NYC Health

Epi Data Brief

September 2019, No. 117

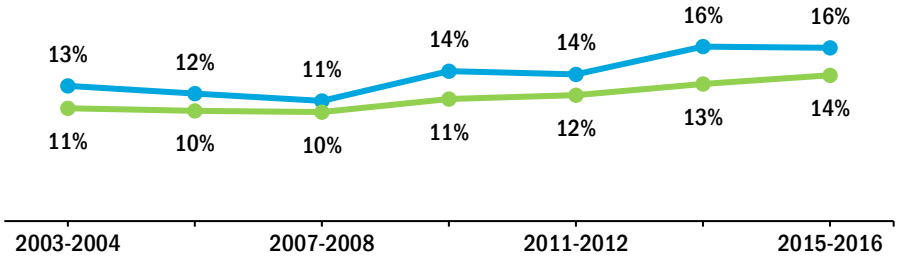
Cannabis Use in New York City

Cannabis is available through the New York State Department of Health Medical Marijuana Program for the treatment of select medical conditions, but at the time of publication, cannabis otherwise remains illegal in the state. In 2015-2016, 16% of New York City (NYC) residents reported using cannabis at least once in the past year. This data brief describes cannabis use and cannabis-related emergency department visits among NYC residents to better understand cannabis use in NYC.

Since 2009, cannabis use increased nationally but remained stable in New York City[1]

- During 2015-2016, 14% of US residents reported cannabis use in the past year, an increase from 2009-2010 (11%).
- Among NYC residents, prevalence of cannabis use was 16% in 2015-2016; prevalence of use has remained stable since 2009-2010.

Proportion of residents reporting cannabis use in the past year, United States and New York City, 2003-2016

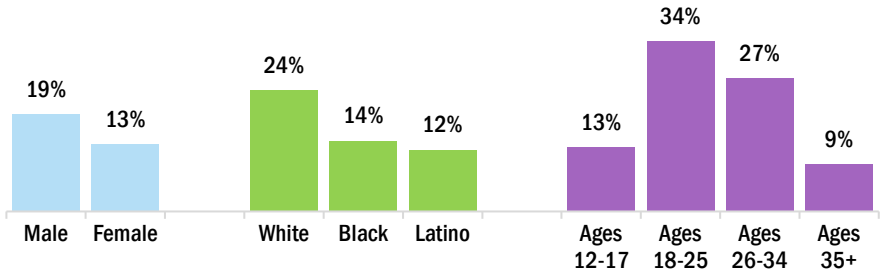


Source: Substance Use and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2003-2005, 2006-2010 (revised 3/12), and 2011-2016.

Cannabis use differs by sex, race/ethnicity, and age

- During 2015-2016, 19% of male and 13% of female New Yorkers reported cannabis use in the past year.
- Nearly a quarter (24%) of White NYC residents reported cannabis use, compared with 14% of Black and 12% of Latino residents.
- More than a third (34%) of NYC adults ages 18 to 25 reported cannabis use in the past year; more than a quarter (27%) of NYC adults ages 26 to 34 used cannabis during the past year.

Proportion of New York City residents reporting use of cannabis in the past year, 2015-2016



Source: Substance Use and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2015-2016. Race categories presented were the only categories made available to NYC DOHMH by SAMHSA.

Data Sources:

[1]**National Survey on Drug Use and Health (NSDUH) 2003–2016,** conducted annually by the Substance Abuse and Mental Health Services Administration [SAMHSA], includes a representative sample of NYC residents ages 12 years and older. Two-year averages are presented as data are received in lagged time. Statistical testing performed between years.

[2]**The NYC Youth Risk Behavior Survey (YRBS), 2003-2017:** The NYC YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools by the Health Department and the NYC Department of Education. For more survey details, visit www1.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page.

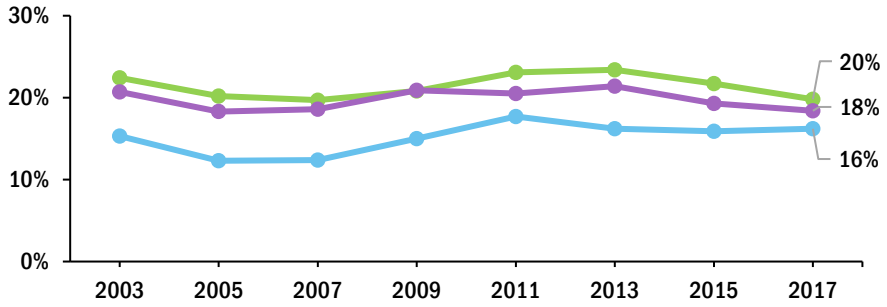
[3]**Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS) 1999-2017:** A national school-based survey of public and private school students in grades 9 to 12 in the 50 states and the District of Columbia. New York State estimates include results from NYC YRBS and YRBSS results conducted by NYS Education Department in the rest of New York State. Available at http://nccd.cdc.gov/youthonline/

[4]**Statewide Planning and Research Cooperative System (SPARCS)** is an administrative database of all hospital discharges reported by New York State (NYS) hospitals to the NYS Department of Health. This report uses data on 2016 from the July 2017 data update.

New York City youth less likely to report cannabis use than youth nationally[2,3]

- Since 2003, NYC youth have reported lower prevalence of cannabis use in the past 30 days than youth nationally.
- In 2017, 16% of NYC youth, 18% of youth in New York State, and 20% of US youth reported cannabis use in the past 30 days.
- The proportion of youth in NYC reporting cannabis use in the past 30 days has been stable since 2009.

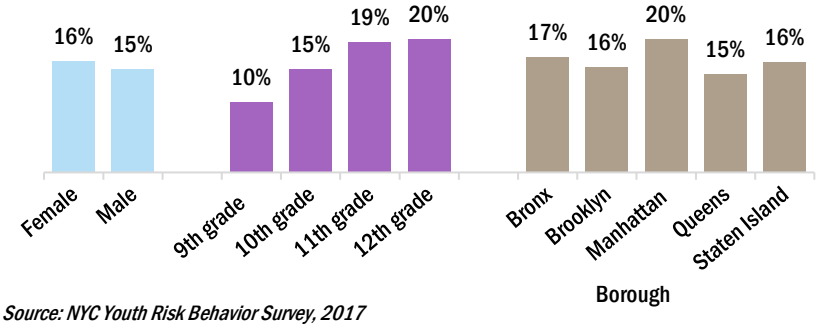
Proportion of youth using cannabis in the past 30 days in the United States, New York City and New York State, 2003-2017



Source: NYC Youth Risk Behavior Survey, 1999-2017; National Youth Risk Behavior Surveillance System, 1999-2017

Among youth in New York City public high schools, cannabis use differs by grade

Proportion of youth reporting past 30 day cannabis use, by demographic characteristics, New York City, 2017



Source: NYC Youth Risk Behavior Survey, 2017

- Adolescent girls (16%) were just as likely as adolescent boys (15%) to report cannabis use.
- Ninth (10%) and 10th (15%) graders were less likely to use cannabis than 12th graders (20%). Eleventh graders (19%) were similarly likely to use cannabis as 12th graders.
- No differences were observed in the proportion of youth reporting cannabis use in the past 30 days by borough of residence.

Race/ethnicity: For the purpose of this publication, Latino includes persons of Hispanic or Latino origin, as identified by the survey question "Are you of Hispanic, Latino, or Spanish origin or descent?" and regardless of reported race. Black and White race categories exclude those who identified as Latino.

Cannabis refers to the questions on marijuana use in the NSDUH and YRBS. Questions do not differentiate between medical and non-medical use.

YRBS Definitions:

Youth: NYC public high school students in grades 9 through 12.

Emergency Department (ED) visits definitions:

Drug diagnosis codes (ICD-10-CM) include: F11, F12, F13, F14, F15, F16, F18, F19, O99.32, R78.1- R78.5, T40, T42.3-T42.4, T43 excluding caffeine (T43.61), T50.7 T50.99.

Cannabis diagnosis codes (ICD-10-CM) include: F12.1 F12.2, F12.9 or T40.7X1

Cannabis-related principal diagnosis are determined by having a cannabis specific ICD-10 diagnosis code billed as the principal/ primary/first listed diagnosis field for that visit.

ED visits reported are unintentional and exclude: ICD-10-CM codes for self-inflicted injury, injury purposely inflicted by other persons, injury undetermined whether accidentally or purposely inflicted, poisoning by adverse effects, poisoning by underdosing, ICD-10-PCS codes for substance use detoxification, and additional codes that conveyed services and procedures billed for outpatient visits rather than ED visits described using revenue codes for drug and alcohol rehabilitation and procedure codes. For details of codes see: https://www.icd10data.com. Data include live discharges, and are reported for visits and unique patients.

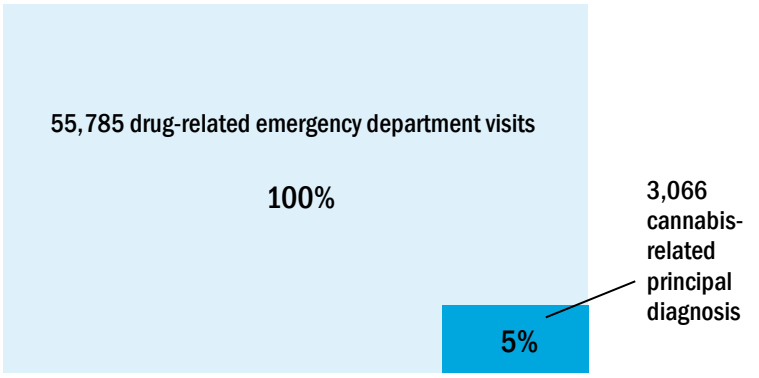
ED visit data notes:

Data presented in this report are limited to New York City (NYC) residents ages 13 to 84 treated in NYC hospitals. ED visits are limited to patients treated and discharged directly from the emergency department. The number of individual patients was calculated by counting the number of unique patient identifiers. This variable is provided by NYS SPARCS and is dependent on consistent and accurate reporting of patient data. The unique number of patients are estimates. Drug types are not mutually exclusive. Visits will have codes for all drugs confirmed to be involved. Data on race/ethnicity is not presented due to unreliable nature of the information collected. Rates are calculated using NYC intercensal estimates updated 2016, and are weighted to U.S. Census 2000. All rates are age-adjusted except for age-specific rates.

In 2016, five percent of all drug-related emergency department visits had a cannabis-related principal diagnosis code[4]

- In 2016, there were 55,785 drug-related emergency department (ED) visits in NYC.
  - Of these ED visits, 3,066 (5%) ED visits had a cannabis-related code as the principal diagnosis, which included:
    - Cannabis abuse (66%)
    - Cannabis use, unspecified (20%)
    - Cannabis dependence (11%)
    - Cannabis poisoning (4%)
- Other substances were involved in 17% of the ED visits with a cannabis-related principal diagnosis: 10% of the visits also involved alcohol, 4% also involved cocaine, and 2% also involved opioids.

Emergency department visits related to cannabis, New York City, 2016

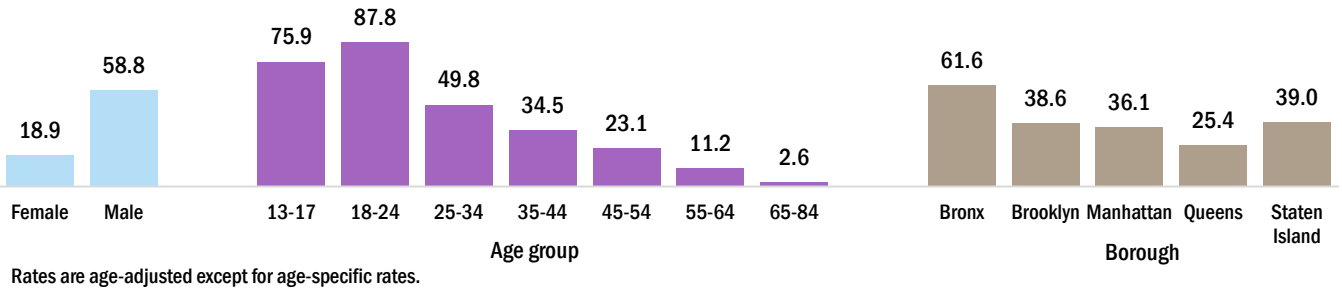


Source: Statewide Planning and Research Cooperative System (SPARCS), 2016

Males, young adults, and Bronx residents more likely to have a cannabis-related principal diagnosis

- There were 3,066 ED visits with a cannabis-related principal diagnosis made by 2,600 unique patients (38.3 per 100,000 residents) in NYC in 2016.
- Of the unique patients with a cannabis-related principal diagnosis:
  - The rate among males was three times higher than females (58.8 and 18.9 per 100,000, respectively).
  - The rate was highest among residents ages 18 to 24 (87.8 per 100,000).
  - Bronx residents had the highest rate (61.6 per 100,000) compared with residents from Staten Island (39.0 per 100,000), Brooklyn (38.6 per 100,000), Manhattan (36.1 per 100,000), and Queens (25.4 per 100,000).

Rate per 100,000 residents of emergency department patients with cannabis-related principal diagnosis, by demographic characteristics, New York City, 2016



Rates are age-adjusted except for age-specific rates.

Source: Statewide Planning and Research Cooperative System (SPARCS), 2016

Authors: Charles Ko, Elizabeth Mello, Michelle L. Nolan, Ellenie Tuazon, Hillary V. Kunins, Denise Paone
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Epi Data Tables

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Cannabis Use in New York City

Data Tables

Data Sources

National Survey on Drug Use and Health (NSDUH) 2003–2016, conducted annually by the Substance Abuse and Mental Health Services Administration [SAMHSA], includes a representative sample of NYC residents aged 12 years and older. Two-year averages are presented as data are received in lagged time.

The NYC Youth Risk Behavior Survey (YRBS), 2003-2017: The NYC YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools by the Health Department and the NYC Department of Education.

National Youth Risk Behavior Surveillance System (YRBSS): Conducted by the Centers for Disease Control and Prevention, the YRBSS monitors health-risk behaviors which contribute to leading causes of death and disability. The YRBSS includes a national school-based survey of public and private school students in grades 9 to 12 in the 50 states and the District of Columbia.

Statewide Planning and Research Cooperative System (SPARCS) is an administrative database of all hospital discharges reported by New York State (NYS) hospitals to the NYS Department of Health. This report uses data on 2016 from the July 2017 data update.

NYC Health

Table 1. Prevalence of past year cannabis use among New York City residents and United States residents ages 12 and older, 2003-2016

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2003-2005, 2006-2010 (revised 3/12), and 2011-2016.

	New York City		United States		
	Prevalence Estimate (%)	Weighted Number (N)	Prevalence Estimate (%)	Lower 95% Confidence Interval	Upper 95% Confidence Interval
Two year combined estimates					
2003-2004	12.7 a	775,000 b	10.6	10.34	10.86
2005-2006	12.0 a	776,000 b	10.4	10.11	10.66
2007-2008	11.3 b	685,000 b	10.3	9.98	10.53
2009-2010	14.1	872,000	11.5	11.17	11.79
2011-2012	13.8	915,000	11.8	11.54	12.13
2013-2014	16.4	1,107,000	12.9	12.61	13.20
2015-2016	16.3	1,083,000	13.7	13.42	13.99

a Difference between estimate and 2015-2016 NYC estimate is statistically significant at the 0.05 level. Rounding may make the estimates appear identical.

b Difference between estimate and 2015-2016 NYC estimate is statistically significant at the 0.01 level. Rounding may make the estimates appear identical.

Table 2. Demographic characteristics of New York City residents ages 12 or older reporting past year use of cannabis, 2015-2016

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2015-2016.

	2015-2016	
	Prevalence Estimate (%)	Weighted N
Total	**16.3**	**1,083,000**
Gender		
Male	19.4	616,000
Female	13.4	467,000
Race/ethnicity[1]		
White	24.1	554,000
Black	14.0	219,000
Latino	12.3	213,000
Age group		
12 to 17	12.8	56,000
18 to 25	33.9	326,000
26 to 34	26.5	322,000
35+	9.4	379,000

NOTE: New York City is defined as the counties of Bronx, Kings, New York, Queens, and Richmond.

[1]The three race categories reported are those provided by SAMHSA. Other race categories were not made available.

For the purpose of this publication, Latino includes persons of Hispanic or Latino origin, as identified by the survey question "Are you of Hispanic, Latino, or Spanish origin or descent?" and regardless of reported race. Black and White race categories exclude those who identified as Latino.

No statistical testing performed.

Table 3. Proportion of youth reporting cannabis[1] use in the past 30 days in the United States, New York City and New York State, 2003-2017

Source: National Youth Risk Behavior Surveillance System, 2003-2017; NYC Youth Risk Behavior Survey, 2003-2017; NYS Youth Risk Behavior Survey, 2003-2017

	United States*		New York City**			New York State***	
Year	%	95% C.I.	%		95% C.I.	%	95% C.I.
2003	22.4	(20.2-24.6)	15.3		(13.9-16.9)	20.7	(18.7-22.8)
2005	20.2	(18.6-22.0)	12.3	a	(10.9-13.8)	18.3	(16.2-20.7)
2007	19.7	(17.8-21.8)	12.4	a	(11.0-13.9)	18.6	(17.1-20.2)
2009	20.8	(19.4-22.3)	15.0		(13.4-16.8)	20.9	(18.4-23.6)
2011	23.1	(21.5-24.7)	17.7		(16.6-19.0)	20.5U	(18.5-22.7)
2013	23.4	(21.3-25.7)	16.2		(14.5-18.0)	21.4	(19.4-23.5)
2015	21.7	(19.3-24.2)	15.9		(13.9-18.0)	19.3	(16.9-21.8)
2017	19.8	(18.1-21.6)	16.2		(14.7-17.8)	18.4	(16.6-20.3)

[1] Refers to the questions on past 30 day marijuana use.

*US YRBS is administered to both public and private schools.

** NYC YRBS is administered to public schools only.

*** NYS YRBS is administered to public schools only.

a Difference between estimate and 2017 estimate is statistically significant at the 0.05 level. Rounding may make the estimates appear identical.

D Data rounded down to the nearest whole number for the purposes of reporting in the text.

U Data rounded up to the nearest whole number for the purposes of reporting in the text.

95% confidence intervals (CIs) are a measure of estimate precision; the wider the CI, the more imprecise the estimate.

Table 4. Cannabis[1] use among youth by demographic characteristics, New York City, 2017

Source: NYC Youth Risk Behavior Survey, 2017

Data are weighted to the NYC public high school student population.

	Cannabis (past 30 day use)		
	%	95% C.I.	P-value
Total	16.2	(14.7-17.8)	~
Sex			
Female	16.4	(14.7-18.2)	Referent
Male	15.3	(13.5-17.3)	0.219
Grade			
9th grade	10.4	(9.1-11.7)	**<0.001**
10th grade	15.3	(12.6-18.6)	**0.039**
11th grade	19.2	(16.4-22.3)	0.802
12th grade	19.7	(16.8-23.0)	Referent
Race/Ethnicity[2]			
White	19.0	(15.6-22.9)	Referent
Black	15.4	(13.4-17.7)	0.057
Latino	19.3	(17.6-21.1)	0.843
Asian	5.6	(4.1-7.6)	**<0.001**
Other[3]	21.8	(17.7-26.5)	0.265
Borough of Residence			
Bronx	17.1	(15.1-19.4)	0.354
Brooklyn	15.5U	(13.9-17.3)	0.054
Manhattan	19.7	(15.3-24.9)	Referent
Queens	14.6	(11.3-18.7)	0.063
Staten Island	16.3	(13.3-19.7)	0.254
Borough of School			
Bronx	17.3	(15.1-19.8)	0.963
Brooklyn	15.7	(14.3-17.3)	0.519
Manhattan	17.4	(12.9-23.2)	Referent
Queens	15.6	(11.8-20.3)	0.564
Staten Island	14.1	(11.1-17.9)	0.280

[1] Refers to the questions on past 30 day marijuana use.

[2] For the purpose of this publication, Latino includes persons of Hispanic, Latino, or Spanish origin, as identified by the survey question "Are you Hispanic or Latino?" and regardless of race. Black, White, and Asian race categories exclude those who identified as Latino.

[3] Other category includes non-Latino students who selected American Indian/Alaska Native, Native Hawaiian/other Pacific Islander, or multiple race categories.

* Estimate should be interpreted with caution. Estimate's Relative Standard Error (a measure of estimate precision) is greater than 30%, the 95% Confidence Interval half-width is greater than 10, or the sample size is less than 50, making the estimate potentially unreliable.

D Data rounded down to the nearest whole number for the purposes of reporting in the text.

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95% confidence intervals (CIs) are a measure of estimate precision; the wider the CI, the more imprecise the estimate.

A p-value is a measure of statistical significance. A **bold** p-value less than .05 means there is a significant difference between that group and the referent (comparison) group.

Table 5a. Unintentional drug-related[1], and cannabis-related principal diagnosis[2] emergency department (ED) visits[3], New York City, 2016

Source: New York State Department of Health, Statewide Planning and Research Cooperative System (SPARCS), 2016 (Data Update:July 2017)

All rates are age adjusted per 100,000 residents. Data is restricted to New York City residents ages 13-84.

	2016		
	N	Column %	AAR[4]
Drug-related ED treat and release visits	55,785	100.0%	782.6
Cannabis as principal diagnosis ED treat and release visit	3,066	5.5% D	45.2

[1] Drug diagnosis codes (ICD-10-CM) include: F11, F12, F13, F14, F15, F16, F18, F19, O99.32, R78.1- R78.5, T40, T42.3-T42.4, T43 excluding caffeine (T43.61), T50.7 T50.99. Excludes ICD-10-CM codes for self-inflicted injury, injury purposely inflicted by other persons, injury undetermined whether accidentally or purposely inflicted, poisoning by adverse effects, poisoning by underdosing, ICD-10-PCS codes for substance use detoxification, and additional codes that conveyed services and procedures billed for outpatient visits rather than ED visits described using revenue codes for drug and alcohol rehabilitation and procedure codes. For details of codes see: https://www.icd10data.com. Data include live discharges, and are reported for visits and unique patients.

[2]Cannabis-related principal diagnosis are determined by having a cannabis specific ICD-10-CM diagnosis code, F12.1 (cannabis abuse), F12.2 (cannabis dependence), F12.9 (cannabis use, unspecified), or T40.7X1 (accidental poisoning by cannabis/cannabis derivatives) billed as the principal/primary/first listed diagnosis field for that visit.

[3]ED visits are when a patient is treated and released directly from the emergency department.

[4]Age adjusted rates (AAR) are calculated using NYC intercensal estimates updated 2016, and are weighted to U.S. Census 2000.

D Data rounded down to the nearest whole number for the purposes of reporting in the text.

Table 5b. Unintentional[1] cannabis-related principal diagnosis[2] emergency department (ED) visits[3], by diagnosis type and other substances involved, New York City, 2016

Source: New York State Department of Health, Statewide Planning and Research Cooperative System (SPARCS), 2016 (Data Update:July 2017)

All rates are age adjusted per 100,000 residents. Data are restricted to New York City residents ages 13-84.

	2016 Cannabis as principal diagnosis ED treat and release visit		
	N	Column %	AAR[4]
Total	**3,066**	**100.0%**	**45.2**
Cannabis Abuse	2,010	65.6%	29.6
Cannabis Use, unspecified	601	19.6%	9.0
Cannabis Dependence	331	10.8%	4.7
Cannabis Poisoning	124	4.0%	1.9
Other substances involved[6]			
Any other substance involved	530	17.3%	7.6
Alcohol	303	9.9%	4.3
Cocaine	134	4.4%	1.9
Opioids	56	1.8%	0.8

[1] ED visits reported are unintentional and exclude ICD-10-CM codes for self-inflicted injury, injury purposely inflicted by other persons, injury undetermined whether accidentally or purposely inflicted, poisoning by adverse effects, poisoning by underdosing, ICD-10-PCS codes for substance use detoxification, and additional codes that conveyed services and procedures billed for outpatient visits rather than ED visits described using revenue codes for drug and alcohol rehabilitation and procedure codes. For details of codes see: https://www.icd10data.com. Data include live discharges, and are reported for visits and unique patients.

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[3]ED visits are when a patient is treated and discharged directly from the emergency department.

[4]Age adjusted rates (AAR) are calculated using NYC intercensal estimates updated 2016, and are weighted to U.S. Census 2000.

[5]Substances are not mutually exclusive and will not add to 100%.

Table 6. Demographic characteristics of patients with an unintentional[1] emergency department (ED) visit with a cannabis-related principal diagnosis[2], New York City, 2016

Source: New York State Department of Health, Statewide Planning and Research Cooperative System (SPARCS), 2016 (Data Update: July 2017)

All rates are age adjusted except those that are age-specific and per 100,000 residents.

Data are restricted to New York City residents ages 13-84.

	N	% of patients with drug-related ED visit	AAR[3]
Patients with drug-related ED visits[4]	**35,709**	**100.0%**	**504.9**
Patients with ED visit with a cannabis-related principal diagnosis	**2,600**	**7.3%**	**38.3**
Gender			
Female	635	1.8%	18.9
Male	1,964	5.5%U	58.8
Age-group[5]			
13-17	348	1.0%	75.9
18-24	691	1.9%	87.8
25-34	763	2.1%	49.8
35-44	405	1.1%	34.5
45-54	256	0.7%	23.1
55-64	111	0.3%	11.2
65-84	26	0.1%	2.6
Borough of Residence			
Bronx	731	2.0%	61.6
Brooklyn	808	2.3%	38.6
Manhattan	490	1.4%	36.1
Queens	431	1.2%	25.4
Staten Island	140	0.4%	39.0

[1] Excludes ICD-10-CM codes for self-inflicted injury, injury purposely inflicted by other persons, injury undetermined whether accidentally or purposely inflicted, poisoning by adverse effects, poisoning by underdosing, ICD-10-PCS codes for substance use detoxification, and additional codes that conveyed services and procedures billed for outpatient visits rather than ED visits described using revenue codes for drug and alcohol rehabilitation and procedure codes. For details of codes see: https://www.icd10data.com. Data include live discharges, and are reported for visits and unique patients.

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[3] Age adjusted rates (AAR) are calculated using NYC intercensal estimates updated 2016, and are weighted to U.S. Census 2000.

[4] Drug diagnosis codes (ICD-10-CM) include: F11, F12, F13, F14, F15, F16, F18, F19, O99.32, R78.1- R78.5, T40, T42.3-T42.4, T43 excluding caffeine (T43.61), T50.7 T50.99.

[5] Age standardized rates are presented. Unknown age are not included in the percent of total calculation.

U Data rounded up to the nearest whole number for the purposes of reporting in the text.