from individuals with arrest in past 12 mo ($P < .05$).

^b Adjusted for sex, age, race, school enrollment, income, receipt of public assistance, type of health insurance, self-reported health, mother in household, father in household, illicit drug abuse or dependence, marijuana abuse or dependence, alcohol abuse or dependence, nicotine dependence, communicable disease, asthma, and survey wave.

^c Significantly different from individuals with probation or parole in past 12 mo ($P < .05$).

* $P < .01$; ** $P < .001$.

with past year arrest or probation or parole were over twice as likely to be hospitalized, and those with past year juvenile detention were over 3 times as likely to be hospitalized. Differences in hospitalization rates between adolescents with and without past year justice involvement remained statistically significant in adjusted analyses (no past year justice involvement: 4.8% [95% CI, 4.6–5.0]; past year arrest: 7.2% [95% CI, 5.4–8.9]; past year probation or parole: 7.1% [95% CI, 5.8–8.4]; past year juvenile detention: 8.8% [95% CI, 6.9–10.7]).

Number of hospital nights per 100 person-years was also higher among adolescents involved in the justice system (Table 2). Adolescents who had spent time in juvenile detention had the highest number of hospital nights per 100 person-years compared with adolescents without past year justice involvement (90.3 vs 15.6 nights per 100 person-years; $P < .001$) in unadjusted analyses. After adjustment, differences between adolescents with and without justice involvement were smaller, but hospital nights remained significantly higher among adolescents with justice involvement (no past year justice involvement: 18.0 nights

per 100 person-years [95% CI, 16.6–19.5]; past year arrest: 43.3 nights per 100 person-years [95% CI, 18.6–67.9]; past year probation or parole: 44.9 nights per 100 person-years [95% CI, 26.8–63.0]; past year juvenile detention: 53.7 nights per 100 person-years [95% CI, 34.1–73.2]).

Among hospitalized adolescents (those who were hospitalized for at least 1 night), we found that adolescents with past year probation or parole or past year juvenile detention reported significantly more nights of hospitalization than adolescents without past year justice involvement (no past year justice involvement: 3.6 nights [95% CI, 3.4–3.7]; past year arrest: 4.9 nights [95% CI, 3.3–6.5]; past year probation or parole: 5.0 nights [95% CI, 3.7–6.2]; past year juvenile detention: 5.2 nights [95% CI, 4.1–6.2]) (Fig 1).

Use Among Adolescents With Justice Involvement by Health Conditions

In exploratory analyses among adolescents with justice involvement, we found that individuals with several health conditions had higher than average levels of use (Table 3). Adolescents with past year justice involvement who reported fair or

poor health and those with an illicit drug use disorder, a mood disorder, or asthma used the ED at significantly higher rates compared with average use among adolescents with past year justice involvement ($P < .05$ for all comparisons). ED use was highest among adolescents involved in the justice system who had an illicit drug use disorder or asthma. Adolescents involved in the justice system who reported fair or poor health and those with an illicit drug use disorder or a mood disorder had significantly higher hospital use compared with the average hospital use among adolescents with justice involvement ($P < .05$ for all comparisons).

DISCUSSION

In this national sample of adolescents with various levels of juvenile justice involvement, we found that adolescents with any arrest, probation or parole, or juvenile detention in the past year were significantly more likely to report past year ED use or hospitalization compared with adolescents with no justice involvement. Adolescents who spent any time in juvenile detention in the past year had the highest rates of use. They had 126% more ED visits

and 479% more hospital nights in the past year compared with adolescents without justice involvement. Behavioral health disorders, highly prevalent among adolescents in juvenile detention,^{4,23,24} may partially explain differences in use.

However, even after controlling for sociodemographic factors, self-reported health, and behavioral and physical health conditions,

differences in acute care use persisted. Systemic barriers (like Medicaid termination for institutionalized adolescents²⁵ and limited interagency data sharing)²⁶ may reduce the ability of adolescents to connect with needed outpatient health services after release. For example, the majority of adolescents who need mental health services after juvenile detention do not receive them.²⁷ Thus, adolescents

with justice involvement may rely on acute care services for primary care or forego needed care that results in preventable hospital admissions. Importantly, although we controlled for current health insurance status, we could not control for gaps in health insurance that often follow periods of incarceration.

The dissemination of programs that follow a systems of care framework (such as those sponsored through the Substance Abuse and Mental Health Service Administration's Children's Mental Health Initiative) may reduce acute care service and increase primary care use.²⁸ Such programs connect services across agencies and systems to coordinate care for vulnerable children and adolescents with behavioral health needs.²⁹ Given that acute care use is high among adolescents at all levels of the justice system, the integration of services across each level of the juvenile justice system (arrest, probation, detention, and parole) will be needed.

Justice involvement appears to be as strong a predictor of hospital use among adolescents as it is among adults.¹² Although spending on pediatric health care is much smaller than the total spending for adults, it is rising at a more rapid rate.³⁰ According to data from the Medical Expenditure Panel Survey, in 2014, the average pediatric ED visit cost

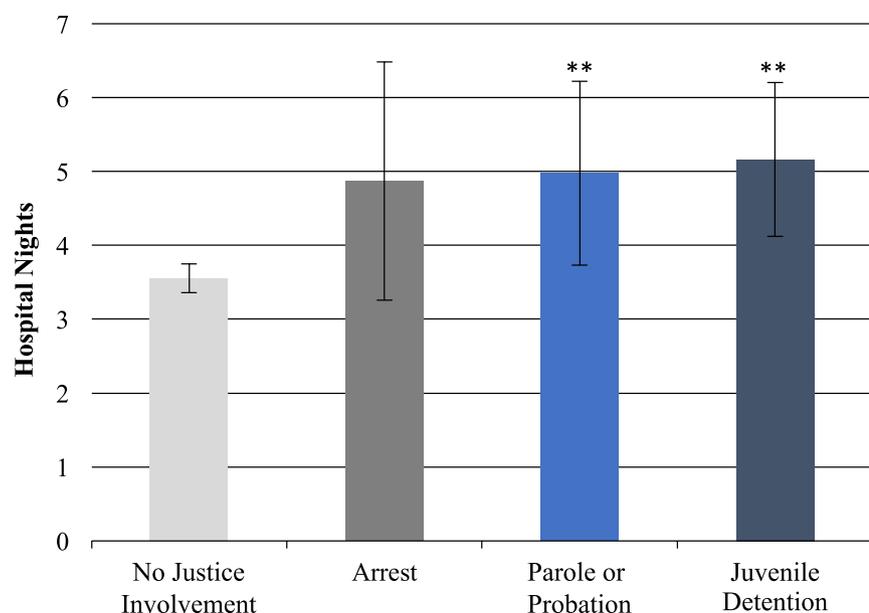


FIGURE 1

Adjusted number of hospital nights among adolescents hospitalized in the past 12 months by justice status. Adjusted for sex, age, race, school enrollment, income, receipt of public assistance, type of health insurance, self-reported health, mother in household, father in household, illicit drug abuse or dependence, marijuana abuse or dependence, alcohol abuse or dependence, nicotine dependence, communicable disease, asthma, and survey wave ** $P < .01$ compared with “no justice involvement.”

TABLE 3 ED and Hospital Use Among Adolescents Involved in the Justice System by Health Status or Condition, United States, 2009 to 2014

Condition	Weighted % (95% CI)	
	Past Year ED Visit ^a	Past Year Hospitalization ^a
Average use ^b	47.2 (45.1–49.3)	12.2 (10.9–13.6)
Fair or poor health	53.3 (47.2–59.4) [*]	17.6 (12.1–23.1) [*]
Illicit drug use disorder	61.1 (54.9–67.2) ^{***}	22.9 (17.3–28.5) ^{***}
Marijuana use disorder	42.4 (38.0–46.8) ^{**}	13.4 (10.4–16.4)
Alcohol use disorder	50.3 (45.3–55.3)	13.3 (10.4–16.2)
Nicotine dependence	51.1 (45.5–56.7)	12.0 (8.2–15.8)
Mood disorder	53.7 (47.1–60.2) [*]	17.5 (13.1–21.9) ^{**}
Communicable disease	42.9 (26.3–59.5)	16.3 (8.9–24.6)
Asthma	61.4 (55.9–66.9) ^{***}	15.4 (11.1–19.7)

^a Models were adjusted for sex, age, race, school enrollment, income, receipt of public assistance, type of health insurance, self-reported health, mother in household, father in household, and survey wave in addition to the conditions listed in Table 3.

^b Reference group.

* $P < .05$; ** $P < .01$; *** $P < .001$.

\$967,³¹ and the average pediatric hospitalization cost \$17 606.³² Thus, reducing potentially unnecessary acute care use among adolescents with justice system involvement could be an important lever to reduce health care spending.

Finally, we found that use was highest among adolescents with justice involvement who reported having fair or poor health or an illicit drug use disorder, a mood disorder, or asthma. Screening for these specific disorders and targeting clinical interventions toward individuals who screen positive could be a cost-effective mechanism to reduce use and decrease health care costs. We recommend pediatricians who care for adolescents involved in the justice system screen for these disorders because they are highly prevalent among this population, have adverse health consequences, and appear to drive acute care use. Mental health assessments are also critical because ~90% of adolescents with a substance use disorder have a co-occurring mental illness.³³ Pediatricians should prioritize connecting adolescents to needed treatment after their justice involvement because only 29% of adolescents in community corrections receive counseling for co-occurring disorders.³⁴

There are several limitations that should be considered when interpreting the results of our study. First, juvenile justice involvement and health care use are self-reported and not verified through claims or parental report. Although, self-reported health outcomes among formerly incarcerated adults has been shown to be a valid measure of health, justice involvement is likely underreported.³⁵ Therefore, our results may be somewhat conservative because the underreporting of incarceration history would bias our results toward the null. Second, because of data limitations in NSDUH, we are unable to determine the indication for an ED visit or hospitalization. Third, because of the cross-sectional survey design in NSDUH, we are unable to determine if ED use and hospitalization were before or after involvement in the justice system. Finally, currently detained juveniles are not included in the NSDUH sampling frame and are, therefore, unavailable for comparison in our study. However, we were able to measure use among adolescents who reported recent juvenile detention.

CONCLUSIONS

We are the first to examine acute care use among a nationally

representative sample of adolescents with justice involvement in the United States. We found that adolescents with recent justice system involvement were significantly more likely to report ED use or hospitalization compared with their peers without a history of justice involvement. Cross-sector collaborations that connect youth with justice involvement to primary care, behavioral health care, and social service resources may reduce high levels of acute care use. Additionally, treatment of asthma, illicit drug use, and mental health conditions while detained or in community corrections may reduce unnecessary ED visits and hospitalizations. Such integration could reduce costs for families and public and private payers while improving the health and wellbeing of vulnerable adolescents.

ABBREVIATIONS

CI: confidence interval

DSM-IV: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition

ED: emergency department, NSDUH, National Survey on Drug Use and Health

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: Dr Winkelman received funding from the Robert Wood Johnson Foundation Clinical Scholars Program and the US Department of Veterans Affairs. The views expressed in this publication do not necessarily reflect the views of these organizations.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

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Pediatrics 2017;140;

DOI: 10.1542/peds.2017-1144 originally published online October 2, 2017;

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